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GEORGE H. SIMMONS, LL.D., M.D.

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PANCREATIC LYMPHANGITIS AND CHRONIC PANCREATITIS

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PHILADELPHIA

The most important subject which is occupying the attention of abdominal surgeons to-day has to do with the elucidation of the pathogenesis, the recognition of the symptoms and the discovery of adequate means of treatment of the diseases of the pancreas. It is but a short time since the pancreas was but little considered by the clinician or by the pathologist. Tumors, chiefly carcinoma, by their size or effect, occasionally thrust themselves into notice, and a few cases of marked pancreatitis, if acute, were recognized clinically and, if chronic, were noted in the archives of the pathologist. The majority of alterations in the pancreas were missed even by the pathologist, either because of lack of interest and care, or by reason of the rapid digestive process which takes place in the organ immediately after death, obscuring cellular and the less-marked architectural changes of pathologic origin. In the midst of the general apathy on the subject came the observations of surgeons that the pancreas was to be found in various states of enlargement, induration, distortion or contraction in many cases of upper abdominal disease.

Particularly was it observed in disease of the gall-bladder or common duct that the pancreas was apt to be involved. Thus, in ninety-nine cases of cholelithiasis in which I operated during 1911, the pancreas was found to be hard and nodular in thirty instances; in nine it was moderately enlarged, in three it was unusually soft and in one the lesion was more acute and accompanied by fat necrosis. In 45 per cent. of these cases, therefore, it appeared that some alteration of the pancreas had taken place.

While it is true that the pancreas is a firm and somewhat irregularly formed organ, still, making all due allowance for the personal equation in palpation, it must be apparent that the pancreas participates to a very marked degree in the inflammatory lesions of the biliary tract We had previously been cognizant of the frequent association of gall-stones with acute pancreatitis through the masterly studies of Fitz, and by the observation of Opie we were made aware of the fact that the lodgment of a gall-stone in the papilla of Vater in such a way as to cause retrojection of bile into the pancreatic duct was followed by acute hemorrhagic pancreatitis. It seemed a natural inference that the pancreatic alterations associated with gall-bladder disease resulted from infection of the pancreas secondary to biliary infection and that the transference took place by way of the ducts, opportunity for which was provided by the usual junction of the two ducts to form the sinus of Vater.

There are certain objections to this easy explanation. In the first place, pancreatitis is more common in males, while, as is well known, gall-bladder disease is more common in females. This lack of parallelism arouses suspicion that pancreatitis must be due to other factors than the simple infection by continuity along the bile-ducts to the pancreatic duct, otherwise it would be difficult to explain why this should not take place as readily and as frequently in males as in females, the mechanism and anatomy of the parts being practically identical.

Again, the pancreas is often diseased without demonstrable disease of the biliary tract. In a series of cases which I analyzed with reference to this point, about one-third (36 per cent.) of all instances of chronic pancreatitis and 25 per cent. of the cases of acute pancreatitis were not accompanied by disease of the biliary apparatus. Desjardins attempts to explain ascending infection of the duct by assuming that the same infection gaining entrance into the ducts of the biliary or the pancreatic system may cause at one time cholangeitis and at another inflammation of the duct of Wirsung. This at present remains only an assumption.

There are three other possible avenues by which infection may reach the pancreas: (1) through the general circulation; (2) by direct contiguity from adjacent structures, and (3) by way of the lymphatics.

1. There is little or no evidence in favor of frequent infection by way of the systemic circulation. The rarity of pancreatic involvement in systemic and pyemic processes which are relatively so frequent speaks against this as a common mode of infection. Again, the conditions in which the pancreas is found involved are not characterized by bacteriemia, though it may occasionally occur.

2. Infections by direct contiguity occur most often in slowly perforating ulcers of the stomach and duodenum. These are seldom in evidence in pancreatic disease, and when they do occur the portion of pancreas affected is that in immediate contact with the adherent viscus, while the remainder of the organ, as a rule, escapes material injury.

3. The lymphatics, however, in my opinion play a conspicuous rôle in conveying infection to the pancreas. Dr. Pfeiffer and I[1] have pointed out that the pancreas by reason of its retroperitoneal situation bears a close relation to the thoracic duct and to many trunks which empty into it from the visceral lymphatics. Bartel had previously described and named a number of groups of lymph-nodes as the regional glands of the pancreas. Once he demonstrated by the injection method a direct communication between a pancreatic lymphatic and the lumbar trunk. Hoggan had previously shown a direct communication with the thoracic duct.

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[1] Pfeiffer and Deaver: Pancreatic Lymphangitis, Am. Jour. Med. Sc., 1912, cxliii, 473.

The technical difficulties of such researches are great, but enough has been done to show the existence of a richly anastomosing network of retroperitoneal lymphatics around and about the pancreas. Small nodes of lymphatic tissue have been demonstrated clustered about the head of the pancreas and applied immediately to its surface. Franks has shown that the lymphatics from the gall-bladder course immediately over the surface of the pancreas and then anastomose with the lymphatics of that organ. The lymphatics from the common duct, where it penetrates the head of the pancreas, must often of necessity traverse the substance of the pancreas. Bartel has shown the same direct relationship of the lymphatics of the duodenum and while the anatomic paths have not been directly demonstrated I have reason from clinical observation to believe that the lymphatics from the appendix pass upward and eventually are in close relation with the pancreas.

A brief outline of the following case will illustrate the influence which disease of the appendix may exert on the pancreas. Operation was performed for gangrenous appendicitis in a female child who had suffered with chills and high fever, the chills occurring two or three times in twenty-four hours. The appendix was removed. Chills and fever persisted and the child developed acute abdominal pain. A second operation was performed and a small abscess was found completely encapsulated in the mesentery of the ileum. Pancreatic lymphangitis was present, the pancreas itself being greatly edematous and infiltrated. Death occurred ten days after the second operation. Except for the condition of the pancreatic lymphangitic glands above referred to, no lesion was found in the abdomen at autopsy.

The following are brief notes of a case in which Dr. E. G. Alexander operated, in the service of Dr. H. C. Deaver, Episcopal Hospital:

Case 1.—Adult male, aged 23, suffering with acute appendicitis, chills and high fever. The appendix was removed; no pus and few adhesions were found. Seventeen days after operation the patient had a marked chill, was reoperated on and a large mesenteric abscess drained. Death occurred five months after the second operation. Pathologic diagnosis was multiple abscess of liver, chronic fibroid peritonitis, postoperative peritonitis in region of appendix, acute splenic congestion, acute parenchymatous nephritis, suppurative cholecystitis and abscess of the head of pancreas.

In these cases it appeared evident that the source of the peripancreatic and pancreatic inflammation was the infected appendix and that the path of metastasis was the retroperitoneal and the lymphatics along the cystic and common ducts.

It must be conceded that in many inflammatory conditions of the abdomen there is a retroperitoneal lymphangitis which is fraught with the possibilities of injury to the pancreas which lies almost directly in its path.

The pancreas, unlike certain other organs, possesses no great hilum through which pass the afferent and efferent blood- and lymph-vessels. The lymphatics emerge at various points along its surface and run to the regional glands, to neighboring trunks or plexuses. This arrangement leads to an important deduction. It has been observed in chronic pancreatitis associated with other visceral inflammations that the pancreas is often not diffusely affected but that only a portion of it will show enlargement, induration or nodulation. Thus in gall-bladder disease it is the head of the organ which participates most frequently, while the tail of the organ may entirely escape. If now, the infection were duct-borne it is difficult to understand why the gland should not be diffusely affected, the infection following the ramifications of the ducts. If however, the infection be carried by the lymphatics it should be localized to the segment of the organ which is supplied by the lymphatics in communication with those carrying the infection. Thus, the irregular inflammatory swellings of the pancreas may be readily understood. It is conceded that this explanation implies that infection must stem the ordinary current of the lymph-flow in order to gain access to the organ, but this is by no means an infrequent observation in other portions of the body and need occasion no surprise here. Retrograde metastasis is a well-recognized occurrence.

Without being more dogmatic on the subject I feel certain that lymphatic infection of the pancreas is a fact and that this pancreatic lymphangitis, to use the term applied by Arnsperger, is a forerunner of serious alterations in the parenchyma and stroma of the organ.

Chronic pancreatitis, when it has progressed to the stage of interlobular and interacinar fibrous deposit, is no more curable than is cirrhosis of the liver or chronic nephritis. That pancreatic lymphangitis may lead to such a state is clear but in its incipiency before the sclerosing process has taken place the lymphangitis pancreatica may be relieved, like lymphangitis elsewhere, by removal of the primary source of infection. The swellings of the pancreas that are seen at operation in association with gall-bladder disease are not usually due to any permanent tissue deposit but to edema, congestion and perhaps absorbable cellular infiltrates. These are resorbed on subsidence of the exciting inflammation. I have on a number of occasions had the opportunity of examining at a later operation a pancreas which I had previously found to be enlarged and apparently the seat of a pancreatitis. In those cases in which the original cause was not still at work the pancreas has been found reduced to its normal size and consistency. This, it seems to me, can be explained only on the grounds that the permanent deposit of fibrous tissue, commonly described in the later stages of pancreatitis, had not taken place. The particular lesson to be gained is the curability of pancreatitis in its early stages and the prevention of at least a percentage of the advanced cases. The essential point in the treatment is to get rid of the foci of infection in the abdomen to which the pancreatic swelling is secondary.

It is impossible in the vast majority of cases to say prior to operation whether or not the pancreas is involved. Not only are the essential symptoms of pancreatitis indefinite but the frequent association of pancreatitis with other abdominal lesions adds complexity that has so far foiled any attempt to formulate a clear-cut syndrome of early pancreatitis by means of which it may be recognized or suspected. As a rule, it may be stated that the symptoms of pancreatitis, *per se,* in its early stages are secondary in importance to those of the disease on which it is dependent. Exception must be made of those cases in which jaundice is a marked symptom due to pressure of the enlarged gland on the common duct, but even in these cases the cause of the obstruction cannot be settled except by operation and direct inspection. Chronic pancreatitis possesses in common with chronic gastric, duodenal and biliary disease the property of exciting more or less epigastric discomfort, distress or pain which may radiate to the hypochondria or to the back. Nausea or vomiting also are caused by some cases of pancreatic disease. The cause of our difficulty in recognizing pancreatic dis-case is to be found in the absence of definite physical signs and our inability to recognize slight functional derangements of the organ. When the disease is well marked we may at times succeed in palpating a swollen indurated pancreas and when function has been so greatly disturbed as to produce insufficiency of the important digestive enzymes furnished by the pancreas we can demonstrate absence of the ferments in the feces, in the duodenal contents or observe its effects in the large bulky stools containing large amounts of undigested nitrogenous and fatty materials. When the islands of Langerhans are extensively diseased glycosuria is an accompaniment that is easy to recognize. These and other signs and symptoms that might be mentioned are interesting from the biologic and physiologic point of view but to the clinician striving to ameliorate and prevent disease they are of little importance, as they come too late to enable us to treat the condition with success. The Cammidge reaction which promised much as an early test of pancreatitis has in my hands, I am sorry to say after an extensive experience, given me little or no aid.

It may not be out of place here to record my belief that carcinoma of the pancreas is in many instances brought into existence by previous pancreatitis. This is in line with the known fact that chronic irritation predisposes to cancer as is seen in "chimney-sweep" cancer, "pipe" cancer of the lip, ulcus carcinomatosum of the stomach, cancer of the gall-bladder with gallstones and many other forms of the disease elsewhere. The reason for this belief is my observation that not a few cases of cancer of the pancreas present a long history of antecedent upper abdominal indigestion that suggests pancreatic inflammation prior to the development of carcinoma. The following will serve to illustrate:

Case 2.—Mrs. E. W., aged 43, had suffered for years with upper abdominal indigestion. About nine months before admission to the hospital she began to suffer severely from pain in the epigastrium, which was intensified by eating. Nausea, constipation and eructation of gas, coated tongue, foul breath and loss of weight and strength finally brought her to operation. She was never jaundiced. At operation there was diffuse enlargement of the pancreas with softening of the body of the organ. Incision showed the tissue to be necrotic. Portions were removed for examination by the pathologist, who reported as follows: The specimen consists of chronic inflammatory tissue infiltrated with adenocarcinoma and showing at several points small lymph-nodes consisting of single follicles with a mantle of lymphocytes. The gall-bladder in this case was thickened and showed evidence of previous chronic inflammation. The chain of events in this case, chronic indigestion, the evidence of chronic inflammation involving the gall-bladder and pancreas and the later development of carcinoma of the pancreas, is at least suggestive. The patient made an operative recovery, but has since died of the disease.

The treatment of pancreatic lymphangitis consists in the various measures which are efficacious in removing the primary source of infection. In one case the removal of a chronically diseased appendix may be indicated. In another, appropriate treatment for gastroduodenal catarrh or duodenal ulceration. Clinical experience, however, shows that the majority of cases of early pancreatic inflammation are closely related to disease of the biliary tract and are most favorably influenced by the measures that tend to restore the biliary passages to a state of health. The great principle of the treatment of biliary disease is drainage. It is the gall-bladder which is most commonly affected by inflammation. Here we have to deal with an organ which is subject to alternate distention and contraction of its muscular walls, a condition which, as emphasized by the urinary bladder, is most unfavorable for getting rid of infection, inasmuch as its physiologic activity prevents complete rest. In addition to this the gall-bladder possesses a mucosa which offers many nooks and crevices in which infection may lie latent. Foreign bodies in the shape of gallstones frequently complicate the situation and add continued irritation. The sterilization of the gall-bladder, once it has become infected, may be accomplished by the body with the assistance of medical treatment, although this means cannot be relied on. Drainage of the gall-bladder by cholecystostomy will always enable the body to throw off the infection. The principles are rest and drainage, as old as surgery and as efficacious as any means ever devised in the treatment of infection. Gall-bladder drainage is the sheet anchor in the treatment of pancreatitis. Not only is the gall-bladder sterilized by cholecystostomy but the catarrhal cholangeitis of the common and hepatic and lesser ducts, which frequently accompanies gall-bladder disease, is also relieved. Many cases of mild pancreatitis are completely and permanently relieved by simple cholecystostomy with drainage continued for from four to eight weeks. This is the procedure which I use and endorse in all cases in which the pancreas appears to be slightly involved and the possibility of restoring the gall-bladder to a state of health appears good. The decision is in a large degree a matter of surgical judgment. In the presence of the ordinary indications for cholecystectomy the gall-bladder should be removed and drainage instituted by choledochostomy.

While I am not in favor, as a general rule, of removing the gall-bladder if it can be preserved, yet in cases complicated by pancreatitis I believe that a thickened functionless gall-bladder should be removed, as its presence invites stagnation of bile, renewed infection and a reappearance of upper abdominal lymphangitis. When biliary catarrh and pancreatitis have become securely lodged in those organs and marked alterations of structure have appeared, temporary drainage of the biliary tract is often insufficient to insure permanent recovery and relapses are frequent. In such cases permanent drainage of the gall-bladder must be considered and this is done frequently by cholecystoduodenostomy. This is not an operation for the novice and should not be attempted by anyone not thoroughly familiar with its technic. As I have said before, temporary drainage often is curative in a surprising manner and it is better to take the chance of recurrence and the possibility of a second operation than to expose the patient to increased risks, for two operations on a living patient are better than one thorough and "successful" operation after which the patient dies. With this proviso, there is still a field for cholecystoduodenostomy and I favor it in cases of marked swelling of the head of the pancreas, especially when jaundice is a prominent feature of the disease. It is worthy of remark that even cholecystoduodenostomy does not insure permanent drainage of the gall-bladder, for I have had occasion to reopen the abdomen in cases in which I had previously performed this operation and in some instances have found the opening completely obliterated. Occasionally the gall-bladder will even succeed in detaching itself from the duodenum. This doubtless comes about in very much the same way as exemplified by the closure of a gastroenterostomy after the condition for which it was performed had been alleviated and the pyloric function resumed, thus throwing the new opening into disuse and permitting contraction of its lumen. That such a closure should occur is usually evidence that the need for the anastomosis has vanished.

Another point to be observed in all cases in which jaundice is a feature of pancreatitis is the opening of the common duct and the passage of a sufficiently large probe into the duodenum to secure full dilatation of the duct and the opening of the papilla of Vater. Jaundice in pancreatitis is usually accounted for by the pressure of the pancreatic tissue on the common duct where it courses through the head of the pancreas, as it does in about two-thirds of the cases. I am not at all sure, however, that spastic or cicatricial contraction of the sphincter of the papilla may not play a part in some cases. It is at times rather difficult to force the sphincter with a large probe, which suggests the possibility of cicatrix or sphincterismus of which we see analogies at other orifices of the body which are guarded by sphincters.

In conclusion, I would repeat that pancreatitis must still be studied with an open mind in regard to its etiology and particularly in respect to its relation to chronic inflammatory diseases of the alimentary tract that result in retroperitoneal lymphangitis; that treatment is promising in the early stages and practically hopeless when the stage of interstitial deposit of fibrous tissue is reached; that our most promising lead for treatment consists in the means already devised for the treatment of chronic inflammation in the organs with which pancreatitis is commonly associated and on which it appears to be dependent; finally, that pancreatitis is common and not rare, that its presence should be suspected in all cases of obscure upper abdominal indigestion and that like other chronic inflammatory lesions of the abdomen when it is uninfluenced in a reasonable length of time by medical measures it should receive surgical attention along the lines here proposed.

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MODERATE DEGREES OF PELVIC CONTRACTION AND THEIR OBSTETRIC PROBLEMS

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While it may be true that the management of normal labor demands but little knowledge of obstetrics, and that childbirth under most circumstances will terminate favorably, it is unquestionably true that only a good knowledge of obstetrics will qualify a physician to meet successfully the difficulties which arise from time to time in the practice of this specialty. Indeed, thanks to modern surgery, our art has developed to a degree at which no condition contingent on gestation or parturition may occur which has no remedy. I do not say that the right thing is always done, or that any of us is so skilful as never to fail, but I do insist that every pregnant woman may reasonably expect to bring forth a live child. Perhaps I should qualify this statement to read: every woman pregnant with a viable child.

Marked contractions of the pelvis have clearly indicated but one alternative—cesarean section. The lesser and more moderate degrees puzzle the obstetrician greatly and not all are agreed what should be done in these border-line cases. Occasionally success follows the use of forceps, and a living child is dragged through a cramped pelvis. Instances are not rare, however, in which such births are accompanied by permanent injury to the child and even death after a few days.

With the exaggerated degrees of pelvic contraction there is no dispute as to what must be done in order that a child may have a chance for life; but in case of a generally contracted, or a simple flat pelvis, we are somewhat unsettled as to whether labor shall be induced a few weeks before term, the forceps relied on, pubiotomy performed or the abdominal section made. Craniotomy has in the past bid for its share of consideration, and under urgent circumstances may still have a place in our art; but when reasonable facilities are at hand for doing clean surgery, and capable surgeons are available, it should never be necessary. I shudder every time I think of the occasion when I was prevailed on to perforate a child's head because its father would not submit his wife to cesarean section, and I vowed never again to be party to such a crime.

The difficulty then is not so much in dealing with a marked deformity, such as a contraction of the true conjugate to 7 cm., for in these we must make the cesarean section if we hope to deliver a live child, but when the true conjugate measures 9.5 cm. we may easily err in a choice of methods. In such instances obstetrics ceases to be an exact science.

There are so many things to take into consideration that one must possess rare judgment and great experience to say which of the various methods of delivery shall be followed in a given case. It is quite obvious that close observation and careful calculations, measurements and planning enable one to follow a more intelligent course than if these are neglected. If the patient is seen for the first time after she has fallen in labor, or perhaps after repeated vaginal examinations by some one as to whose surgical asepsis there is uncertainty, the obstetrician will be handicapped. He must take into consideration the possibility of infection, no matter what measures are adopted, and also the question of maternal exhaustion, loss of blood and injury to the fetus. Schauta makes it a rule to wait two days before performing abdominal section on a woman who comes to the clinic after having been examined by a midwife.

If one attempts to learn from statistics the frequency of pelvic deformity one will find wide variations in the statements made. This is probably due to inaccuracy or rather the lack of uniformity in methods of estimating the size of the pelvis.

For purposes of convenience pelvic contractions are divided into two degrees, the absolute and the relative; and since the former contemplates one of two things, therapeutic abortion or cesarean section at term, I shall speak only of the latter, the relative.

With 7 cm., true conjugate, as the dividing-line, it was found in the Vienna clinic that no spontaneous births took place in a contraction of this degree, and that intervention was required in 85 per cent. of those having a true conjugate of 7.5 cm.; 75 per cent. having 8 cm.; 50.3 per cent. having 9 cm., and 24.4 per cent. having a true conjugate of 9.5 cm.

Every pregnancy complicated by a contracted pelvis is a law unto itself, demanding its own particular consideration. The maneuvers and operations made use of are well known, but when and why one procedure is better than another is a problem that cannot be answered dogmatically. I shall endeavor to show what seems to be a rational course to pursue and cite a number of cases from my own practice.

First I assure myself as well as I can whether or not the pelvic measurements are ample, perhaps going over them more than once if I am in doubt. Should there be any marked variation in the ratio between the three transverse external measurements—interspinous, 26 cm., intercristal, 29 cm., and intertrochanteric, 31 cm.—I go over the pelvis with more detail and note especially whether the internal conjugate is foreshortened. This is easy of estimation by the usual bimanual examination. If I succeed with two fingers in reaching the promontory at all I know that I have some degree of contraction to deal with. From practice I believe I can by this method almost say in centimeters what the true conjugate measures without the further necessity of instrumental pelvimetry; but I believe in more exact methods and often verify the simpler examinations by means of the various mechanical devices. By whatever means the diameter may be determined, if the true conjugate be found to measure as low as 8 cm. or even as high as 10 cm., I prepare for trouble.

The next thing to take into consideration is the size of the baby's head, which is still more difficult to measure than the mother's pelvis. Having concluded that it is of average size, one must go still further and be able to predict the degree of molding that will be possible; also the strength of the patient, and if she is likely to have strong uterine contractions. Of course if the head is engaged or can be made to engage one need not be greatly concerned about diameters. The sort of cases embraced in this discussion are those in which the head overrides the symphysis, and the question is, Will the natural forces be competent to deliver? If not, what shall be done?

If one sees these cases of pelvic contraction early enough something may be done to influence the growth of the child *in utero* by means of the diet recommended by Prochownik.[1]

My own experience with the induction of premature delivery has been most satisfactory, and of the half-dozen or more cases that I have undertaken only one resulted disastrously. Even in this instance the child was born alive, but died later from the injuries sustained in the process. As an illustration of its advantages, the following history is given of a woman whose pelvic diameters were moderately cramped:

CASE 1.—The patient, aged 29, was the mother of two children, the first of whom was delivered by forceps and with great difficulty; the other, a small child, was born unaided. The history of my first experience with her was something like this: A physician who was called to attend her in her third labor began at once to deliver with instruments. Failing in his efforts, he called on a confrère, and together they made several futile attempts to bring away the child. About midnight they sent her to the city hospital, and I was called to see her. From the instrumental manipulations at her home much blood must have been lost for she swooned on reaching the hospital. Version was performed and the patient delivered of a dead child without great difficulty. Here was a woman with a history of a previous hard labor, whose external conjugate measured 18 cm. The disproportion between the fetus and the pelvic inlet was not great, yet a life was sacrificed because the right thing was not done. The same patient came under my care within a year and I have the following notes of her fourth delivery:

She went to the hospital on March 24. The same afternoon I passed a bougie into the uterus and packed the vagina. About all this served to do was to excite uterine discomfort. After thirty-six hours the bougie and packing were removed, the vagina cleansed and with the Leavitt dilator the cervix was dilated to the size of a silver dollar, and packed with gauze. Uterine contractions began soon afterward and continued most of the night, but quieted down by morning. For the next thirty hours the patient was comfortable. The presenting part refused to engage. At 9 o'clock in the morning of the 28th I again employed the dilator and opened the cervix to the size of my hand, ruptured the sac, made a high application with the axis-traction forceps, pulled the head well into the inlet, and left labor to go on spontaneously. Uterine contractions soon ceased. At eleven I ordered 10 grains of quinin, the dose to be repeated in one hour. Labor pains began shortly after the first dose, and when I examined the patient at 2 o'clock the head was engaged and the cervix well dilated. A live baby was born two hours later.

The following case turned out equally well but was managed altogether differently:

CASE 2.—The patient, first seen August 1, was pregnant for the third time. The former labors were difficult; the first one resulted in the birth of a dead child; the second child was born alive but died after three days from the injuries it received at birth. Both babies were said to be large, especially their heads. Pelvimetry did not reveal any marked contraction, and at the time of examination I rather thought she would be able to deliver herself at the end of term. She was taken in labor on the afternoon of August 30. The first stage was normal, the amniotic sac rupturing about 9 p. m.—at least I judged so from the patient's account, though I did not see her till 10 p. m. At this time the cervix was fully dilated. The head was not engaged. I remained with her until 3 a. m., making an occasional examination to ascertain if the head was beginning to engage. The conditions remained the same as when I first saw her in the evening, except that she was more fatigued. At no time were the pains very strong.

At 3 a. m. I insisted on her going to the hospital, where I made a reasonable effort to deliver with the axis-traction forceps. Failing, I informed the husband that one of three things would have to be done, and explained to him briefly the operations of pubiotomy, craniotomy and cesarean section. My preference in this instance was pubiotomy, neither of us being willing to sacrifice the life of the child deliberately. He gave his consent and we prepared the woman in another part of the hospital for the operation.

A Doederlein needle was passed subcutaneously from below and about three-fourths of an inch to the right of the symphysis, making its exit close to the bone, a Gigli saw was drawn through and the pelvis separated without other difficulty than the breaking of two saws that I brought from Vienna. Fortunately we had others at the hospital. There was considerable hemorrhage, owing to the necessity of passing the needle several times, and the breaking of the saws. Traction forceps were applied and the baby delivered without much effort. It did not cry or breathe. As soon as I could leave the mother I began resuscitative measures of a vigorous sort, and, though I despaired of bringing him to life, we were finally successful in awakening another boy to the tribulations of this vainglorious world. The mother's thighs were strapped with adhesive plaster. Recovery was rapid, bony union taking place promptly. At the end of two weeks the patient was able to walk and has suffered absolutely no inconvenience from the severance of the pelvis. At this time, one year after, both are well.

A third case was handled successfully by cesarean section:

CASE 3.—This young woman evidently went over term. She had been under observation for some months at the university hospital, and we were apprehensive of trouble. For eighteen hours she was in hard labor. The position of the fetus was most favorable, and the patient was strong. While the true conjugate was of the moderate degree of contraction, it was thought best to let her try to deliver herself. Her efforts were futile, however, the presenting part refusing to engage. In this case no attempts were made to deliver with forceps, and but one vaginal examination was made during labor. My judgment prompted me to make the cesarean section.

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[1] Breakfast: A small cup of black coffee, 100 c.c.: zwieback, or bread with a little butter, 200 gm. Luncheon: Any kind of meat or fish, eggs, green vegetables, salad, cheese. Dinner: Same as luncheon, with addition of bread and butter, 30 to 50 gm. Fluids: As much per day as a pint of water, or of red or Moselle wine if the patient is accustomed to the use of wines. See fuller discussion of this diet in THE JOURNAL A. M. A., Oct. 28, 1911, p. 1474.

To illustrate still another way of attacking a labor complicated by a moderate degree of pelvic contraction:

Case 4.—A young primipara with a true conjugate of 8.5 cm. was sent to St. Luke's Hospital on the first signs of labor and without delay submitted to cesarean section. Her recovery was as uneventful as a normal labor. Besides, she was spared many hours of useless pain. To have her baby was about as much of an ordeal as a simple appendectomy.

Here are pictured the three or four methods of dealing with a relative deformity of the pelvis. Which is the best? Which is the safest for both mother and child? Why not induce premature labor? Why not separate the pubic bones? Why not deliver through the abdominal wall? These are questions which I, at least, cannot answer definitely and conclusively, so much depends.

If time permitted I should enjoy a discussion as to the advantages of the various procedures touched on, but will content myself by saying that personally I prefer the scalpel if the pelvic diameters make one or the other operation necessary. At any rate I will say that not a life has been lost in four recent cases in which I have performed cesarean section, which is better than can be said of the last four deliveries made by the high application of forceps.

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THE CONTROL OF TYPHOID INFECTION

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The typhoid problem in Wilmington as elsewhere is occasioned by the exposure of infected feces to flies, and by the pollution of the soil and water. In rural districts, towns and small cities where the use of the sewer is limited or does not exist, it is obvious that the first attempt at typhoid control must be directed toward the sanitary disposal of human excreta, more especially that of typhoid patients.

In the absence of a system of sewers the sanitary disposal of excreta is not so simple as it would at first appear. All forms of the sanitary privy are open to objections and most of these objections are easily magnified by property owners who desire to avoid expense and citizens who are unwilling to complicate their manner of living. The ordinary open surface-privy appeals strongly to the ignorant because all fluids are readily absorbed by the earth and the solids when unconfined rapidly become inoffensive. The sanitary closet, if not cared for properly, soon becomes offensive, and this is a powerful factor in the creation and continuation of the objection to its use.

There were more than five thousand surface-privies in Wilmington at the beginning of June, 1911. The death records of the health office furnished conclusive evidence that typhoid fever had been endemic for a great number of years. An estimate of the number of cases occurring each year made from the number of deaths from this cause shows an average for the five years preceding 1911 of two hundred cases each year, and the time of greatest frequency invariably occurred during the summer months, which indicated fly-borne infection.

The inauguration of the new health department in Wilmington, June 1, 1911, occurred while a rapidly spreading epidemic of typhoid was in progress. Our first efforts were directed to the destruction of the fly which was obviously the means of transmitting this disease. Along with this went the effort to introduce the sanitary privy. All surface-privies, manure-heaps and places in which flies could breed and feed were repeatedly saturated with pyroligneous acid. The result of this procedure was a prompt checking of the spread of the epidemic. This work was done at the expense of the municipality.

The introduction of the sanitary privy was strongly opposed. Property owners objected to the expense and those who made use of the sanitary privy and who neglected its care complained widely of its offensiveness. This opposition was strong enough to interfere with the enforcement of the sanitary closet ordinance to such an extent that at the beginning of the summer of 1912 there were remaining in the city nearly three thousand surface-privies. Many of the sanitary privies which had been installed were not made fly-proof as required by the law. This condition of affairs practically insured a repetition of the annual epidemic of typhoid. The council failed to furnish funds for the use of pyroligneous acid and it was certain that no funds would be furnished unless pronounced epidemic conditions appeared. We determined if possible to prevent the recurrence of the epidemic which had been so long a fixture in this community and to that end adopted the following plan:

Each sanitary closet-can, when removed for cleaning, was thoroughly scrubbed and disinfected, and before being replaced in a closet was filled to one-third of its capacity with a disinfecting solution of known typhoid bactericidal efficiency. In addition a circular letter was addressed to every physician in the city requesting him to notify the health office as soon as the symptoms in any suspected patient suggested typhoid, and to use every means in his power to secure the screening of the patient and the disinfection of all excreta. The health office agreed immediately on notification to cooperate with the physician in his efforts to render the case innocuous. To prevent any typhoid excreta from going through the sewers into the Cape Fear River the health office was to supply every household in which there was a case of typhoid with a steel can in which the excreta from the patient might be kept and disinfected.

This plan went into immediate effect and since May 1 it has been in continuous operation. Both physicians and citizens cooperated fully and the results have been extremely gratifying. As soon as a suspected case of typhoid fever is reported a galvanized steel can of 12½ gallons capacity, containing 3 gallons of disinfecting solution and supplied with a tight lid, is sent to the house of the patient. An extra quantity of disinfectant is supplied for the disinfection of bed linen and clothing. Another can is provided, if desired, for use in disinfecting these articles. The can containing the disinfected excreta is placed in an out-building, kept tightly closed at all times, and is removed, cleaned and redisinfected as often as is necessary, without cost to the citizens. New cans are furnished for every exchange in order to prevent the possibility of offense which might be occasioned by the use of a previously used can. As a result of our efforts we recorded during the month of May, 1912, but 6 cases of typhoid fever; in June, 20 cases; in July, 10 cases; in August, 12 cases, and in September, 11 cases. During the same period in 1911, 250 new cases were reported. Recognizing the fact that the excreta of the typhoid case constitute practically the only means of transmitting this disease, and realizing that from the great number of typhoid cases which have occurred in this city each year for many years past there must be a number of typhoid carriers in this community (it is obvious that our plan of prevention could not reach these), we must conclude from the results that infection from current cases has been prevented to a very gratifying degree.

Typhoid is essentially a disease of the rural districts, small towns, and small cities where human excrement is not immediately conveyed beyond the limits of infection possibility through sewers, and where thorough disinfection of typhoid excreta is least likely to be practiced. The plan we have used cannot be carried out successfully where the population is so concentrated and numerous as in the larger cities. Thus the disease and this plan of prevention seem eminently suited to each other.

UNUSUAL EXPOSURE TO LIGHT FOLLOWED BY SEBORRHEIC KERATOSIS

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Seborrheic keratosis is a common cutaneous disease which most frequently occurs in elderly people, and especially, as its name implies, in those who have a seborrheic skin. Light, especially the actinic rays of light, is now considered to be in many cases the exciting cause of the trouble. There is no direct evidence in support of this view, but there are a number of phenomena difficult to interpret in any other way:

1. Patches of seborrheic keratosis begin very frequently as small pigmented spots, and the formation of pigment is a well-known effect of the action of light.
2. Seborrheic patches occur most commonly and most profusely in persons exposed to light.
3. They appear almost exclusively on the exposed surfaces of the face, ears, neck and back of the hands, and the lesions, as a whole, are analogous to those of xeroderma pigmentosum, a disease in which light is known to be the exciting cause.
4. Furthermore, chronic dermatitis from prolonged exposure to *x*-rays, which are particularly actinic, presents the same set of symptoms as xeroderma and seborrheic keratosis, and eventuates, as they do, in epithelioma.

To demonstrate what an important rôle light plays in the development of seborrheic keratosis William Dubreuilh collected the material in his clinic in Bordeaux and found that of 162 patients, 101 had outdoor and 61 indoor occupations; that is to say, 62.5 per cent. of them were exposed to the sun, while 37 per cent. were not.[1]

The following case is so instructive in regard to this question as to be well worth a short consideration:

The patient, an officer in the U. S. Navy, aged 56, in excellent general health and with the fair, fine skin of those of northern European extraction, consulted me on Sept. 22, 1911, on account of a large number of seborrheic keratoses which he said had first appeared about ten years previously as brown discolorations. The patches were principally situated along the lower jaw, in front of the ears and on the rim of the ear-shells. Some of the patches were just roughened and covered by tightly adherent scales; others were reddened and desquamating, while still others were infiltrated, reddened and covered with a hard or crumbly, soft crust. Some of the latter, when curetted, showed that the disease process had extended down into the true skin, and therefore had undergone epitheliomatous degeneration.

There was a large number of deep brown spots, larger and darker in color than freckles, across the middle of the face and on the back of the hands. Here, however, the pigmented spots were not roughened. These spots and the roughened patches had appeared coincidently, and all were subsequent to a severe and prolonged exposure to sunlight, of which I shall speak later. The sebaceous glands of the nose and of the adjacent cheeks were patulous and plugged with comedones, the result of a rosacea due to indigestion, from which the patient had continually suffered while at sea, but from which he recovered on getting the better food incident to shore duty.

In the course of conversation regarding the cause of the degeneration evinced by his skin, the subject of light as a possible factor was mentioned, and the patient related the following very interesting bit of personal history:

His skin gave him no trouble till between the years 1883 and 1886, when he was engaged in the Coast Survey. For many hours of each day during these three years, he was out in a small boat plotting figures on a sheet of white paper stretched on a board. In this occupation, therefore, he was exposed to the direct rays of the sun, and also to those reflected from the water and from the white paper, and suffered severely from sunburn and from irritation of the eyes and eyelids. It was interesting to note that the affected areas along the jaws, in front of the ears and the integument of the ear-shells occupied exactly the situations well known to suffer severely in burns from the reflected light of snowburn and waterburn. It is also known, as pointed out by Jesionek, that the skin in front of the ears and of the ear-shells is particularly apt to show a patchy sensitiveness to light, corresponding in this respect, therefore, to the patchy nature of the patient's trouble.

There was another interesting point relating to the chief situation of the seborrheic patches in this case. The patient had suffered from rosacea, which is one of the seborrheides, and the middle zone of the front of his face was still seborrheic, as shown by its patulous, plugged sebaceous gland-ducts. It is on this kind of skin and in this situation that seborrheic keratoses tend to form, yet there were none present. Light on these surfaces had caused only deep freckling, such as was also present on the back of his hands. Nor were his eyelids affected, although they had suffered severely in the exposure to light. These are strong points showing that the patient's skin was not predisposed to the formation of these keratoses, and that it was not particularly sensitive to this action of light; but that it was rather the long-continued exposure to a light rich in actinic rays which set the degeneration in motion.

Snowburn, especially in the mountains and on glaciers, is much more severe than waterburn, and waterburn is severer than ordinary sunburn. There are two factors contributing to this: Light at high altitudes is much richer in actinic rays than light at lower levels, because as light travels down through the atmosphere it loses its actinic rays by absorption much more rapidly than its heat rays. We, therefore, who live at the bottom of the aerial ocean, are used to a light much poorer in actinic rays than that which we get when we ascend into the mountains.

There is still another reason for the severity of snowburn. A fine white powder, such as snow, readily absorbs the long waves at the red end of the spectrum and refracts the short ones at and beyond the violet end, so that not alone is the light itself at high altitudes richer in actinic rays than that to which we are ordinarily accustomed, but a greater proportional number of those rays are refracted, and they therefore contribute to causing the burn.[2] One of my patients, who was severely snowburned in Nevada, said that he noticed that on that day the snow and ice had looked particularly blue. The blue color often noticed in snow and ice is ascribed, in part at least, to the refraction of the rays at the violet end of the spectrum.

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[1] Dubreuilh, W.: Epitheliomatose d'origine solaire, Ann. de dermat. et de syph., June, 1907, p. 387.

Still another reason for the severity of snowburn and waterburn is the greater quantity of light. The individual is exposed not alone to the direct light of the sun, but also to the light coming from the reflecting surface. Besides this, the reflected light strikes the exposed surfaces at an unusual angle, and so takes the cells by surprise. Cells which, throughout the foregoing years and even generations passed through by the individual, have been comparatively sheltered are suddenly exposed to direct injury by the reflected light rays. In addition to this, the beam of light passes through the cooled air over the water or snow and thereby loses a great quantity of its long, red, heat waves, and the man exposed, not feeling the pain or discomfort of the heat, is not warned of the damage the short painless actinic waves are causing until the injury is very great.

TREATMENT

In many instances a covering is all that is necessary. The parts covered by the clothing seldom suffer from this form of degeneration, and William Dubreuilh has shown that women who wear a head-dress enclosing the forehead, ears and sides of the face are free, in these situations, from keratotic degeneration. The necessities of life prevent enclosing the whole face in a dense covering. From what we know of the nature of light, however, a flimsier covering or veil, providing it be of the right color, may be efficient. Here, as in a photographic dark-room, a red screen will protect against the actinic rays. Nature, herself, in automatically protecting the skin, employs the colors yellow, red and brown.

The color of the skin in the white, yellow and red races depends on the yellow color of the outer horny covering, the reddish-brown pigment developed in the basal layers of the epithelium and the red blood in the capillaries of the connective tissue portion of the skin. Light reacts on every one of those elements, increasing its efficiency. One of the best-known effects of light on the skin is the production of erythema solare, or sunburn, when the skin becomes a bright, blood red. Of course, this red color, from increased blood-supply, is situated deeper than the epithelial layers of the skin which we are considering, and therefore, as far as its color is concerned, is not protective to them, but the red blood is protective to the connective tissue among the fibers of which it circulates. Furthermore, this increased blood-supply is indirectly protective even to the epithelial layers, as it causes an increased production of epithelial cells, and when this production is not too swift, causing denudation, induces an increased thickening of the horny and scurf layers. It may also be pointed out that light increases the cohesiveness between the individual epithelial cells, causing them to cling to one another and to form a thicker horny and scurf layer. The scurf layer, therefore, with its fine wrinkles and shedding epithelial cells, refracts the rays of light multitudinously, and must render the more easily refracted actinic rays less harmful.

In addition, light causes an increased production of pigment in the basal or pigment-forming cells of the epidermis. The pigment is spread over the lower more sensitive cells of the epidermis like a delicate veil lying between the upper yellow layer of horn and the deeper red one of blood.

In some races, notably in our North American Indians, the red tint of the skin due to red pigment is a salient feature. Recently, in traveling through the mountains of Arizona, Wesley A. Hill, a resident of Phoenix, pointed out to me a man he knew to be a full-blood Apache. The striking feature about him was the glorious, golden red of his skin. The red is particularly interesting in the present discussion of the protective action of the color red, as these Indians dwell high in the mountains in the clear air and strong sunlight of the highlands of Arizona, where the sunlight must be particularly full of actinic rays. Their skin is quite a contrast to the muddy dark skin of the Mexicans of the plains. Interesting too in this regard is what Zambaco Pasha says of Barbedienne, the celebrated bronze-founder, who represented his Abyssinians by first gilding a statue and then painting it with a special bronze varnish, so that the gilt shone through, like the pigment shining through the yellow horny layer of the skin. Zambaco Pasha furthermore remarks that the mountaineer Abyssinian with his clear bronze skin must not be confounded with the black muddy-complexioned negro of the Sudan. Therefore, both in the mountains of Abyssinia and in those of Arizona, where the sunlight must be particularly rich in actinic rays, Nature uses the color red abundantly as a protective veil.

In the case of my patient a red or yellow handkerchief tied down over the ears and under the jaws would have almost entirely protected his skin from injury from the upstreaming reflected actinic rays that we must assume caused his trouble. A yellow veil and yellow spectacles would probably have protected his whole face. A gray veil made of a mixture of red and green, such as Maklakoff employed in protecting workmen from the chemical rays of the arc light,[3] would also have absorbed the chemical rays and prevented his trouble.

The color of the paper on which the patient was required to write was also of importance. It was especially furnished for the work, and undoubtedly he would not have been permitted to substitute a darker paper, although writing on white paper in glaring light is well known to be exquisitely painful to some persons, from its effect on the retina alone. The color of the paper should be a subject of investigation; possibly it would be best to use a dull gray.

The treatment of the immediate lesions — the seborrheic patches themselves — also requires consideration, as they are not only disfiguring and disagreeable to the touch, but they also tend to epitheliomatous degeneration and are therefore dangerous. It is true that the evolution of this degeneration, as of all the phenomena involved, is of the slowest, and that it is only the occasional patch that becomes cancerous. Such an epithelioma, however, when once started grows faster and faster as it enlarges, and one patch developing into one cancer is usually sufficient to make a thoughtful or sensitive man unhappy. So, therefore, even if the patches are slow in development they will not fail in time to become interesting. Curetting and the application of tricholoracetic acid is the most effective topical treatment I have found. Patches may, however, be held in check and even be diminished in size by a salicylic acid and sulphur ointment:

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[2] Widmark: Quoted by A. Jesionek, Lichtbiologie und Lichtpathologie, p. 169.

[3] Quoted by A. Jesionek, Lichtbiologie u. Lichtpathologie, p. 179.

℞	Gm.		
Acidi salicylici	0 50		gr x
Sulphuris praecipitati	3 00	or	ʒ i
Lanolini			
Petrolati āā	12 50		℥ ss

Sig.: Rub in once a day.

If the surface of the skin is irritable and inclined to inflame, the soothing effect of camphor and of the mild mercurial salts, such as the mild chlorid or the yellow and red oxids, may be taken advantage of:

℞	Gm.		
Hydrargyri oxidi rubri			
Camphorae āā	0 50	or	gr x
Lanolini			
Petrolati āā	12 50		℥ ss

Sig.: Rub into the affected skin at night.

When the ointment is to be kept for a long time, the base constituted of lanolin and petrolatum is very good, as it does not decompose.

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THE TREATMENT OF DYSENTERY CASES IN STATE INSTITUTIONS

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In August and September dysentery makes its appearance, and is quite apt to be epidemic in prisons, jails, almshouses, asylums and other state institutions.

When epidemic the disease is found in all its forms, from the cases of loose, frequent mucous stools to the scraped-meat, bloody dejections. The latter cases are usually found in the demented, who are as a general rule much debilitated, and in the aged, whose assimilative and recuperative powers are low, and whose arteriosclerosis extends not only to the radial and temporal arteries, but to the finer vessels which supply the intestinal viscera. In cases of marked arteriosclerosis stupor is a prominent symptom, and the usual remedies do not appear to be of the slightest benefit.

In treating this disease during the past few years, I have exhausted the Pharmacopeia, going through the list of drugs from Squibb's diarrhea mixture to the many other opium formulas. Bismuth, salol and other forms of intestinal antiseptics have been resorted to. I have also used the high colon flushings with many kinds of medicated solutions (finding the normal salt solution as good as any), and have seen injury done the patient by the use in unskilled hands of that worst of all dissecting instruments, the syringe. The long colon tube often curls up in the rectal pouch, and when the stream from the syringe is turned on with force, the end of the tube is often seen making its appearance at the anal orifice, much to the surprise of the attendant or nurse.

A great deal of pain is caused the patient by unskilful manipulations in the rectal cavity, where the mucous membrane is softened and spongy on account of the continuous flow of mucous stools. Infection and painful tenesmus are often prolonged by irritation of the already overstimulated rectal nerves with various astringents, when the best course is to leave that portion of the anatomy absolutely at rest.

As the disease is accounted an infectious one, the most rigid rules should be adopted for the isolation of every patient, and the plan I have followed at the state institutions, in which the cases have been numerous, is as follows: When the patients present themselves for treatment it will be found that they have had a diarrhea for two or three days of which they said nothing, or thought little about, until they noticed some blood or "jelly-like stuff" in the stools. This is usually accompanied by sharp griping pains and tenesmus. When this history is obtained the patient should be isolated if possible and put to bed. The treatment is then begun by giving 1 grain of calomel at once; I prefer the tablets flavored with wintergreen, for they prevent in a measure the feeling of nausea that sometimes arises from the administration of the plain calomel.

After two hours the patient is given a teaspoonful of the following prescription, which for ward use I have designated as "acid diarrhea mixture:"

℞	Gm. or c.c.		
Acidi sulphurici dilut.	12		ʒ iii
Tincturæ cardamomi comp.	30	or	℥ i
Aquæ, q. s.	250		℥ viii

M. Sig.—One teaspoonful every two hours during the disease.

In conjunction with this the patient is to be given 1 tablespoonful of olive oil every two hours, and no other drugs or food should be given. Plenty of boiled water is given at frequent intervals. Exceptions may be made to the above treatment in the aged, debilitated or those affected with arteriosclerosis, by giving, in addition, a teaspoonful of brandy every three hours.

At the state prison, where the inmates are of more sturdy physique than those found in the almshouse, this treatment has proved very efficient. In the majority of cases the discharges have stopped in from two to three days. This has also been the case at the state workhouse and the state reform school. This plan of treatment has shortened the period of bed rest from weeks to a few days. The patient has been eager and ready for food, his convalescing has not been prolonged, and the slumbering appetite for "dope" has not been aroused by the opium derivatives, or the alcoholic appetite whetted by the "hot drop" or other stimulative treatment.

In previous epidemics many of our patients have complained of postdysenteric cramps and soreness over the lower portion of the abdomen, caused, no doubt, by masses of undigested milk curds, or other irritating food material taken when the vitality of the digestive tract was at its lowest ebb. This has not been a source of trouble so far this season, and the complete rest and collapse of the intestinal tube appear to be the proper way of treating this "institutional disease." This form of treatment has given gratifying results and should be of service to those who deal with patients in military barracks, camps and state institutions.

HENRY B. WARD
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The Quack in the Crisis.—Let the ministry see that the quack, who masquerades under the banner of humanitarianism, is utterly selfish in his work. Who makes possible the digging of the Panama Canal, the quack with his special cure for cancer or the regular physician who gives his life in the discovery of the cause and prevention of yellow fever? Who is found on the battle-field attending the dying and wounded, the quack or the regular doctor? Which would our government choose? Who would bravely go? Who is leading and who opposing the fight against impure and adulterated drugs and foods? Let pestilence invade any part of this country, or let a scourge of small-pox or yellow fever sweep any portion of our land and you will hear the government cry out for doctors! doctors to stop the ravages of these awful plagues. Even the daily press of the land, which fights the battles of the quacks for a consideration, will cry, "Send us doctors!" Where then is your quack?—F. Poe in *Jour. Kansas Med. Soc.*

THE ETIOLOGY OF UNILATERAL RENAL HEMATURIA *

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It is my purpose to call attention to the rôle played by congestion of one kidney, and the relative importance of this congestion as an etiologic factor in the causation of that symptom, unilateral hematuria.

The pathology underlying unilateral hematuria associated with tuberculosis, calculus, neoplasm or infarct, in which only one kidney is involved, is too well known to require consideration at this time, for infiltration, erosion and ulceration are in themselves sufficient to produce decided unilateral bleeding. But there is another large class of cases in which the pathology is obscure. This class includes a group of so-called essential hematurias in which there is found no intrinsic renal lesion to account for the bleeding, and it is my opinion that here, as probably in other conditions to be considered, a congestion acts as the *primum movens,* an extrinsic lesion plus a resulting intrinsic congestion causing the unilateral bleeding. The congestion, if persistent, may result in a definite lesion in the kidney.

Several writers have mentioned the congestion found at operation or autopsy; others have considered congestion as being the possible cause of the microscopic changes found, but in no writings have I been able to find sufficiently definite stress laid on congestion as the actual cause of the hematuria. It must be realized that if it were not for the appearance and persistence of this symptom, an overwhelming majority of the patients presenting a hematuria would never seek medical advice; and moreover, when the patient has been relieved of this symptom, the internist or the surgeon is apt to consider that a cure has been obtained, irrespective of the appearance or continuance of a trace of albumin or the finding of a tube-cast.

THEORIES OF ESSENTIAL HEMATURIA

Briefly stated, the three main theories that have been offered to account for so-called essential hematuria are as follows:

1. *Chronic Nephritis.*—Israel,[1] Albarran,[2] Rovsing,[3] Kuster,[4] Zuckerkandl[5] and Fowler[6] defend the position that a chronic nephritis is most frequently, if not always, the underlying pathologic lesion. We know that nephritis may be only unilateral and moreover may involve only isolated areas in one kidney — a condition the Germans term *fleckweise* and the French *néphrites parcellaire.* The nephritic theory is ably supported by the statistics of Kretschmer[7] and of Bleck.[8] The former in 1907 found nephritis on microscopic sections in fifty-three out of sixty-two cases; and Bleck in 1909 stated that fifty of his eighty cases showed undoubted evidence of chronic nephritis. The advocates of this theory are apt to be overzealous, for somewhere a line must be drawn between the lesions of definite outspoken interstitial or glomerular nephritis, and the minor lesions found only after long search that are sometimes made responsible for severe and prolonged bleeding. Moreover, there are a few cases in which no nephritis could be found after the most diligent study.

2. *Hemophilia.*—Senator[9] is the great advocate of this theory. It is supported by cases of hereditary and family hematuria as reported by Aitkens,[10] Atlee,[11] Guthrie,[12] Imbert[13] and Nonne.[14] But it seems unreasonable to expect hemophilia to show itself only in one kidney and to wait until after mid-life, as it generally does, to make itself evident.

3. *Angioneurosis.*—Legueu[15] and Klemperer[16] are the advocates of this theory, supporting it with the work of Kuster and Karteweg[17] on the plexus sympatheticus, that of Brown-Séquard[18] and de Vulpian[18] on the experimental lesions of the cord, and Brault's[19] case of jacksonian epilepsy.

These three theories present an intrinsic, an extrinsic or a hypothetic cause to account for the unilateral hematuria. The most popular and most ably supported theory is the intrinsic, or that of chronic nephritis. Its advocates maintain that if a careful search be made, nephritic lesions can be demonstrated in practically all cases of unilateral hematuria.

No one of these theories explains, in my opinion, the pathologic condition of the kidney which allows the passage of blood, unilaterally, into the urine, and which represents the only symptom of which the patient must be relieved, namely, hematuria. I believe that we have to deal with a condition of local congestion or venous stasis in these cases, and whether or not the ultimate pathologic condition in a given case be due to any one of these three theories, the point that I wish to make and present for discussion is that the surgical pathologic condition, that is, the one accessible to surgical intervention (Dorland), is a congestion of the kidney, that the bleeding in any given case is secondary to a renal congestion, and that this condition may be the result of numerous lesions other than a nephritis.

It must be conceded that there are extrinsic conditions, which I shall mention, that can cause a renal congestion, and also it must be realized that hematuria is frequently associated with them. Given a cause for intermittent active congestion of the kidney, or passive congestion with periods of exacerbation, in which sudden interruption or augmentation of the blood-supply has its effect on delicate renal tissue and in which several times a day there occurs congestion and inflammatory exudation, atrophic changes must result, the areas of weakened blood-supply suffering first and a chronic patchy nephritis ensuing (Munk,[†] Newman, Posner, Weisgeben and Perl). So that the frequency with which nephritis is demonstrable in these cases must be counterbalanced in a certain number by the length of time that the causative factor of the congestion has existed.

In those cases which have minor microscopic lesions of nephritis, and those cases in which no casts or albumin can be found clinically before operation — in other words, in those cases which Albarran,[2] Hamonic[20] and Fowler[6] say may go for years — in which, says Fowler, "hematuria may be the first and only sign of renal sclerosis, occurring sometimes years before other symptoms make their appearance," or as Albarran says, cases in which "hematuria may precede the evolution of a nephritis possibly for years" — I contend that the nephritis is the effect and not the cause, and that the hematuria is secondary to renal congestion, itself secondary to other causes. And so, though I cannot deny the possibility or the frequency of hematuria in the course of chronic nephritis, I do doubt that the minor lesions in a certain number of cases are sufficient to cause the hematuria, and this is supported by a small but definite number of cases in which hematuria took place and in which on the most searching examination nothing relative to a nephritis could be demonstrated. The acceptance of this idea would eliminate from consideration the hemophilic and angioneurotic theories and would eliminate the possibility of what has been termed "essential hematuria."

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* Read in the Symposium on Renal Surgery and Pathology in the Section on Genito-Urinary Diseases of the American Medical Association, at the Sixty-Third Annual Session, held at Atlantic City, June, 1912.

[1] Israel: Mitt. a. d. Grenzgeb. d. med. u. Chir., v, 495.

[2] Albarran: Assn. franc. d'urol., Proc.-verb., 1899, iv, 104.

[3] Rovsing: Brit. Med. Jour., Nov. 19, 1898, p. 1547.

[4] Referred to by Casper: Arch. f. klin. Chir., 1906, lxxx, 378.

[5] Zuckerkandl: Wien. klin. Wchnschr., 1905, xviii, 97.

[6] Fowler: Johns Hopkins Hosp. Bull., 1906, viii, 487.

[7] Kretschmer: Chicago Med. Recorder, October, 1907, p. 575.

[8] Bleek: Beitr. z klin. Chir., 1909, lxi, 398.

[9] Senator: Berl. klin. Wchnschr., 1891, xxviii, No. 1; also 1910, xlvii, No. 5.

[10] Aitkens: Lancet, London, Aug. 14, 1909.

[11] Atlee: St. Bartholomew's Hosp. Jour., December, 1901.

[12] Guthrie: Lancet, London, May 3, 1902.

[13] Imbert · Ann. d. mal. d. org. génito-urin., 1899, xvii, 1192.

[14] Nonne: Deutsch. med. Wchnschr., 1902, xxviii, Vereins-Beilage, p. 101.

[15] Legueu: Ann. d. mal. d. org. génito-urin., 1891, p. 564.

[16] Klemperer: Deutsch. med. Wchnschr., 1897, Nos. 9 and 10, p. 129.

[17] Kuster and Karteweg: Chirurgische Behandlung der Nephritis, 1901.

[18] Referred to by Klemperer. (Footnote 16).

[19] Referred to by Motz: Ann. d. mal. d. org. génito-urin., 1910, l, 578.

[†] Munk, P.: Berl. klin. Wchnschr., 1864, i, 333.

This condition of congestion or venous stasis of one kidney may occur, and a hematuria results, from any of the following extrinsic conditions, the congestion resulting from a definite lesion, and the hematuria resulting from the congestion.

EXTRINSIC CONDITIONS GIVING RISE TO HEMATURIA

1. *Obstruction to Urinary Outflow.*—Guyon and Albarran[21] ligated a dog's penis, which from the resulting retention produced a congestive hematuria. They note, first, vascular arborization on the mucosa, then spots of ecchymosis and finally epithelial desquamation and extravasation of blood. Hematuria has been observed in cases of enlarged prostate with complete retention in which after vesical drainage the hematuria ceased (Freeman[22]). Schwyzer[23] gives a most instructive case of ureteral stone, in which the bleeding was seen to come from the kidney at operation, microscopic section of the kidney was negative for nephritis, and later the stone was passed. He says: "On severe congestion the glomeruli seem to answer with hemorrhage and the convoluted tubules with extensive desquamation." Terrier and Boudouin[24] report four cases of hematuria in eighty-three cases of hydronephrosis, Albarran[25] cites six cases and Bleek[8] ten.

2. *Obstruction to Blood-Supply.*—In 1843 George Robinson[26] demonstrated by experiments that obstruction to renal veins caused both albuminuria and hematuria. Newman[27] reports two cases of hematuria in movable kidney. Fenwick[28] cites numerous cases to prove that torsion of pedicle can cause both patchy nephritis and hematuria, as does also Rovsing[29] in a case of torsion of kidney pedicle behind an adherent lobe of liver. Albarran and Guyon[30] had the unique experience of seeing seven cases of hematuria associated with pregnancy, which they explained by pressure of the enlarging uterus on the vessels of the kidney pedicle, provoking a stagnant hyperemia. Schuller[31] had a woman who developed it during five pregnancies at the twenty-second week.

3. *Abnormal Renal Vessels.*—This has been noted by Hayes,[32] Pousson[33] and Schuller;[34] in each case a vein and artery were supernumerary and their ligation relieved the condition. Here one must remember that the softer-walled vein is the first to be occluded. Recently, Botez,[35] in a study of horseshoe kidney, in which the blood-supply is often most intricate and abnormal, records three cases in which hematuria was a symptom.

4. *Congestion Secondary to Cardiac Lesions.*—Histologically here one finds rupture of the glomerular vessels and hemorrhage into the space of Bowman's capsule. Askanazy[36] mentions twenty-nine cases of cardiorenal disease in which the patients died with marked cyanosis; ten presented hematuria.

5. *Congestion Secondary to Hepatic Lesions.*—This is a cause of which one hears but little. Tuffier and Lejar,[37] and more recently Gilbert and Villaret[38] have sufficiently demonstrated the existence of portorenal anastomotic channels. Dopter,[39] Mollard[39] and Basile[40] have all observed renal congestion post mortem in cases of cirrhosis of liver, and in one of Basile's cases this was confined to the left kidney only.

And so though I have but mentioned in part the cases covering the various lesions, omitting those of thrombosis and those associated with appendicitis, it can easily be seen that there is quite a group of conditions extrinsic that can cause congestion of the kidney, and in these conditions hematuria has been frequently observed as a symptom. Given such an etiologic factor, the question then arises: Can a well kidney bleed? Senator,[9] White,[41] Caspar,[42] Robinson and Jaconlet,[43] all hold that it is possible, while Israel,[44] Motz,[45] Fronnchtéine,[46] Rovsing,[29] Kapsammer[47] and others defend the position that a lesion is necessary. In the face of such authority it is not for me to dogmatize. There is much to be said on either side and I can but give my conclusions here: 1. If nephritis is primary, congestion is secondary and hematuria tertiary. 2. If some extrinsic condition is primary, congestion is secondary and hematuria tertiary; while often it must be conceded that if an intermittent active congestion occurs or a passive congestion with periods of exacerbation, glomerular and interstitial changes must take place in the kidney; and hence in this type of cases, if congestion is existent over a longer period of time, we should expect the microscope to show lesions of chronic nephritis. So in either type we find congestion in the middle rôle and this is the role of surgical pathology and the one to be relieved by operation.

There is just one other condition in which congestion *must* play the major pathologic rôle; the condition which Fenwick[28] first described and called "renal varix."

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[20] Hamonic: Assn. franc. d'urol., Proc.-verb., 1899, iv, 115.

[21] Guyon and Albarran: Ann. d. mal. d. org. génito-urin., 1897, xv, 113.

[22] Freeman: Ann. Surg., 1904, xxxix.

[23] Schwyzer: Ann. Surg., May, 1909.

[24] Referred to by Motz, Ann. d. mal. d. org. génito-urin., 1910, xxviii, 583.

[25] Referred to by Motz, Ann. d. mal. d. org. génito-urin., 1910, xxviii, 577.

[26] Robinson: Med. Chir. Tr., London, 1843, xxvi, 51.

[27] Newman: Clin. Soc. Tr., 1897, xxx, 65.

[28] Fenwick: Handbook of Clinical Cystoscopy.

[29] Rovsing: Centralbl. f. d. Krankh. d. Harn. u. Sex. Org., 1898, ix, 616; Mitt. a. d. Grenzgeb. d. Med. u. Chir., 1902, x, 283.

[30] Referred to by Fronrchtéine, Ann. d. mal. d. org. génito-urin., 1910, xxviii, 899.

[31] Schuller: Med. Press and Circular, 1906, lxxxi, 62.

[32] Hayes: Ann. Surg., March, 1908, xlvii.

[33] Pousson: Ann. d. mal. d. org. génito-urin., 1910, xxviii, 600.

[34] Schuller: Wien. klin. Wchnschr., 1904, xvii, 477.

[35] Botez: Jour. d'urol., 1912, 1, Nos. 2, 3, 4, 5.

[36] Askanazy: Ztschr. f. klin. Med., 1905-06, lviii, 432.

[37] Referred to by Robinson and Jacoulet, Rev. de Chir., 1910, xli, 594.

[38] Gilbert and Villaret: Thèse de Paris, 1906.

[39] Referred to by Robinson and Jacoulet, Rev. de chir., 1910, xli, 595.

[40] Basile: Morgagni, March 22, 1909.

[41] White: Quart. Jour. Med., July, 1911.

[42] Caspar: Arch. f. klin. Chir., 1906, lxxx, No. 2, p. 350.

[43] Robinson and Jacoulet, Rev. de chir., 1910, xli, 582.

[44] Israel: Klinik der Nierenkrankheiten, Berlin, 1901.

[45] Motz: Ann. d. mal. d. org. génito-urin., 1910, xxviii, 577

[46] Fronnchtéine: Ann. d. mal. d. org. génito-urin., 1910, xxviii, 897.

[47] Kapsammer: Wein. klin. Wchnschr., 1905, xviii, 97.

by which he designated a varicosity situated near or on the apex of any one of the papillæ. A careful review of the literature on this subject leaves eight cases as being purely of this type. One has to be careful not to find it confused with ecchymotic or telangiectatic splotches over the mucous membrane of the renal pelvis, which is present in 44 per cent. of nephritic cases (Askanazy[36]) and so the cases of Kusumato,[48] Keffe,[49] Hayes[32] and Congdon[50] have to be rejected; also one of Pilcher's[51] cases must be rejected as the hemorrhage was not definitely seen at cystoscopy to be from one or the other side. Three cases of Fenwick's are rejected as for various reasons the diagnosis was not substantiated, whereas Myles'[52] case is a border-line one, his pathologic report calling the condition "myxangioma" of the entire renal pelvis.

The accepted cases are:

MacGowan[53]—three cases, all left-sided.
Pilcher—two cases, both left-sided.
Cabot[54]—one case, left-sided.
Fenwick—three cases, 2 left-sided and 1 right-sided (cases 1, 2 and 6).

This gives us eight (or if we accept Myles' case, nine) cases of renal varix occurring on the left side and but one on the right. This proportion is certainly unique, especially so, as you must have already judged, that the association of this formation with a condition predisposing to congestion makes it all the more important.

To account for this predisposition we should examine the left renal vein: We find that it normally crosses in front of the aorta directly under the origin of the superior mesenteric artery lying in the angle formed by the two; under the pancreas and the third portion of the duodenum. Its normal tributaries are (1) spermatic (ovarian), (2) inferior and middle adrenal, (3) lower azygos, (4) ureteric, (5) adipose or capsular (from fatty capsule); abnormally it may pass behind the aorta and may receive as tributaries (1) inferior phrenic (left), (2) splenic, (3) gastro-epiploic (left), (4) colic (left).

In other words, a vein of great importance with an abundance of work to do, but with a poor, and maybe, an embarrassed outlet. Moreover, of these cases, one of Pilcher's patients had hemorrhoids and his liver "was much decreased in size." His other patient had varicosities about the ureteral orifice. Myles' patient had been operated on for hemorrhoids; Cabot's had enlarged left inguinal glands, and I need only draw your attention to the external visible and frequent finding of left-sided varicocele. Some of the other cases were scarcely complete enough in their reports to cover such points as these even if they had been present.

The right-sided case of Fenwick undoubtedly was a case of renal varix and the only explanation found in the report lies in the fact that he calls the "right kidney loose." and in 1 per cent of cases the right spermatic (ovarian) vein opens into the renal vein (Bennett).[55]

A word as to the mode to approaching a case of hematuria to arrive at a diagnosis.

1. One should of course cover the history and not fail to make a thorough physical examination, looking for signs of nephritis in the cardiovascular system and in repeated urine examination, and for evidence of functional disturbances in the digestive, respiratory, nervous and cutaneous systems. The retinal examination may be the turning-point of a suspicious case. Of course, an x-ray plate of the entire urinary tract should be taken after a brisk purge. Varicosities should be looked for elsewhere; as Bennett says, "Eighty-five per cent. of persons coming under observation with varicocele present evidences of varix in other parts."

2. Cystoscopy should show us definitely which side is bleeding and in case hematuria is not present when the patient is to be examined, I would advise waiting, as this point should be ascertained before ureteral catheterization is attempted.

3. Ureteral catheterization should follow cystoscopy, and here to exclude bleeding from the ureter specimens should be taken from the first and second portions of the ureter, and finally the catheter may be passed to the renal pelvis. The specimens should be studied for infection. When the catheters are finally passed to the renal pelvis, kidney function should be ascertained by the phenolsulphonephthalein test. Here I prefer an intravenous injection of the drug and readings at the end of the first and second fifteen minutes and the second half hour.

4. Then a collargol injection of the renal pelvis and an x-ray plate of the bleeding side should be made, to exclude hydronephrosis or a kink of the ureter.

5. Finally pelvic lavage with epinephrin may be administered.

If this procedure does not lead to a diagnosis and the hematuria persists it is the duty of the consultant strongly to advise exploratory nephrotomy. Fenwick says, "It should, I am sure, be a golden rule to explore every case of renal hemorrhage and to be prepared for nephrectomy."

The operator should expose the kidney with as little handling as possible, ever observant to recognize nephroptosis, abnormal vessels, constrictions of the ureter or perinephric adhesions.

Nephrotomy should be performed along Brödel's line and here lies the strongest argument of all in favor of congestion being the cause of this symptom disease, "essential hematuria." Why is it that so many are cured by a single exploratory operation? It is true that in some cases the relief of tension (and as some would have us believe, the cure of a nephritis) is caused by decapsulation alone, while the breaking up of perirenal adhesions, or the intercurrent fixation of a movable kidney, undoubtedly is applicable at different times according to the nature of the case. But in so-called "essential hematuria," in which so often a cure follows an apparently futile nephrotomy, if the true cause is, as I advocate a renal congestion, we must realize that a nephrotomy, with its first effect causing a depletion and its lasting effect a permanent hemostasis, produces a similar result to that obtained by the ligation of hemorrhoids, by the excision of varicose veins, or by the resection of a varicocele. For Brödel,[56] in his classic study on the distribution of the vessels of the kidney, says:

> While there is a complete arterial division in the plane connecting the posterior calices and terminating in the lateral half of the upper and lower calices, the veins follow quite a different arrangement. Around the bases of the pyramids they anastomose and form the familiar venous arches. They

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[48] Kusumato: Deutsch. Arch. f. klin. Med., 1907, lxxxix, Nos. 5, 6.
[49] Keffe: Am. Jour. Urol., February, 1907.
[50] Congdon: Western Med. Rev., October, 1910.
[51] Pilcher: Ann. Surg., May, 1909; Boston Med. and Surg. Jour., July 7, 1910.
[52] Myles: Méd. Press and Circular, Aug. 23, 1899.
[53] MacGowan: Ann. Surg., April, 1910.
[54] Cabot: Am. Jour. Med. Sc., January, 1909.
[55] Bennett: Monograph on Varicocele, 1891.
[56] Brödel: Johns Hopkins Hosp. Bull., 1901, p. 11.

unite in large branches that run between the sides of the pyramids and the columns of Bertini to the necks of the calices where they lie between the pyramids and the arterial branches. The thickness of these collecting veins accounts for the peculiar lobulated appearance of the base and sides of the pyramid. Around the necks of the calices, both anteriorly and posteriorly, these veins form a second system of anastomosis much shorter and thicker than at the base of the pyramids. This appears as a number of thick loops or rings which fit like a collar round the neck of the calices. Nearly all the collected blood of the posterior region is carried anteriorly through these short, thick stems, to join that of the anterior portion. One finds that an incision through the posterior row of calices would avoid all the arteries but would sever *six* of these collecting veins. As there remains, however, sufficient anastomosis at the upper and lower pole of the kidney, no serious consequences should follow injury of these veins.

CONCLUSIONS

In concluding I would leave the subject as follows: In a majority of cases nephritis with its concomitant congestion plays the leading rôle. In a second group the bleeding is from varicosities in the pelvis secondary to congestion resulting from some of the extrinsic conditions above enumerated. And in a third group the hemorrhage is due to either rupture of a vessel or diapedesis of red blood-vessels, again secondary to congestion caused by some one of the above-mentioned extrinsic possibilities.

While from the point of view of the patient who desires to be rid of this constant drain on the system, and from the point of view of the surgeon who is consulted whatever the ultimate pathologic condition is (and it may be one of a large category), we are to consider that the actual etiologic factor causing the hematuria is a renal congestion, and that this is most surely and successfully relieved by the performance of a nephrotomy.

401 Professional Building.

THE INFLUENCE OF THE OPERATION OF RESECTION OF THE KIDNEY ON THE FUNCTION OF THE ORGAN

A REPORT OF EXPERIMENTAL WORK ON RABBITS [*]

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This communication is a supplementary report of experimental work done on the kidneys of rabbits. The preliminary report of this work done in the Laboratory of Surgical Research of the Harvard Medical School has been published in the *Transactions of the American Association of Genito-Urinary Surgeons*, 1909.

The experimental work which forms the basis of this communication was suggested by an operation on a woman with but a single kidney, which contained calculi. The kidney was exposed in the lumbar region, split in Brödel's line and three calculi of medium size were removed. Another calculus the size of a pea was also detected in the ureter at a point two inches from the pelvic outlet. This stone was worked upward into the kidney pelvis, which was opened on the posterior surface and the stone removed. A ureteral sound was passed through the ureter to the bladder to establish its patency. The incision in the pelvis was closed with fine silk. The wound in the kidney substance was closed, without drainage, with mattress sutures of catgut. The external wound was closed without drainage. The patient was catheterized immediately following the operation, and about one ounce of slightly bloody urine was withdrawn. There was some fear entertained that the kidney might not secrete following the operation; to determine this the patient was catheterized one hour after the operation and every subsequent half hour. No urine could be obtained from the bladder by catheterization until eight and one-half hours after operation, at which time a little more than one dram of slightly bloody urine was obtained. Catheterization one hour later showed a little less than one ounce of almost clear urine, and the catheterization one hour later (ten and one-half hours after operation) showed a little over one ounce of a nearly clear urine. From that time on, the amount of urine increased, and the patient voided a nearly normal-colored urine in fair amounts, showing no further diminution in activity of the kidney function.

The question which presents itself in connection with this operation and the accompanying temporary arrest of the kidney function is "Does a kidney which is subjected to an operation temporarily cease functionating?"

All are familiar with the ideas regarding reflex anuria. The subject here under consideration is not the same, inasmuch as we are dealing with a single diseased kidney at the outset. It may be, however, that the arrest of the kidney function in the case referred to finds its explanation in the same influences as reflex anuria, when one kidney is operated on and the other diseased. Whether or not an operation on one kidney while the other is healthy results in a temporary arrest of the secretory power of the kidney operated on is the point in question. It may be that an operation performed on one kidney arrests its secretion temporarily, no evidence of the fact being demonstrable because of the unarrested secretory power of the untouched healthy kidney on the opposite side.

It being quite impossible to determine the arrest of the function in a kidney operated on in the presence of another healthy kidney which continues to secrete urine following operation, it becomes necessary in experimental work that we should deal with animals possessed of but one kidney. The experimental work to determine this point consisted in:

Step 1.—The removal of the left kidneys of rabbits, measuring the size of the right kidney in order that its compensatory enlargement might be determined later, and noting the time following operation in which the rabbit voided urine.

Step 2.—Subsequently operating on the remaining right kidney, measuring its size to determine the vicarious enlargement of the organ, resecting a small portion of the kidney substance from its greater convexity and splitting through the kidney substance to the pelvis. *A.* Closing the wound in a certain number with mattress sutures and noting the time following the operation in which the rabbit voided urine. *B.* Establishing drainage (*a*) in a certain number with a rubber tube, and (*b*) in others with gauze, not closing the kidney wound entirely and noting the time at which kidney secretion was again established. The technic employed in each rabbit was the same. All the animals were thoroughly anesthetized with ether. The preliminary and supplementary reports referred to in the tables are separate series of experiments.

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[*] Read in the Symposium on Renal Surgery and Pathology in the Section on Genito-Urinary Diseases of the American Medical Association, at the Sixty-Third Annual Session, held at Atlantic City, June, 1912.

[*] From the Laboratory of Surgical Research, Harvard Medical School.

TECHNIC

Step 1.—The abdomen was opened through a median incision. The left kidney was exposed, freed from its bed, the pedicle clamped and tied with catgut and the kidney removed. The right kidney was exposed and measured by means of compasses without dislodging it from its bed, the measurements being the length of the organ from pole to pole, and the width from the junction of the pelvis and kidney substance to the midpoint of the greater convexity. The stomach was drawn into the wound, and injected with 25 minims of a 10 per cent. aqueous solution of methylene-blue by means of a hypodermic syringe. The needle puncture in the stomach was inverted by a purse-string suture of linen thread. The abdominal wound was then closed, and the rabbits placed in cages, the floors of which were covered with white blotting-paper so as to determine the presence of the first urine voided containing methylene-blue.

The rabbit normally urinates about every three hours. When one of the two healthy kidneys was removed, urination was somewhat retarded. This may be due to reflex inhibition of the function of the remaining kidney; more probably, however, it was the result of the ether. It was impossible to note the exact moment at which urination took place. In this class, however, urination was noted to take place before eighteen hours in all rabbits, and earlier in some as may be seen in Table 1.

TABLE 1.—DURATION OF TIME BETWEEN THE LEFT NEPHRECTOMY AND THE FIRST URINATION

Preliminary Report

Rabbit	First Urination—Hours	Rabbit	First Urination—Hours
1	Died.	5	Between 10 and 18
2	Between 10 and 18	6	Between 4 and 6
3	Between 10 and 18	7	Between 1 and 4
4	Between 10 and 18		

Supplementary Report

Rabbit	First Urination—Hours	Rabbit	First Urination—Hours
8	Between 6 and 12	18	Between 12 and 20
9	Between 6 and 12	19	Died.
10	Between 6 and 12	20	Between 20 and 25
11	Between 6 and 12	21	Died without urinating, 4 hours after operation.
12	Between 12 and 20		
13	Between 12 and 20	22	Between 6 and 20
14	Between 6 and 11	23	Between 6 and 20
15	Between 13 and 20	24	Between 6 and 20
16	Died, without urinating, 6 hours after operation.	25	Between 6 and 20
		26	Between 6 and 20
17	Between 6 and 13	27	Died.

Step 2.—Performed several days later. The abdomen was opened through the same median incision and the kidney was exposed, measured as before and freed from its bed. A wedge from the greater convexity, measuring from 2 to 3 cm. long by about 1 cm. wide and from 1 to 1.5 cm. deep, was removed. A blunt instrument was passed into the pelvis in each instance. The wound in the kidney was closed by two mattress sutures of No. 00 catgut, being placed through the substance of the kidney and including the capsules. The stomach was injected with methylene-blue in the same manner as noted in Step 1. The rabbits were placed in cages, the floors of which were covered with white blotting-paper and the time of the first urination following operation noted.

TABLE 2.—DURATION OF TIME BETWEEN THE RESECTION OF THE REMAINING RIGHT KIDNEY, CLOSING THE WOUND ENTIRELY, AND THE FIRST URINATION

Preliminary Report

Rabbit	First Urination—Hours	Rabbit	First Urination—Hours
1	Died.	5	Between 43 and 44
2	Between 38 and 43	6	Between 38 and 43
3	Between 38 and 43	7	Died during operation.
4	Between 38 and 43		

Supplementary Report

Rabbit	First Urination—Hours	Rabbit	First Urination—Hours
8	Between 17 and 22	15	Died 3 days after first operation.
9	Between 17 and 22		
10	Between 26 and 27	16	Died 6 hours after first operation.
11	Between 23 and 27		
12	Between 23 and 27	17	Died 3 days after first operation.
13	Between 22 and 24		
14	Between 23 and 28		

When the operation of resection of a portion of the only remaining kidney present in the rabbit was performed, and the kidney wound closed entirely, the time at which urination was established was considerably longer than when a nephrectomy was performed on its mate. In none of the rabbits did urination take place before seventeen hours, and in most it occurred after thirty hours. In one it did not occur for forty-three hours following operation.

It became evident from these experiments that an operation of kidney resection on a healthy rabbit with but a single kidney, although that kidney is healthy and has undergone its maximum vicarious enlargement, does temporarily diminish the function of the organ, as evidenced by the fact that urine ceases to be found for many hours.

It having been determined from these experiments that an animal possessed of a single kidney has, following an operation of resection of a portion of the kidney and closure of the wound entirely by sutures, a temporary arrest of its secretory function, information was desired as to whether or not the same arrest of urinary secretion takes place when the kidney wound is not closed entirely, but is drained.

To determine this point, another series of animals was subjected to a left-sided nephrectomy, the right side being left undisturbed; subsequently the same operation of kidney resection as previously noted was done, but instead of closing the wound entirely, rubber tubing or gauze was carried into the renal pelvis and brought out through the loin, the kidney wound being but partially closed by a catgut suture on either side of the drainage. A clean pad was placed over the drainage and fastened in position so as to make evident the first appearance of methylene-blue in the pad. The animals were placed on white blotting-paper for the detection of the urine if voided. The time at which the elimination of this fluid, which determined the time at which the kidney began secreting when (*a*) a rubber tube was used, and when (*b*) gauze was used, is seen in Table 3.

TABLE 3.—DURATION OF TIME BETWEEN THE OPERATION AND THE FIRST SECRETION OF URINE WHEN THE KIDNEY WAS DRAINED BY A RUBBER TUBE

Preliminary Report

Rabbit	Time of Urination
1	The pad on the drainage-tube became moistened with a blue fluid between six and seven hours following operation.
2	The pad on the drainage-tube became moistened with a blue fluid between six and one-half and seven hours following operation.
3	The pad on the drainage-tube became moistened with a blue fluid between seven and eight hours following operation.
4	The pad on the drainage-tube became moistened with a blue fluid between seven and eight hours following operation.
5	The pad on the drainage-tube became moistened with a blue fluid between six and one-half and seven hours following operation.

Supplementary Report

Rabbit	Time of Urination
6	The pad on the drainage-tube became moistened with a blue fluid between six and seven hours following operation. Between eleven and twenty hours a blue urine was voided.
7	Died.
8	The pad (first) was moistened with a blue fluid at the end of six hours. Between nine and eleven hours a blue urine was voided.
9	Died.
10	The pad (first) was moistened with a blue fluid between seven and nine hours following operation. Between nine and eleven hours a blue urine was voided.
11	The pad (first) was moistened with a blue fluid between seven and nine hours following operation. Between eleven and twelve hours a blue urine was voided.
12	Died.
13	The pad (first) was moistened with a blue fluid between six and eight hours following operation. Between eight and ten hours a blue urine was voided.
14	The pad (first) was moistened with a blue fluid between six and ten hours following operation. Between ten and twelve hours a blue urine was voided.
15	Died.

It was noted that the pads became stained with a blue fluid before eight hours in each instance; before seven hours in the majority.

These animals were well forty-eight hours after operation. They were killed by the injection of strychnin. The autopsies showed that the kidney incisions approximated by the suture at either side of the tube were firmly adherent. The kidney substance appeared normal with no evidence of blue stains. There was slight hemorrhage in most of the kidneys for a depth of from 1 to 3 cm. around the tube. There was no blood-clot in the kidney pelvis, ureter or bladder.

All of the animals used in the supplementary experiment urinated a blue urine within a few hours after the appearance of the stain on the pad covering the drainage tube placed in the nephrectomy wound.

TABLE 4.—DURATION OF TIME BETWEEN THE OPERATION AND THE FIRST URINE SECRETED WHEN THE KIDNEY WAS DRAINED BY GAUZE

Rabbit	Time of Urination
1	The pad over the drainage became moistened with a blue fluid between six and seven hours following operation.
2	The pad over the drainage became moistened with a blue fluid between six and seven hours following operation.
4	Gave birth to six rabbits two hours after operation. Died five hours after operation without secreting urine.

When the nephrectomy wound was drained with gauze, it was noted that the pads became wet with a blue fluid in each instance before seven hours. In one before five hours.

These animals were well forty-eight hours after operation and were killed at that time by the injection of strychnin. The autopsies showed the kidney tissue approximated by the sutures to be firmly adherent. The kidney tissue appeared normal with no evidence of blue stains. The gauze wick was firmly held in the kidney wound by the kidney tissue. The gauze extended into the kidney pelvis in each instance. There was a blue fluid in each bladder, and although the animals did not void urine up to the time they were killed (forty-eight hours) they unquestionably would have done so if allowed to live longer.

Tables 3 and 4, comparing the kidneys drained with a tube and with gauze, show that the kidney secreted a blue fluid in each instance before eight hours, in most before seven hours, and that the time of the appearance of the blue fluid was nearly the same with gauze as with rubber tube drainage.

It is to be noted that the kidneys drained with a rubber tube and by gauze secreted urine in about one-fifth of the time that was required for the urine to be voided when the kidney wound was closed entirely. Some time must be allowed in the latter instance for the collection of a certain amount of urine in the bladder before it escaped by the act of urination, yet even allowing several hours' time for this, it is unquestionable that the blue was secreted much earlier in the kidneys drained than in those that were closed tight.

As to the difference between the kidneys drained with the rubber tube and those drained with gauze, it is to be noted that the time of excretion of the blue was practically the same, the only difference between the results obtained with the two forms of drainage material being that all the animals drained with gauze had a blue-colored urine in the bladder, while those drained with the tube had none, except in two instances in which the tubes had become dislodged from the kidney pelvis and the ends occluded by the kidney tissue.

It may therefore be inferred that there is a freer escape of fluid from the kidney pelvis when drained with a tube than when drained with gauze.

While performing these experiments, it was a simple matter to note the vicarious enlargement of the right kidney. At the time of performing the left nephrectomy measurements of the right kidney were made, and again at the time of the second operation.

Observations were made on kidneys left two, three, four, five and seven days, during which time the kidney might increase in size to compensate for the left kidney which had been removed. It appears that the kidneys left seven days did not increase more than those left two and three days. It may be inferred from this that the vicarious enlargement of the rabbit's kidney reaches its maximum before the third day.

TABLE 5.—COMPENSATORY ENLARGEMENT OF THE RIGHT KIDNEY AFTER REMOVAL OF LEFT KIDNEY

Preliminary Report

Rabbit	Enlargement of Remaining Kidney
1	Died.
2	Measured 2.7 cm. long by 1.9 cm. from hilum to greater convexity. Four days later, measured 3.8 cm. long by 2.6 cm. from hilum to greater convexity. Increase, 1.1 cm. in length and 0.7 cm. in width.
3	Measured 2.2 cm. long by 1.9 cm. from hilum to greater convexity. Four days later, measured 3.2 cm. long by 2.3 cm. from hilum to greater convexity. Increase, 1.0 cm. in length and 0.4 cm. in width.
4	Measured 2.2 cm. long by 1.9 cm. from hilum to greater convexity. Three days later, measured 3.4 cm. long by 2.4 cm. from hilum to greater convexity. Increase, 1.2 cm. in length and 0.7 cm. in width.
5	Measured 2.3 cm. long by 2.2 cm. from hilum to greater convexity. Three days later, measured 3.9 cm. long by 2.6 cm. from hilum to greater convexity. Increase, 1.6 cm. in length and 0.4 cm. in width.
6	Measured 3.1 cm. long by 1.8 cm. from hilum to greater convexity. Three days later, measured 4.0 cm. long by 3.0 cm. from hilum to greater convexity. Increase, 0.9 cm. in length and 1.2 cm. in width.
7	Measured 2.4 cm. long by 1.7 cm. from hilum to greater convexity. Three days later, measured 3.8 cm. long by 2.9 cm. from hilum to greater convexity. Increase, 1.4 cm. in length and 1.2 cm. in width.

Supplementary Report

Rabbit	Enlargement of Remaining Kidney
1	Measured 2.8 cm. long by 2.0 cm. from hilum to greater convexity. Seven days later, measured 3.6 cm. long by 2.3 cm. from hilum to greater convexity. Increase, 0.8 cm. in length and 0.3 cm. in width.
2	Measured 2.5 cm. long by 1.5 cm. from hilum to greater convexity Seven days later, measured 2.8 cm. long by 1.8 cm. from hilum to greater convexity. Increase, 0.3 cm. in length and 0.3 cm. in width.
3	Measured 2.8 cm. long by 1.8 cm. from hilum to greater convexity. Seven days later, measured 3.3 cm. long by 2.1 cm. from hilum to greater convexity. Increase, 0.5 cm. in length and 0.3 cm. in width.
4	Measured 2.9 cm. long by 1.8 cm. from hilum to greater convexity. Seven days later, measured 3.4 cm. long by 2.1 cm. from hilum to greater convexity. Increase, 0.5 cm. in length and 0.3 cm. in width.
5	Measured 2.6 cm. long by 1.5 cm. from hilum to greater convexity. Seven days later, measured 2.9 cm. long by 1.9 cm. from hilum to greater convexity. Increase, 0.3 cm. in length and 0.4 cm. in width.
6	Measured 2.6 cm. long by 1.6 cm. from hilum to greater convexity. Seven days later, measured 2.9 cm. long by 1.9 cm. from hilum to greater convexity. Increase, 0.3 cm. in length and 0.3 cm. in width.
7	Measured 2.7 cm. long by 1.8 cm. from hilum to greater convexity. Seven days later, measured 3.2 cm. long by 2.4 cm. from hilum to greater convexity. Increase, 0.5 cm. in length and 0.6 cm. in width.
8	Measured 2.4 cm. long by 1.6 cm. from hilum to greater convexity. Three days later, measured 2.8 cm. long by 1.9 cm. from hilum to greater convexity. Increase, 0.4 cm. in length and 0.3 cm. in width.
9	Measured 2.5 cm. long by 1.6 cm. from hilum to greater convexity. Died six hours after first operation.
10	Measured 2.8 cm. long by 1.8 cm. from hilum to greater convexity. Three days later, measured 3.1 cm. long by 2.1 cm. from hilum to greater convexity. Increase, 0.3 cm. in length and 0.2 cm. in width.
11	Measured 2.2 cm. long by 1.6 cm. from hilum to greater convexity. Five days later, measured 2.6 cm. long by 1.8 cm. from hilum to greater convexity. Increase, 0.4 cm. in length and 0.2 cm. in width.
12	Died directly following first operation.

SUMMARY

1. The rabbit normally urinates about every three hours.

2. After performing a left-sided nephrectomy, urine was not voided for from ten to eighteen hours, except in one instance, when a blue urine was voided between four and six hours. (At least three hours and probably more time must be allowed for the accumulation of urine in the bladder before it was voided.)

3. After resecting a portion of the remaining kidney, opening into the renal pelvis and closing the wound

entirely, the secretion of urine was much delayed. At the earliest, urination did not take place for from seventeen to twenty-two hours, in one instance between forty-three and forty-four hours, and usually after thirty hours. (Here, too, several hours must be allowed for the accumulation of urine in the bladder before it was voided.)

4. After resecting a portion of the kidney and draining with a rubber tube through the loin, urine was secreted in every animal before eight hours, and in most between six and seven hours. Except when the tube became dislodged from the renal pelvis, all the urine drained through the loin, none going down the ureter to the bladder.

5. After resection of a portion of the kidney and draining with gauze through the loin, urine was secreted in all the animals in six or seven hours, except in one which showed a blue fluid between four and five hours. In each instance the urine drained both through the loin and down the ureter into the bladder.

Assuming these observations to be correct, it becomes evident that following the operation of kidney resection and closure of the kidney wound entirely, there results a temporary arrest of the kidney function; that performing the same operation and draining the kidney pelvis, not closing the kidney wound entirely, does not cause a suppression of the kidney function in the same degree, at least; that when the kidney pelvis is drained by a rubber tube the drainage through the loin is freer than when gauze is employed.

I am not prepared at present to offer any explanation for the facts here stated, the physiology of the kidney being so little understood. These facts are simple observations, made as carefully as possible. It is generally believed that the variation of the secretion of the kidney depends on the blood tension within the organ, and that with increase of the blood tension the kidney secretes more, and with its diminution the organ secretes less.

In performing the operation of splitting the kidney, its blood tension must be disturbed, yet by closing the kidney wound it would seem that the tension should be greater than when drained. Accepting the idea that kidney secretion depends on its blood tension as correct, the kidney should secrete more actively when closed by suture than when drained, which is not in accord with these experiments. It may be that the nerve influence governing the arterial tension within the organ exerts a greater influence on the secretory process than does the mechanical influence of the tension of the kidney tissues, and that by entirely closing the kidney wound the nerve influence is disturbed in a greater degree than when the wound is but partially closed.

Further experimental work will be directed toward establishing the facts here stated as correct, and then making observations on the kidney secretion with changes in blood-pressure, and if possible, the elimination of the nerve influence.

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The Abdominal Woman.—There is one kind of patient in whom the presence of membranous colitis should always be strongly suspected, and that is what we may speak of as "the abdominal woman." You all know the type; those who have been in practice know her only too well. You remember her constant state of misery and dejection, her obstinate constipation and flatulence, her frequent complaint of vague abdominal discomfort or pain. In such a case you will often find that mucomembranous colitis is the fountain of all the patient's ills.—Robert Hutchison, in *Clin. Jour.*

THE DIAGNOSIS AND INDICATIONS FOR OPERATION IN EARLY HYDRONEPHROSIS *

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The classical conception of hydronephrosis with a much-dilated pelvis, dilated calices and thinned cortex is not the view of the subject to which I desire to call attention. From the surgical point of view, comparatively little interest attaches to these extreme cases in which the surgeon steps in only in time to relieve the patient of his symptoms and at the same time of his kidney. This is the destructive aspect of surgery and it is the business of modern surgery to deal largely with the constructive side. We should regard hydronephrosis as existing in a given case when any dilatation of the renal pelvis due to obstruction has occurred. Were hydronephrosis always appreciated at its inception, nephrectomy for this condition would become a surgical curiosity. Progress in the diagnosis of lesions of the upper urinary tract has of late years been so rapid, and we have now advanced to a point where diagnosis can be so accurate that the time has come when the diagnosis of hydronephrosis should be demanded at a time when damage to the kidney has been so slight as to be curable.

It should be appreciated at the outset that if we depend on the classical symptoms of intermittent pain, tumor and sudden increase in the quantity of urine, the diagnosis will never be made in time to be of important service to the patient. In fact, the symptoms alone differ in no important particular from those caused by entirely different conditions. Hydronephrosis may be and frequently is confused with any of the conditions giving rise to pain in the upper quadrants of the abdomen, more commonly, of course, in that most difficult segment — the nightmare of the unwary — the upper right quadrant.

CAUSES OF HYDRONEPHROSIS

Though any condition producing obstruction to the ureter in any portion may lead to hydronephrosis, two causes stand out preeminently in the production of this condition:

1. *Mobility of the Kidney without Corresponding Mobility of the Upper Portion of the Ureter.*—The movable kidney has waxed and waned in its popularity as an indication for surgical operation according to the fashion of the day and the enthusiasm of the surgeon, but I believe that the time has now arrived when it is possible to state with great accuracy which cases of movable kidney are productive of symptoms and should therefore be treated by operation and which should be regarded as interesting but unimportant discoveries. One of the most important indications for surgical treatment is the tendency of mobility to obstruct the outlet of the renal pelvis and become a potential cause of hydronephrosis. This will occur when the amount of mobility of the kidney is disproportionate to that of the upper segment of the ureter. The immobility of the ureter may be due to its natural attachments and fascial band or to a slight grade of pyelitis and ureteritis, such as commonly occurs in these movable kidneys. When we see the extraordinary contortions through which the movable kidney goes, it is, on the whole, surprising that

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* Read in the Symposium on Renal Surgery and Pathology in the Section on Genito-Urinary Diseases of the American Medical Association, at the Sixty-Third Annual Session, held at Atlantic City, June, 1912.

the ureter is able to keep pace with these gyrations as well as it does and that obstruction or kinking does not more commonly result.

2. *Abnormal Renal Vessels.*—Abnormal vessels running to the lower pole of the kidney are by no means uncommon (from 2 to 4 per cent.) and some abnormality of the renal arteries has been shown to exist in something like 25 per cent. of all cases. These abnormal vessels, even though they run to the lower pole and thus across the renal pelvis, are not in and of themselves often a cause of hydronephrosis. As has been pointed out by Kelly, they should be regarded as potential causes, becoming active only when the mobility of the kidney causes them to cut sharply across the pelvis. It is impossible to say, from any data now at hand, the proportion of cases in which abnormal vessels play a part in producing obstruction of the pelvis. The experience of some operators would make it appear very common, while in that of others it is the exception. It must be generally admitted, however, that they are a not infrequent source of trouble.

SYMPTOMS IN EARLY CASES

Let it be remembered at the outset that I am not here discussing the symptoms caused by advanced hydronephrosis. The early cases present symptoms generally regarded as characteristic of other conditions and may be divided roughly into three groups:

1. *Cases Suggesting Stone in the Kidney.*—This group has the classical symptoms of renal calculus—sudden attacks of pain, referred to the region of the kidney, sometimes transmitted downward along the course of the ureter, not infrequently accompanied by nausea and sometimes by vomiting. The urine shortly after the attack will show a few blood-corpuscles and a trace of albumin. Nothing short of the most searching examination will differentiate these cases from those of renal calculus.

2. *Cases with Symptoms of Stone in the Kidney but Without Abnormality of the Urine.*—This group shows all the symptoms outlined above but a persistently normal urine. This, however, is by no means sufficient to clear up the point, as it is well known that renal calculus may exist and cause symptoms, without any change in the urine which can be detected.

3. *Cases Simulating Acute Infections of the Kidney but with a Persistently Sterile Urine.*—This is fortunately a small class of cases, but is extremely puzzling and, when better known, may prove to be less rare than we have supposed. The two cases which I have seen and studied were extremely puzzling. In both there were attacks of pain, with painful and frequent urination, most troublesome when the patient was up and about. The urine contained pus and blood in considerable quantity, and the suggestion of renal tuberculosis was strong. The true diagnosis was not suspected until after repeated cystoscopic examinations, which revealed a surprisingly normal bladder, clear evidence of irritation of the kidney on the affected side and a urine which was sterile to ordinary cultures and which proved free from the tubercle bacillus by repeated guinea-pig inoculations. The following case is inserted here in order to make the picture clear:

Case 7.—*History.*—R. S., aged 17, nursemaid, two or three years before she came under observation began to have some bladder irritability and occasional attacks of pain in the right side. Two years before examination appendix was removed. In April, 1911, bladder irritability became severe and urine at this time contained pus and blood. There was also pain in the back, chiefly on the left side. Cystoscopy at this time showed the bladder pretty red, redness being most marked around the left ureteral orifice. Both ureters were catheterized; urine from the left side contained pus and blood; that from the right side only blood-corpuscles. Cultures remained sterile and guinea-pig inoculation was negative for tuberculosis. So strong was the suggestion of tuberculosis that the catheterization was repeated in October, 1911, with the same result. Three separate sets of guinea-pigs all remained negative for tuberculosis. When the patient was seen in December, 1911, physical examination was negative except for slight costovertebral tenderness on the left. Urine at this time showed no albumin, a few red blood-corpuscles and epithelial cells. A radiogram taken after injection of the renal pelvis showed slight dilatation and a kidney which descended about 3 inches when the patient was in the erect position.

Operation.—In December, 1911, the kidney was exposed by a lumbar incision and found very freely movable, without abnormal adhesions. The kidney capsule was stripped and kidney fixed in normal position.

In May, 1912, the patient had had no further bladder irritability though she had a slight amount of pain in the left side. The urine was normal.

DIAGNOSIS

The nature of such cases will be justly appreciated only as the result of searching diagnostic methods, such as have only recently been possible. Diagnosis must be based first on convincing evidence of obstruction to the renal pelvis, though it is by no means necessary that any considerable degree of dilatation should have taken place. In fact, many of these cases will have increased irritability of the renal pelvis which will produce an apparent decrease in its capacity, thus giving rise to the belief that it is contracted. Obstruction having been demonstrated, it is further necessary to show that other possible causes of the symptoms are absent and that distention of the renal pelvis will reproduce the pain of which the patient complains. These requirements will be fulfilled only by the convincing exclusion of stone in the kidney, infections of the kidney—particularly with the tubercle bacillus—and by the reproduction of the pain by distention of the renal pelvis.

IMPORTANT DIAGNOSTIC METHODS

I have already pointed out that the symptoms are but a fallacious guide to the diagnosis of this condition and it may here be further added that the general physical examination will add equally little of value. The routine examination of the urine is practically without value, for any suggestions thus obtained will be more likely to point to other conditions than to early hydronephrosis. Nothing of importance can be learned except with the aid of the cystoscope and ureter catheter. The cystoscope alone is of little value, as examination of the bladder never gives important assistance. Catheterization of the ureter, with distention of the renal pelvis, gives some help but will allow of a positive diagnosis only when considerable dilatation has occurred and would entirely fail to reveal the cases with an irritable and therefore apparently contracted pelvis. In and of itself, *x*-ray examination is of value only on the negative side. It will exclude renal calculus and aid in the exclusion of renal tuberculosis, but cannot show the position or outline of the renal pelvis. Only by a combination of the *x*-ray and ureter catheter, which enables the surgeon to inject the renal pelvis with silver salts (which cast a shadow) can the exact size, position and relations of the renal pelvis be studied. In a word, pyelography is the main stay of diagnosis.

Though the method was originated by Voelcker of Heidelberg, much credit belongs to Braasch of Rochester, Minn., for the development of this method. With good technic, it is possible to show the outline and position of the renal pelvis in all cases and diagnoses of surprising accuracy can be made by skilful operators. In order to make the demonstration convincing, after injection of the kidney pelvis, radiograms should be taken with the patient in the horizontal and vertical positions, thus showing the position of the pelvis when the kidney is normally placed and its change of position in relation to the ureter, when the kidney descends. Some excellent work along these lines has been done by Fowler of Denver.

The methods of diagnosis having been thus outlined in general, it becomes important to discuss the exact point at which we should regard a pelvis as becoming abnormal. At present, as far as I am aware, there is no general agreement on this point. Thus, Braasch, in a paper written October, 1909, and published in April, 1910, illustrates as normal three pelves which I should regard as decidedly abnormal, one of them (Fig. 1) corresponding almost exactly with a case described by Keyes and MacKee in 1909 as "resembling a brimless derby hat." Mere size is not, within reasonable limits, to be regarded as of absolute diagnostic value, for a dilated pelvis may be abnormally irritable, while a normal pelvis may be abnormally insensitive. The important point seems to me to lie in the question of the relation of the pelvis to its outlet. The ureter should leave the pelvis at its lowest point and the junction of the pelvis with the ureter should not be unduly abrupt. The "black-hat" pelvis, to borrow Keyes' term, is characterized by a dilatation along its lower border so that it meets the ureter very abruptly and has seemed to me clearly abnormal, both on account of its appearance when radiographed after injection and on account of the complete relief of symptoms which have followed operation for this condition. On this point I am not in accord with the views of Braasch. It is, however, not sufficient to demonstrate slight changes in the contour of the renal pelvis. It must further be shown that this change in contour is due to a position which the kidney takes in relation to its ureter and which is sufficient, in and of itself, to cause obstruction and lead to dilatation. I would exclude entirely any measure of pelvic capacity as of diagnostic importance and believe that it serves only to confuse when an attempt is made to arrange as surgical those pelves which hold more than, for instance, 30 c.c. The condition is, after all, a potential one and if we wait until dilatation of any considerable amount has taken place, the kidney will in many cases become infected and can with difficulty, if at all, be restored to a normal condition by surgical intervention.

Though somewhat beside the point, I wish to point out here that the most potent cause of pyelitis is, in my opinion, to be found in moderate obstruction of the renal pelvis and that further study along these lines will cast light on the etiology of the now obscure cases of idiopathic pyelitis.

INDICATIONS FOR OPERATION

From what has already been said, it will appear that I do not believe that indication for operation should be based on any measure of capacity of the renal pelvis. The indication lies in the proof that obstruction of intermittent character exists to the outflow of urine from the pelvis, and that this obstruction is the cause of symptoms which are not caused by some other coexisting condition. Mere mobility of the kidney is wholly unimportant. In many of the cases, particularly those occurring on the left side and in strong muscular men, no mobility of the kidney can be demonstrated by ordinary methods. Convincing evidence can be obtained only by the radiogram taken after injection, the reproduction of the symptoms by distention of the renal pelvis and the exclusion of the other conditions which could cause the symptoms, chiefly, renal infections, renal calculus and gall-stones.

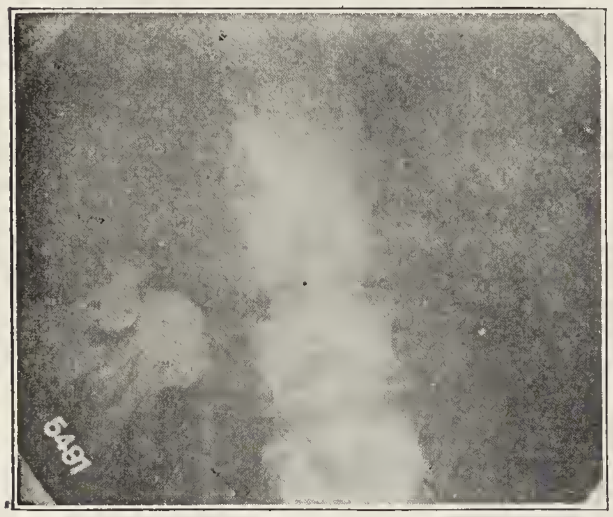

Fig. 1.—Kidney pelvis described by Braasch as normal, but corresponding with the "black-hat" pelvis of Keyes and MacKee.

Fig. 2.—Considerably dilated renal pelvis in a patient (Case 2), whose symptoms began four years earlier; from a radiogram made after injection of renal pelvis.

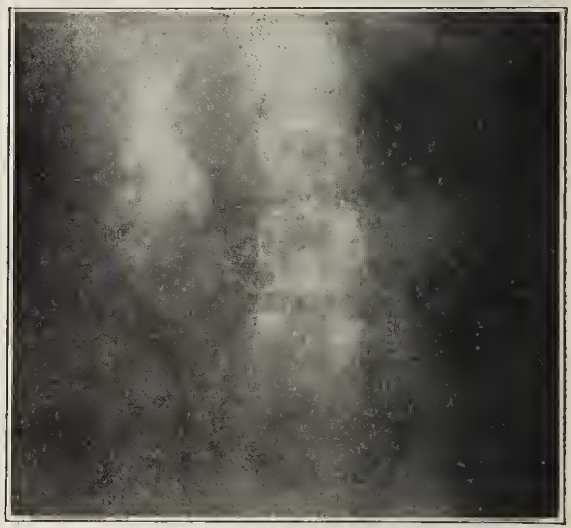

Fig. 3.—Kinking of ureter (Case 3), from a radiogram made after injection.

ILLUSTRATIVE CASES

I append some reports of cases which illustrate the methods of diagnosis, the general classes of cases in which the symptoms occur and the relief of symptoms following operation.

GROUP I

CASE 1.—*History.*—I. M. N., aged 25, nurse, in February, 1909, had an attack of abdominal pain lasting on and off for three or four weeks, accompanied by diarrhea with pain chiefly in the right side. At this time the urine showed the slightest possible trace of albumin, a few red blood-corpuscles and renal cells. Subsequent to this attack, a doubtfully diseased appendix was removed. The following June the pain in the right side returned, this time accompanied by some frequency and pain on micturition. The urine at this time again showed the slightest possible trace of albumin, but without pus or blood. Skin tuberculin reaction at this time was negative. In October, 1910, patient had a severe attack of pain in right flank, radiating to the groin, and an enlarged tender kidney could be felt. The urine showed the slightest possible trace of albumin, a few red corpuscles and leukocytes. Culture showed colon-like bacilli. This attack lasted for three weeks during most of which time there was some pain and tenderness in the region of the kidney. Following that time the patient had had several mild attacks of similar character which generally came on when she had been working hard, and which made it impossible for her to do her work with certainty. Operation was therefore advised.

Operation.—In April, 1912, the kidney was exposed by a lumbar incision, found very freely movable and the capsule abnormally adherent. The ureter was firmly bound to the lower pole of the kidney by abnormal adhesions. These adhesions were freed, capsule stripped, and the kidney fixed in normal position.

Case 2.—*History.*—E. G. H., aged 29, housewife, in January, 1908, entered Massachusetts General Hospital on account of griping pains in the back, in the region of the right kidney, radiating to the bladder. There were no urinary symptoms. The right kidney was easily palpable. *X*-ray was negative for stone. The urine was normal in all respects. No satisfactory diagnosis was made and patient was discharged without treatment. In February, 1909, patient again reported with the same symptoms but refused to enter hospital. October, 1911, she again entered the hospital; the same symptoms had continued, but on this occasion she was admitted on account of a subacute salpingitis on the left side, for which she was operated on. She was next seen in January, 1912. Urine showed pus and many colon bacilli. Cystoscopy showed urine from right ureter cloudy, containing much pus and epithelial cells. That from the left was normal. Function, tested by phthalein (intravenous method), showed 12 per cent. on the right, 18 per cent. on the left. *X*-ray was negative for stone. Cystoscopy, repeated in February, showed renal pelvis on right to have a capacity of 40 c.c., at which amount the pain of which the patient complained was reproduced. A radiogram, made after injection, showed a considerably dilated pelvis (Fig. 2).

Fig. 4.—Moderate kinking of ureter at urethropelvic junction (Case 5). Symptoms not of long duration.

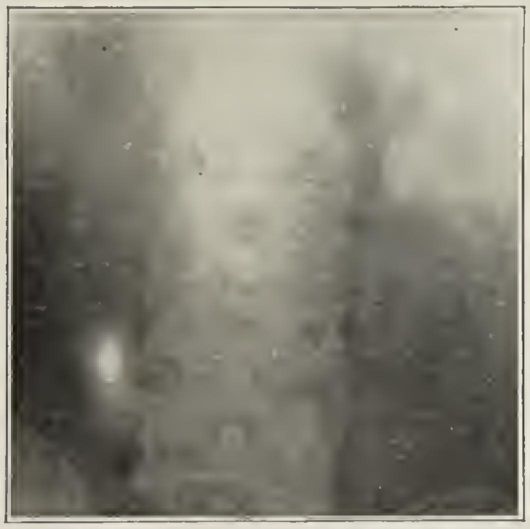

Fig. 5.—The "black-hat" pelvis. Note the abrupt junction of pelvis with ureter.

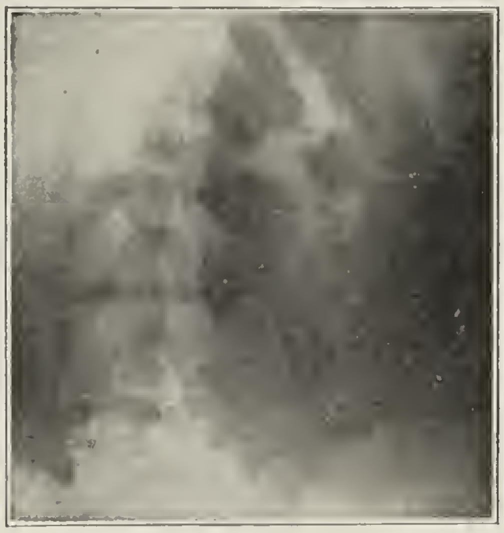

Fig. 6.—Pyelitis of the recurrent type associated with mobility of the kidney; from a radiogram made after injection of the renal pelvis.

Operation.—In May, 1912, the kidney was exposed by an oblique lumbar incision and found very freely movable with some abnormal adhesions to the fat capsule. The surface of the kidney showed marked indentations and lobulations apparently due to contraction of scar tissue. The pelvis was much thickened and considerably dilated. The ureter was firmly adherent to the lower pole of the kidney where kinking had apparently taken place. The capsule was stripped and the kidney anchored in normal position.

This case is an excellent example of the point to which attention was called at the beginning of this article. When first seen, four years ago, the condition was such that with modern methods diagnosis could have been made and the condition remedied. During the four subsequent years, dilatation of the pelvis has continued, infection and infiltration of the pelvis and probably of the kidney has occurred and some of the damage is undoubtedly permanent.

Case 3.—*History.*—K. Q., aged 25, housewife, five years before coming under observation had median laparotomy at Bellevue Hospital but was not clear as to what was done. About two years later she began to have attacks of pain in the right side, coming on suddenly, without relation to food, position or time of day. No change in the amount and character of the urine was noted. Many *x*-rays were persistently negative, but three months before I saw her she was operated on at another hospital and the kidney explored under the belief that a stone must be present. Nothing was found and the wound was closed. The symptoms were somewhat relieved for two months but had now returned. The pain was sharp, colicky, did not radiate and always caused nausea and vomiting. The patient had had chilly sensations and felt feverish during attacks but did not know that temperature had been elevated. Examination was negative except for the scars of the two previous operations and a palpable moderately movable right kidney. The urine was normal and repeatedly negative to cultures. Kidney function was normal. A radiogram made after injection showed distinct kinking of the ureter (Fig. 3).

Operation.—In January, 1911, the moderately movable kidney was delivered through a 6-inch lumbar incision. The ureter was much bound down by recent adhesions so that it was impossible to say to what extent these were simply the result of previous operations. The ureter and pelvis were freed from adhesions and kidney fixed in rather high position. The patient was subsequently lost sight of.

Case 4.—*History.*—J. A. M., aged 28, trained nurse, three days before examination had an attack of sudden severe pain in the lower back, on the right side, with painful and frequent urination; no fever. Examination was negative except for a large, readily palpable, tender right kidney. *X*-ray at this time was negative for stone, but showed the right kidney apparently enlarged. Cystoscopy showed a normal bladder. The right ureter was catheterized and found free from obstruction; the urine was not abnormal. Cultures were negative. Guinea-pig inoculation was negative for tuberculosis. Repeated *x*-rays were negative for stone. Patient reentered hospital, January, 1912, with a similar attack, having had some bladder irritability in the meantime. In this attack the pain started suddenly in the right loin, shooting downward and forward. Urine at this time was entirely normal. Cystoscopy again showed the bladder normal. Injection of right renal pelvis showed it to have a capacity of 35 c.c. without leakage. *X*-ray was again negative for stone.

Operation.—In February, 1912, the kidney was exposed by lumbar incision and found very movable without abnormal adhesions but with a moderately dilated renal pelvis. The capsule was stripped and the kidney fixed in normal position. In May, 1912, patient had returned to her work; was free from symptoms.

Case 5.—*History.*—M. W. M., aged 49, carpenter, for six months had had a somewhat indefinite pain in the back which troubled him chiefly when he was up and about and was relieved after a short time by the recumbent position. This pain was sufficiently severe entirely to prevent him from working. Three weeks before examination he was wakened in the night by a sharp pain in the left loin which did not radiate, which lasted for twelve hours and was relieved only by morphin, and which accompanied and was followed by considerable vomiting. Two days later, he passed a pea-sized stone from the bladder. This attack produced no effect on the pain above described. The urine had always been normal. Cystoscopy was entirely negative. A radiogram taken with stiletted catheter in place strongly suggested kinking of the left ureter. Two days later, a radiogram of the injected renal pelvis showed distinct dilatation, with kinking of the ureter (Fig. 4).

Operation.—May 23: The left kidney, delivered through a somewhat oblique lumbar incision, was found very freely movable and markedly lobulated with portions of the cortex somewhat thinned. The upper portion of the ureter was found markedly bound to the lower pole of the kidney by abnormal bands of fibrous tissue. After the ureter was freed from these adhesions, the kidney was fixed in its normal position. The wound was closed.

Case 6.—*History.*—A. D., aged 31, Italian shoemaker, five years before coming under examination began to have attacks of pain in the right flank, made worse by bending over. In these attacks the pain came on rather slowly, increased for a few days and then diminished and disappeared. It was not rapid or sudden. There was no change in urine, so far as the patient was aware; no gravel. He had his appendix removed without relief of symptoms. Examination was negative, except that on deep pressure under the right costal margin there was some tenderness and this started a pain which the patient described as running down into the pelvis. Cystoscopy showed the bladder normal; the ureters were catheterized easily and free from obstruction. The urine obtained from both kidneys was apparently normal. Sediment from right side was inoculated into a guinea-pig; the subsequent report showed no tuberculosis. Dec. 15, 1911, there was recurrence of pain; the urine was clear and clean, with rare shreds. The right ureter was catheterized with No. 6 which passed to kidney. The urine was examined for culture and sediment and showed no bacterial growth. Methylene-blue and boric acid (8 c.c.) injected caused pain, and fluid then came back around catheter. Pain was in same place but not so sharp as usual. *X*-ray plates were made with the patient prone and standing with 7 c.c. collargol in pelvis. About 15 c.c. of collargol and urine were obtained when ureteral flow was again released (Fig. 5). December 26, *x*-ray showed movable kidney. December 30, admitted to house.

Operation.—Jan. 3, 1912, nephropexy for (right) nephroptosis was performed. January 16, patient was discharged to out-patient department. May 23, he had had only two or three slight attacks of pain since operation; had been at work. Urine was clear with shreds. There was no albumin. The scar was firm.

GROUP III

Case 7.—This case, which was reported earlier in the paper (R. S.) should be regarded as belonging to this group.

Case 8.—*History.*—L. L., aged 21, factory girl, six months before coming under observation began to have pain in the left side, which came and went in irregular fashion; it might last for a week and be absent for a week or more. Pain was never sharp but dull and, again, sufficient to disturb sleep. It did not radiate. There was some frequency of urination, particularly at night. Physical examination was negative except for slight tenderness to the left of umbilicus and on one occasion the left kidney was felt. Cystoscopy showed considerable injection of the bladder, most marked about the left ureteral orifice. Three days later both ureters were catheterized. Showed a very free flow of an apparently normal urine from both sides. Guinea-pig inoculation made from urine obtained at this time subsequently reported negative. Collargol injection showed the rather curious appearance of the renal pelvis reproduced in Figure 6. Urine at this time showed considerable pus and blood but repeated cultures are negative.

This case seems to me clearly to belong to Group III, although the proof by operation has not been forthcoming up to the present time. The patient was allowed to leave the hospital because my colleagues and I were so much in doubt of the diagnosis and so inclined to regard the kidney as probably tuberculous. Subsequent developments have altered our conclusion.

87 Marlboro Street.

THE FUNCTION OF THE URETEROVESICAL VALVE

AN EXPERIMENTAL STUDY OF THE FEASIBILITY OF URETERAL MEATOTOMY IN HUMAN BEINGS

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AND
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The idea of removing ureteral calculi by slitting the ureterovesical valve is not new. From the point of view of physiologic surgery, however, the relative value of this valve to the animal economy has not yet been made clear. Alexander Pappa says: "Direct-vision cystoscopy makes it possible for the operator to seize the calculus which shows in the bladder, makes possible also the enlargement of the ureteral meatus and even occasionally the incision of the meatus on the stone which enables it to be liberated." In the discussion of an operation for prolapsed ureter, Albarran states: "The bladder having been opened through a hypogastric incision, one cut of the scissors enabled me to section at once both the upper margins of the ureteral orifice and the bladder wall for the distance of a centimeter." It will be noted that this work was done from above rather than through a cystoscope. Albarran further says: "The results of the operation were not so good so far as affording symptomatic relief. A second cystoscope examination was therefore made and the orifice of the ureter operated on was seen to be enlarged and passing urine in very feeble jets." The significance of this statement and its relations to Cathelin's views will be referred to later.

Thompson reports having incised the mucous membrane of the bladder for the transvesical removal of a stone from each ureter with success. Wulff reports a case in which a ureteral calculus was removed by means of galvanocauterization of the ureteral orifice.

Kropeit removed stones which had lodged at the ureteral orifice in two cases. In the first patient he was able to effect the removal by means of the operative cystoscope. In the second, the stone could not be grasped by the forceps and he therefore slit the ureteral valve by means of the galvanocautery. Two days later the calculus was discharged spontaneously.

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* Read in the Symposium on Renal Surgery and Pathology in the Section on Genito-Urinary Diseases of the American Medical Association, at the Sixty-Third Annual Session, held at Atlantic City, June, 1912.

* Studies from the Laboratory of Surgical Chemistry and Physiology and from St. Mary's Hospital, Rochester, Minn.

Kelly has demonstrated the feasibility of operating on the vesical end of the ureter by means of forceps and sounds through his female cystoscope.

Bransford Lewis has reported the removal of a number of calculi by means of his operative cystoscope.

One of us (Braasch) has removed ureteral calculi in sixteen instances through the operative cystoscope by dilatation of the ureteral orifice and by means of manipulation through the use of ureteral sounds or catheters.

W. J. Mayo has by transvesical operation removed stones by manipulation and dilatation of the ureter through the bladder.

While such dilatation of the meatus and manipulation of the ureter with sounds, etc. will dislodge a small proportion of ureteral stones, there will be a larger proportion which will require actual incision of the ureter to remove them.

In general, however, the literature bearing on actual section of the valve is very sparse. Actual section of the valve, particularly through the operative cystoscope, in the occasional instances in which it has been practiced, appears to have been done on the spur of the moment without much opportunity for forethought or afterthought by scattered observers whose final results have not yet been tabulated. Immediate operative success is in itself no guarantee or safeguard against remote injury due to operative destruction of structures which may be necessary to the maintenance of metabolic equilibrium or for the mechanical protection of local regions. If the general views as to the importance of the protective mechanical function of the ureteric valve are to be accepted without qualification, its destruction would certainly appear to be so serious a matter that operators would naturally hesitate to slit it in preference to opening the ureter from above.

The fact, however, that but a single immediate fatality due to intraperitoneal leakage from the bladder and no chronicle at all of serious after-results has been found reported in the literature by us has seemed to point definitely to the immediate safety of meatotomy. This fact, together with the knowledge that in recent years a great deal of important new information has been elicited regarding the physiology and pharmacology of the ureter which appears to have important bearing on the applied surgery of the bladder, led us to begin these experimental studies. It tended also to make the portion of the study relating to the immediate operative danger more or less corroborative in character, the final trend of the research being directed rather toward an interpretation of the possible remote results of meatotomy should any be observed.

SAFETY OF URETERAL MEATOTOMY

The problem regarding the safety of ureteral meatotomy in human beings resolves itself into the following terms: 1. Is it a safe procedure from the point of view of hemorrhage and sepsis due to accidental perforation of the bladder? 2. What ill result, if any, is to be expected from the destruction of the valve and the loss to the individual of its mechanical function? The latter question is further divisible into two: (a) danger from ureteral reflux, dilatation and accompanying ascending infection; (b) danger of a remote character associated with the impairment of kidney function due to changes in intra-ureteric and renal pelvic pressures.

In the human being there is no artery of normal distribution in the valve which is of sufficient size to be worthy of consideration. This has also been observed true in our experiments in the dog. The chance of an aberrant artery crossing the valve in such a position as to be cut is also so remote as to be negligible. The valvular blood-vessels in the human bladder consist largely of a venous plexus which surrounds the vesical termination of the ureter and which may be a continuation of the well-known plexus which surrounds the bladder. These histologic studies of the ureteric valve served to strengthen the impression already gleaned from the operative experience of others that the probability of immediate or remote hemorrhage from cutting the valve either in man or in dog is so slight as to be negligible.

The peritoneal investiture of the vesical extremity of the ureter as well as the blood-supply of the part in the dog present such anatomic conditions (Fig. 1) as to make it difficult without great carelessness to slit the ureteric mouth so far as to penetrate the bladder wall. A well-defined sheath, which in its caudad 2 or 3 cm. is a very dense and fibrous structure, surrounds the dog's ureter. As regards the anatomy of the part in the human being, it closely resembles that of the dog. Piersol, quoting Waldeyer, says: "The last 18 mm. of the renal duct are imbedded within the vesical wall; the muscular tissue of the latter is seemingly prolonged over the ureter outside of the bladder for some 5 mm. as a distinct sheath. Beginning several centimeters above the bladder the adventitia of the ureter is strengthened by longitudinal bundles of involuntary muscle, that follow the duct to its vesical orifice and in conjunction with the fibrous tissue in which they are imbedded, form the ureteral sheath." Following Disse, Piersol considers that "this muscle belongs to the wall of the ureter and is distinct from the musculature of the bladder."

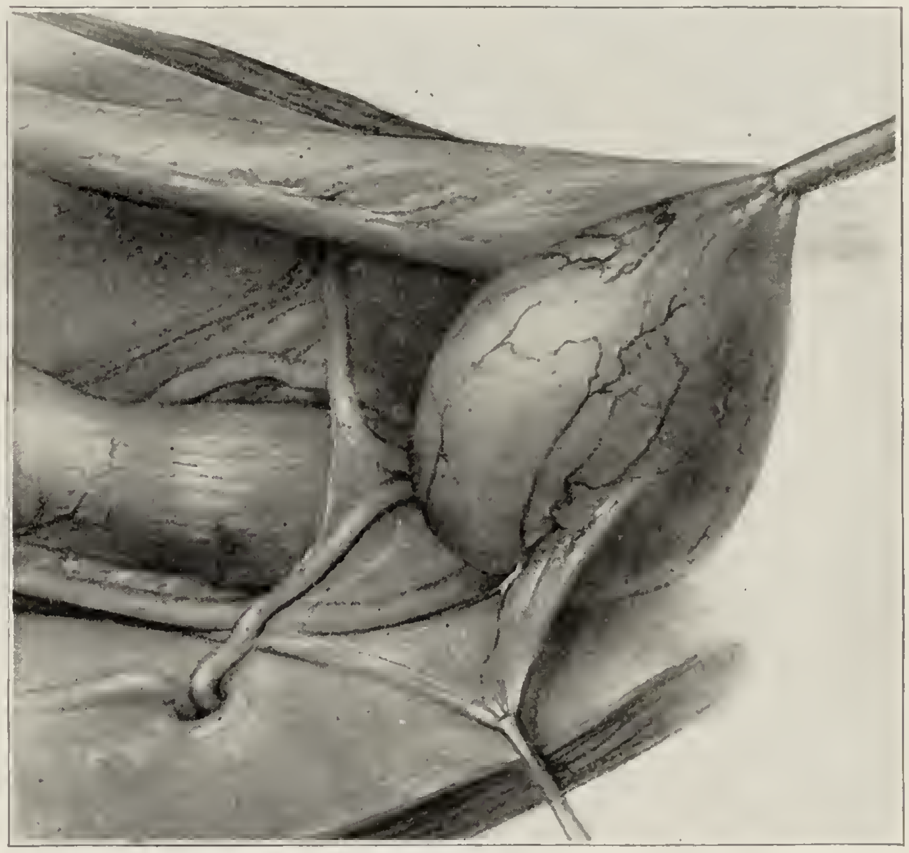
Fig. 1.—Bladder of dog pulled outward to show the vesical extremities of the ureters and extent of peritoneal covering.

In regard to the valve he says:

> As the oblique course of the ureter . . . leaves it on the inner aspect covered by mucous membrane only, and as the outer aspect is covered by the muscular layer of the bladder wall, it can be understood that the incision of the

mucosa over the intraparietal part of the ureter, for the purpose of extracting a calculus, involves little risk of pelvic cellulitis from extravasation of urine. It cannot be said that there is no risk, as in one case a parietal fistula was established and death resulted.

It has seemed to us from a study of the very thick-walled dog's bladder that there occurs a great variation in the course and obliquity of the vesical portion of the ureter depending on the degree of dilatation or contraction of the bladder. This organ is subject to continual changes in size, as Howell states, owing to the fact that "every physical act and every sensory stimulus is apt to cause a contraction." This fact is also well known to every cystoscopist who has met with an anatomic or physiologic obstruction to the ureteral catheter at this point. As the bladder dilates, the size of the opening just at the point of entry through the mucosa is apparently not so much affected owing to the oblique insertion as it would be if the entrance were direct. It may well be that this is one of the reasons for and uses of the oblique insertion.

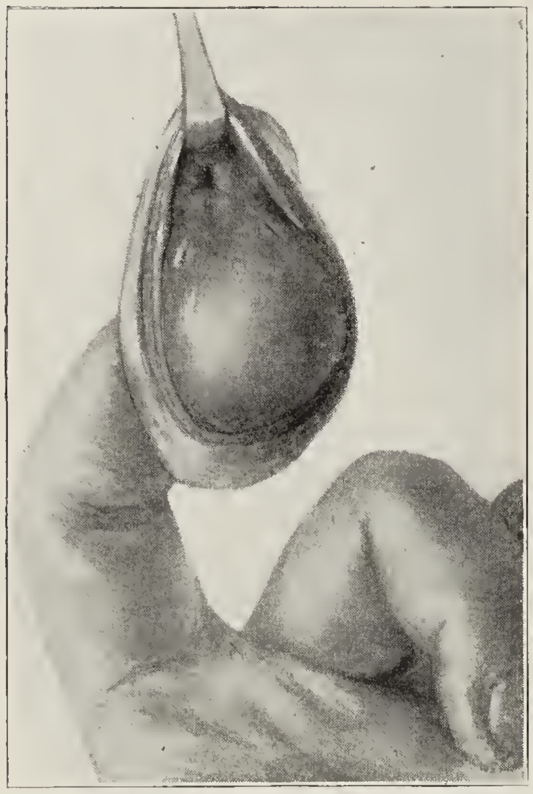

Fig. 2.—Mesoventrad incision in bladder, showing Abbott's method of exposing trigone without traumatism to mucosa.

EXPERIMENTAL TECHNIC

The method which we have found satisfactory for cutting the ureters in dogs is a simple one. It was devised by Abbott in this laboratory (Mayo clinic). Prior to its employment we were much troubled by oozing from the bladder. This is apt to be quite free if the epithelium be traumatized by even a gentle touch of the finger. Considerable traction may be made on it in using Dr. Abbott's method of evagination without causing this annoying sequel.

All animals were operated on under complete ether anesthesia. The bladder was opened by median ventrad incision about 2 cm. in length, having its point of origin well toward the neck of the bladder. The viscus was then evaginated on the operator's index-finger which is applied to the dorsal surface (Fig. 2). By this procedure the ureteric slits were usually brought into plain view and could be cut out with a small pair of slender-bladed scissors. Great care should be taken not to handle the mucosa or to bruise it in any way because even the most delicate touch is apt to cause it to become obscured. We have usually cut the valve until the tip of the scissors blade was felt to be distinctly against the wall of the bladder. The incision thus made has in our experience averaged slightly less than 1 cm. in length and it has never approached dangerously near to the peritoneal aspect of the bladder.

The slitting of the meatus was done suprapubically because of its being difficult to do the operation on a dog through a cystoscope. The dog's bladder is so contractile that it requires much more water-pressure to distend it than in the case of the human bladder. Ordinary operative cystoscopes do not work favorably under this increased pressure and the valve cannot be conveniently cut in a contracted bladder.

In order to obtain a series in which chronic cystitis had existed in conjunction with slit valves, we introduced an insoluble foreign body into the bladder just after the valves had been cut. Just prior to introduction, this was thoroughly infected with colon bacilli and other organisms of autogenous origin. The presence of such a foreign body within the bladder appears to be necessary in order to create conditions which bear resemblance to the symptom-complex of human cystitis. In general, no difference was to be observed clinically between the animals which had infected bladders and those in which no insoluble material was used. Although pus cells and microorganisms were present in urine which was removed under sterile conditions from all the bladders subjected to this foreign body treatment, the histologic findings in the kidneys were as negative in the infected series as in the uninfected. Curiously enough this appears also to be true as regards the finding of bacilli in the wall of the bladder or in the kidney. In one case in particular (205) in which the urine was loaded with pus cells and organisms, no bacilli and not even round-cell infiltration could be demonstrated deep in the wall of

TABLE OF RESULTS *

No. Dog	Sex	No. of Ureters Slit †	Insoluble Substance in Bladder	Days After Oper.	Young's Test	Urinary Findings	Gross Findings	Microscopic Findings	Remarks
150	M.	⇄	—	163	A few drops solution in left renal pelvis.	Negative.	Left ureter shade larger than right; no dilatation.	Negative.	
156	M.	⇄	—	133	....	Negative.	Right ureter dilated.	Negative.	Killed fighting.
158	F.	⇄	—	134	No solution entered ureters.	Negative.	Ureters and kidneys normal.	Negative.	Bladder burst at 10 ft. pressure.
160	M.	<	—	126	No solution entered ureters.	Negative.	Ureters and kidneys normal.	Cloudy swelling.	
162	M.	⇄	—	116	Left ureter filled.	Negative.	Ureters and kidneys normal.	Negative.	Bladder burst at suture line at 10 ft. pressure.
185	M.	<	+	64	No solution entered ureters.	Pus cells; organisms; no casts.	Ureters and kidneys normal.	Negative.	
200	F.	⇄	+	66	Few drops on right side only.	Bacilli; cocci; pus cells; no casts.	No dilatation of ureters.	Negative.	Gram-neg. bacillus, probably colon; 3 weeks pregnant.
205	M.	⇄	+	54	....	Great deal of pus and many organisms; no casts; blood.	Kidneys normal; no dilatation of ureters.	Cloudy swelling.	
207	F.	⇄	+	36	....	Pus; some organisms; no casts.	No dilatation of ureters; bladder inflamed.	Cloudy swelling.	Gram-neg. bacillus, probably colon; cocci.
208	M.	>	+	34	....	Some pus cells; strept. and staph.; no casts.	No dilatation of ureters; bladder inflamed.	Cloudy swelling.	All ureters permeable; no effort at healing seen in any case.

* Clinical conditions good in all; no bacilli found in tissues of any. † In this column > stands for "right;" < for "left," and ⇄ for "both."

the bladder. Although the urine was foul, the infection had been strictly limited to the most superficial cells. This observation may have important bearing on the caution which should be exercised in translating our deductions from animal studies to man. Physical conditions may be made as nearly analogous as possible but the differing biochemical reactions remain profoundly difficult of interpretation. This is one reason for regarding our work, even if it were further advanced, as confirmatory rather than conclusive.

RESULTS OF EXPERIMENTS

Before sacrificing the animals with chloroform they were in some cases subjected to the test devised by Young. The results of this test showed that if the physiologic activity of the ureter were not impaired it was equally difficult to inject the renal pelvis whether the ureterovesical valve had been slit or not.

In a single case only was there ureteral dilatation. This may or may not have been caused by the mechanical pressure of reflux, either in whole or in part. The dilatation occurred as in man at the cephalad and caudad extremities. Such dilatation is probably not entirely if at all of mechanical origin, a case in point being the well-known difficulty of producing dilatation of the stomach by duodenal obstruction. Dilatation of mechanical origin exists, but it occurs at the point of obstruction rather than at a distance from it. It is probable, therefore, that both biochemical and physiologic factors enter in as causative agents when any organ dilates.

One kidney presented a depressed lesion about 1-5 cm. in length by 1-5 cm. in width. It might have been caused by an infarct due to infection from the bladder but was probably the scar of an old traumatism.

ACTION OF THE URETEROVESICAL VALVE

The more fundamental portion of the problem now awaits discussion. That the ureterovesical valve exerts under certain conditions a check-valve-like action on the contents of the bladder is not to be denied. It is cited in every text-book. So long ago as 1898 Young in an exhaustive series of experiments both in dogs and in man demonstrated that this action exists. He injected staining material at a pressure of 11 feet and found that in no case was there reflux into the renal pelvis or ureters. The valve held even in human cadavers, in which the ureters were obviously passive. The correlation of this excellent physical study with the physiologic and pharmacologic studies of more recent years seems to us of great importance.

Maydl's classic experiments have also been rightly accepted as demonstrating the mechanical action of the ureterovesical valve, despite the fact that meatal transplantation has not in general given satisfactory operative results. Indeed, so fixed in the minds of surgeons is the idea that an oblique valvular entrance is necessary for protection when any duct enters a viscus that many ingenious forms of technic have been devised to effect or to preserve it. Notable among these have been the measures of Sullivan and of Coffey, who have elaborated skilful methods with special view to a preservation of the oblique duodenal entry of the common bile-duct.

Until recently, with few exceptions, all efforts to utilize the septic bowel as a urinary reservoir have signally failed. Has this been because of the destruction of the ureterovesical valve alone? This has been the general opinion in the past. Has not the physiologic element in connection with this problem been overlooked? If it be true that Nature has provided an abundant "factor of safety" in combining both physiologic and mechanical factors in protecting against reflux, then it may well be that the failure to make a vicarious bladder out of the bowel has been due to the destruction of the mechanical protection coupled with such serious impairment of the physiologic defense as entirely to overbalance the "factor of safety." Such physiologic impairment may well be accomplished by the injury to the ureter consequent to its transplantation. Dudley Tait (personal communication) may be quoted as saying that the explanation of the recent occasional success of the ureteral rectal implantation should be attributed to the careful protection of the ureter from traumatism by the modern technic. This has been accomplished by discontinuing the use of a permanent catheter after transplantation and by minimizing the number of stitches taken in the ureter. This is directly in line with the idea that reflux is prevented much more by the ureter itself than by the obliquity of its valve. Tait also holds that the importance of the mechanical action of the valve in preventing reflux has been exaggerated.

This consideration calls to mind the history of the patients in whom a mechanically corresponding valve, that situated at the papilla of Vater, was slit in the transduodenal operation of McBurney for the removal of gall-stones. This operation was done many times and, so far as is known, without grave injury to the patient by reason of reflux of duodenal contents into the common bile-duct, liver or pancreas. It would appear, therefore, that the destruction of this mechanical safeguard must have placed the work of preventing such reflux on the physiologic function of the duct. This implies that the "factor of safety" regarding the prevention of reflux into the liver as well as into the kidneys is in each case a double one formed by a combination of a mechanical valve and a physiologic contrivance.

Physiologists and anatomists alike, while universally drawing attention to the fact that the mechanical arrangements for the valve are such as to protect the ureter from the transmission of intravesical pressure, do not state that this is its solitary function nor do they summarize the conditions which would obtain if the valve were destroyed. Here we are on the borderland between surgery and physiology and evidently at a point where the first cannot safely advance except through the help of the second. Have we not, in considering the ureteral valve as the paramount protector of the ureters and kidneys from dangers arising from below, been somewhat biased because of having reasoned from a morphologic point of view alone? Have not the underlying principles of physiology and chemistry been overshadowed and forgotten in the tacit acceptance of this purely morphologic explanation? Indeed, it appears to us that the well-known difficulty of reproducing in animals the analogues of human disease, even though all the evident morphologic and physical conditions be duplicated, should suffice to show us that in the discussion of this as well as of other surgical problems, in considering form alone surgeons have as yet taken only the first primitive step. Were we to attempt to reproduce the ordinary symptoms of human disease in healthy human beings we should without doubt be confronted with the same difficulties that are encountered in making these attempts on animals.

With these considerations in mind and believing that the existing surgical studies of the ureteral meatus had been based too closely on morphology, since the delicate physiologic regulation both as regards protection from ascending infection, if indeed any such process is possible, and as regards the maintenance of normal glomerulotubular pressure had all been lost sight of, we made efforts to consider the bearing of these points in our experimental work. We did not expect to answer these questions by any single experimental study, but we hoped to make the subject somewhat clearer and to direct attention to the importance of physiology to applied surgery. We slit the valve in dogs in the belief that the ureter was much more than a mere aqueduct for the conduction of urine and that the generally recognized check-valve action at the meatus was of contributory rather than of paramount importance. We have been led to believe as a result of these studies that, provided the physiologic and chemical balance of the organism and of the ureter were left intact, the importance of the mechanical action of the valve was correspondingly diminished and that its loss would usually be compensated for by the ureter. These ideas are not original, being simply the natural outcome of an application of modern physiology to the study of surgical problems.

Cathelin's views as to the valvular function are pointed. In a paper on the mechanism of the ureteral ejaculation, Cathelin says that the meatus does not open after the manner of a sphincter—that there is not the least suggestion of force or contraction. He regards the opening of the valve as purely passive in character, likening it to the opening and closing of the mouth of a fish.

Because of the extreme difficulty of correctly estimating the true functional condition of the kidney by its morphologic appearance after death, it is evident that the final word as to the clinical importance of the ureterovesical valves cannot be written until after a number of dogs having both infected bladders and sectioned valves have been studied over a long period or until death occurs from kidney involvement. Indeed, a control series of dogs which had been similarly infected but in which the valve had not been destroyed would also be necessary.

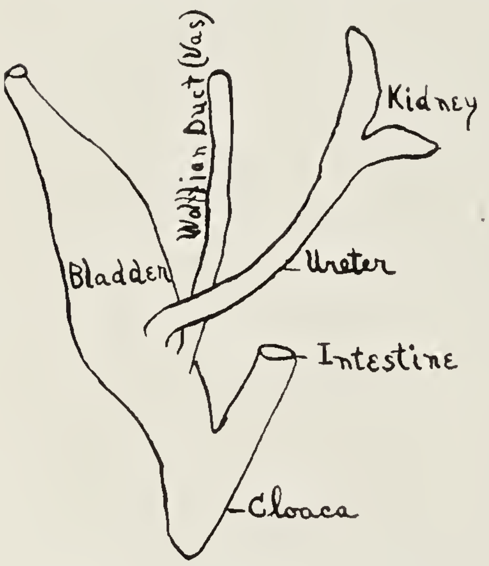

Fig. 3.—Scheme of relations of duct openings. Human embryo, 14 mm. (Huntington, Harvey lectures). The separation of these openings, which occurs in early fetal life, may account for the so-called ureteral valve.

The present paper deals with the problem as studied through the sixth week of bladder infection only and through the fourth month in the case of uninfected bladders. It is therefore not presented for consideration as a finished statement. If the ureterovesical valve constituted the sum and substance of the "factor of safety" which must enter into the prevention of bladder reflux, the individuals in which the valve had been destroyed and in which there had existed chronic cystitis should in reasonable time show some clinical symptoms as well as morphologic changes in the tissue of the kidney. This did not prove to be the case in our experimental series.

Nevertheless, in view of the generally recognized fact that function may be very gravely impaired in organs which show but little or no change under the microscope, we do not wish to be understood as saying that at the time of death the kidneys studied were normal. It is quite certain that they showed no distinct lesion microscopically and clinically there was no evidence whatsoever of any impairment in health. It is quite possible, however, that at a later date the animals might have developed fatal kidney lesions.

CONCLUSIONS

Tentatively we conclude that in experienced hands there is little or no danger in human beings from the operation of meatotomy through the operative cystoscope either as regards immediate hemorrhage or sepsis or as regards late results from injury to the kidney.

The protection from reflux is affected at least as much by physiologic function of the ureter as by the check-valve action at the meatus. These together, rather than the ureterovesical valve alone, constitute the "factor of safety" which prevents reflux.

The ureter alone, almost without exception, sufficed experimentally to prevent reflux even if the ureterovesical valve had been destroyed. Section of the valve appeared to leave the protective ureteric function intact.

The above data would confirm the opinion expressed by others that renal infections are seldom if ever ascending but rather hematogenous in origin.

ABSTRACT OF DISCUSSION

ON PAPERS OF DRS. RANDALL, CUNNINGHAM, CABOT, DRAPER AND BRAASCH

Dr. D. H. Stewart, New York: I confess to enough years to put my professional beginnings back in the time when we explained everything pretty nearly on anatomic and therefore on morphologic and mechanical lines. In those days we noticed that the ureter went obliquely through the bladder wall. We asked ourselves why. We took a cadaver, injected it and found that none of the fluid, even under pressure, found its way into the ureter, and we said, "Lo! this is a valve." We found infections in the kidney, and the most ready explanation was that the infections traveled up the ureter; we said that the valve was the reason that infections did not travel up the ureter. There were many other directions in which we made the same mistake. For instance, when we opened the abdomen and found an overdose of infection on the intestines, we washed them off, forgetting that the real trouble was much deeper than that, that the toxins which had traveled all through the circulation could not be washed away by Atlantic oceans of solution. Even now, I am reluctant to believe that the oblique entrance of the ureter has not some influence. It is rarely that we find a stone down there. Usually I find it higher. I do not think that is the experience of men who confine themselves to this department of practice exclusively. I recall a case described by the late Tilden Brown in which he used the ureter catheter for diagnosis and found next day that his patient had passed the stone into the bladder and ultimately from the bladder. I do not know whether that was the earliest case; it was a good many years ago, and the procedure has been gradually coming into practice.

Dr. Arthur T. Cabot, Boston: A cause of renal hematuria which I have seen illustrated in cases very strikingly, and which I have not seen mentioned in the text-books is the movable kidney. The first case in which I noticed this was in a woman who had been having profuse hemorrhage from the bladder for weeks. She had been bleeding so much that she was as white as a tablecloth. She could not sit up except when propped up with pillows. She passed blood which was somewhat clotted and very abundant. I saw her in the country. I had no cystoscopic instruments with me, no arrangements for lighting, and I made such examination as I could, and found a movable kidney that came well down toward the brim of the pelvis. I examined the bladder thoroughly with searchers and with the finger in the vagina, but found no thickening in the bladder wall which would make one think of tumor in the bladder. I advised the physician to raise the foot of the bed and to lower the patient's head and on the following day the hematuria entirely stopped. A good deal of organized blood-clot passed away in the first of the clear urine. The physician thought that my examination of the bladder had perhaps dislodged some tumor in the bladder. He was not inclined to agree with me in the diagnosis, and two days later he allowed the patient to get up, when the hematuria at once returned. This patient was cured by fixation of the kidney. In another case the conditions were almost similar and were cured by the same procedure. In both the right kidney was movable. The explanation is that the right kidney takes its arterial supply from the artery on the other side of the spinal column, and its renal vein is short. Therefore, when the right kidney, which is so liable to be pushed down by the liver, is displaced the tension acts first on the vein. The artery is long and adapts itself more easily to the change of position, but the short vein is pulled on and it produces a very intense congestion of the kidney. I have seen that a number of times in patients who had microscopic blood but no macroscopic blood. Dr. Cabot showed a pelvis of a kidney, rather twisted and somewhat dilated, in connection with a colon bacillus pyelitis. I have several times seen a colon bacillus pyelitis with a persistent rise of temperature running to 103 some time each day; the temperature at once dropped when the patient's feet were raised, so that the sagging of the kidney was upward instead of downward. I think that a slight obstruction at the opening of the ureter into the pelvis is sufficient to aggravate and to make persistent those inflammations, and that this change of position is often just sufficient to reestablish the proper drainage of the pelvis.

Dr. James W. Hunter, Norfolk, Va.: I should like to ask Dr. Cabot if he has ever had any trouble from the deposition of metallic silver in the kidney as a result of his collargol injections.

Dr. Martin Krotoszyner, San Francisco: I agree with Dr. Cabot that the diagnosis of hydronephrosis is materially aided by pyelography; and in some instances feasible only thereby. In this connection I wish briefly to report a case of advanced hydronephrosis in which the diagnosis would have been impossible without the aid of pyelography. A man, aged 41, had suffered from repeated attacks of hematuria and left-sided renal colic. At times his urine had contained albumin and numerous casts. On cystoscopic examination a normal bladder was found. Ureteral catheterization revealed both renal secretions to be of almost equally good functional value. The ordinary *x*-ray pictures were negative. In this instance the filling of the left renal pelvis with a shadow-casting fluid at once cleared up the diagnosis, which, as it were, could be read from the plate. The left kidney showed a large shadow in its lower pole, a greatly distended pelvis and widened calices. The shadows demonstrated on the plate exactly corresponded with the cavities found on the left kidney after its removal. While pyelography was instrumental in leading to an operation in this case, on the other hand, it has prevented operative interference in other cases. I think that pyelography in the hands of an experienced operator is a very important diagnostic procedure which should be employed not only by the urologist but also by the general surgeon. I should like to sound a note of warning, however, against the promiscuous use of pyelography, which does not seem to be entirely harmless to the renal parenchyma. I have seen a case in which actual damage to the renal parenchyma was caused by the fluid injected for pyelographic purposes. A man, aged 73, had been transferred from the surgical ward of the hospital to my urologic service on account of a palpable tumor on the right side which was interpreted by the surgeon as belonging to the right kidney. Since neither cystoscopy nor the functional and microscopic examination of the separated renal secretions revealed anything of diagnostic value I resorted to pyelography, which was done by means of a 20 per cent, cargentos solution. The patient died about a week after the pyelography and the autopsy showed, as the cause of death, a large carcinoma on the posterior wall of the stomach, while the mass which we had interpreted as the right kidney was in reality the widely distended ascending colon, the dilatation being due to a stricture caused by adhesions to an elongated appendix. The right kidney, which still contained some of the injected silver solution, showed parenchymatous lesions. I, therefore, do not agree with Uhle who recommends the injection of a 50 per cent. cargentos solution for pyelographic purposes and I would warn against the use of such strong solutions.

Dr. Guy L. Hunner, Baltimore: I agree with Dr. Cabot that we should not wait until the kidney holds 20 or 30 c.c. before we call it a hydronephrosis. It seems to me that any beginning dilatation of the kidney pelvis which gives symptoms is one that should be investigated and the symptoms relieved, if possible, early in the disease. I am surprised that Dr. Cabot confines his causative factors so much to the movable kidney and to the vessels of the lower pole which may cause obstruction to the ureter. In other words, he seems to confine the causative factors largely to strictures or mechanical obstructions particularly about the kidney. I find that quite a large class of these early hydronephrosis cases are due to stricture at the other two points of narrowing of the ureter, at the pelvic brim and at the portion near the bladder, cases referred to in the literature as congenital stricture of the ureter, but which in many instances, I think, are not really congenital. I think that these are especially important because they are so easily relieved. Overdilatation of these strictures will usually relieve the symptoms, and irrigation will cure the pyelitis. It is rather astonishing to see the interpretations put on some *x*-ray plates. I think that Dr. Krotoszyner's remarks concerning the effect of these different radiograph solutions on the kidney parenchyma should be taken up in a meeting of this sort and pretty thoroughly threshed out. I have seen collargol in 10 per cent. solution cause a great deal of pain to the patient. The patient would have to go to bed for a day or two afterward. Quite recently I have had two patients who have been practically confined to bed for a week afterward, with blood, leukocytes and casts in the urine, making it very evident that the kidney parenchyma had been seriously or at least markedly injured. Fortunately, after a week of rest in bed and plenty of fluids, all these kidney signs and symptoms cleared up, so I do not know how much permanent injury was done. This is merely an investigation for our own satisfaction in a great many instances, and one that is often of little value to the patient, and I do not think that we are justified in proceeding with this method if it is going to give the patient too much pain or submit him to dangers of injury to the kidney.

Dr. H. D. Furniss, New York: I have seen eight cases of so-called symptomless renal hematuria, in which stone, tuberculosis and tumor could be excluded. Two of these were bilateral. One patient died. In the other decapsulation was done, and the hematuria cleared up in two weeks. In that case there was no evidence of congestion at the time. Another patient had a normal-looking kidney. Decapsulation was done, and the hematuria cleared up in six days. The portion of the kidney removed at that time showed a glomerular nephritis. Another patient showed a red granular nephritis which cleared up in six days. Another had a capsule three times the normal thickness. The kidney was small, and the portion removed was too small to make any examination. The hematuria continued, and nephrectomy was done. In that case the hemorrhage appeared to come from the whole renal pelvis, which appeared to be ecchymotic. In another case in which decapsulation was done, the hematuria did not clear up. Nephrectomy was afterward performed, and a close microscopic examination failed to disclose the cause of the hemorrhage. In the past year I found four cases of stricture of the lower end of the ureter, with dilatation of the ureter and renal pelvis, that gave the same symptoms as stone or hydronephrosis above; in none of these cases were we able to appreciate the stricture with the use of a No. 5 catheter; it was only with the use of collargol that we were able to determine the presence of stricture. In one case in which there was a stricture of the right ureter, a ureterovesical anastomosis was done. The patient developed a suppurative pyelitis, and I took the kidney out. Three months after that she began to have the same symptoms on the other side, and in that case overdilatation has not done any permanent good. Just before she has an attack of intermittent hydronephrosis the urine will drop down to 6 ounces, and when this is relieved by dilatation it will go up to 25 or 26 ounces. I expect to attempt an anastomosis on the other side. I have had a good deal of trouble with pain after the use of collargol. Hereafter I do not intend to inject collargol except in the hospital, because at times I have had almost a collapse, in some cases rise of temperature for a day or two, and recently I had a case in which a great amount of pain was caused and a rise of temperature for three or four days; but the point that struck me was that on the second day after the injection a big red blotch appeared over the kidney region which looked very much like erysipelas. Recently there have been some reports in the literature on the relation of skin lesions to visceral lesions, and I mention this as possibly being an instance of that kind. In a number of cases of hydronephrosis our trouble is at the vesical rather than at the upper end.

Dr. **Francis R. Hagner**, Washington, D. C.: I have noted regurgitation of fluid from the bladder to the kidney during ureteral catheterization. It was demonstrated by injecting the bladder with argyrol and having it escape from the ureteral catheter. In one case which came to operation I endeavored to fill the bladder with fluid and to force the fluid out through the ureter. I was unsuccessful in this attempt. I believe, however, that where the ureteral orifice is thickened it does occur.

I have already reported three cases of hemorrhage from the kidney in which the hemorrhage stopped immediately following ureteral catheterization. In one case the hemorrhage had lasted one year, in another six months, and in a third for thirty-five years. The case of one year's duration, four days later developed a thrombosis of the veins of the testicle on the right side. The patient recovered from this. There have been no recurrences. The patient who had bled for thirty-five years I saw a year ago. It has been eight years since I catheterized the ureters. When he came to me he looked like a man with malignant disease. His urine would vary from a dark brown to almost as black as sarsaparilla. There was no lesion in the bladder and nothing but blood in the urine. The next day the urine was clear and it has remained clear ever since. Microscopic blood remained for about a week. I cannot explain that, unless it is possible that there was a papillary growth in the ureter which was dislodged by the ureteral catheter.

Dr. **Edwin Beer**, New York: In the last issue of the *American Journal of the Medical Sciences* I published a report of sixty experiments on dogs, in many of which I made a ureterovesical anastomosis. The experience in dogs, if they are watched long enough, would argue against the conclusions which Dr. Draper reached. Infection invariably ascends the ureter. The only way to test that in human beings would be to study patients on whom a ureterovesical anastomosis had been done. Although the evidence in unilateral hematuria is rather strong, I do not think that it is conclusive that the hemorrhage is renal in origin. To exise a piece of the kidney and get a microscopic report of nephritis in such a case is to my mind almost ridiculous as an explanation of the etiology of the hemorrhage, because in a series of one hundred cases which I had the opportunity to study when I was abroad ten years ago, it was found that after the age of 26 almost all kidneys show nephritic signs, and after the age of 33 practically 100 per cent. show nephritic changes. To get a report of nephritis from the exploration of a bleeding kidney is not sufficient. The whole ureter tract is from 25 to 37 cm. long, and it might contribute to the bleeding. To turn to the kidney right away for an explanation of the trouble, I think, is fallacious. The case should have been studied quite differently. Specimens should have been taken at different levels of the ureter to prove that it is not the source of the bleeding. I have in two such cases detected bleeding from the ureter by obtaining clear urine higher up and bloody urine lower down. I have had two cases similar to Dr. Hagner's. To explain these hemorrhages by varices, I think, is going a little too far, because when one does a section of the kidney it is practically impossible to see multiple dilated vessels, unless they are engorged with blood. Anyone who has done autopsy work on the esophagus in cirrhosis cases knows that it is almost impossible to recognize the dilated vessels.

Dr. **John Cunningham, Jr.**, Boston: That pyelography is a valuable procedure and is becoming more generally recognized as such is unquestionable. I think that all of us who have used it a great deal realize that it is accompanied sometimes by severe pain. Having had several unpleasant experiences of that sort, I thought that the pain might depend somewhat on inflammations in the kidney at the time the injection was made. In instances in which inflammatory products are found in the urine from the kidney to be injected, I have since used argyrol in a 40 per cent. solution instead of collargol. Since that time I have not had any bad results following the procedure. Another point in connection with pyelography that opens up a very large field and that so far has not been mentioned is that of stones in the kidney associated with hydronephrosis. I think that most surgeons who find shadows of stones in a plate proceed to remove the stones without further knowledge of the kidney. There is no idea, when that procedure is carried out, as to the condition of the kidney cavity. There may be a residual urine in the kidney which is possibly the cause of the stone, or the stone may cause the dilatation of the kidney pelvis by being impacted in its outlet. It has been my custom, after demonstrating the presence of a stone in the kidney, to inject it again and it has been the rule rather than otherwise that the kidney pelvis has been found abnormal. This has a practical bearing, because if the stone is due to residual urine in the kidney it should be known and some procedure to drain the bottom of the kidney pelvis should be carried out at the time of operation. In some instances the radiograph has been of value in the operation itself. In one case two stones, each the size of a Concord grape, were detected in the pelvis. The pelvis was found to contain about 50 c.c. The plate of the injected kidney showed the upper calix much distended. At operation it was simply necessary to cut through the cortex into the calix and remove the stone through a three-quarter inch incision.

Dr. **Edgar G. Ballenger**, Atlanta, Ga.: I would like to report the case of a patient with unilateral hematuria of sixteen years' standing. The patient's health had been very much run down and the bleeding came on quite profusely, but intermittently. The ureters were catheterized on two occasions, and each time bloody urine came from the right side and clear from the left. *X*-ray pictures were taken after collargol injections, but no pathologic lesion could be found. It was definitely determined, however, that the left kidney was all right. An operation was decided on, and at the time of the operation nothing could be found wrong with the kidney. It was incised, carefully examined, but no evidence of nephritis or any trouble could be found. Since the bleeding came profusely and had been so serious in character, however, nephrectomy was done. The patient made an uneventful recovery and the hemorrhage ceased. The pathologist's report showed that there was practically nothing wrong with the kidney except two or three varices, which were so small that he could hardly call them varices, but at two or three points the blood-vessels seemed slightly dilated; probably a mass about the size of a pea, and yet from that point the patient had been bleeding for sixteen years.

Dr. **A. J. Crowell**, Charlotte, N. C.: One of my five cases of inexplicable unilateral hematuria occurred in a woman with three successive pregnancies. Following the delivery, the hematuria disappeared. Following the third pregnancy the hematuria did not cease. I could find no cause for the hematuria whatever—no indications of nephritis, stone, hydronephrosis and no bacteria. The hemorrhage was so profuse that it was decided to cut down on the kidney and find the cause. No evidence of a diseased condition of the kidney could be found. Then the kidney was decapsulated and the hemorrhage immediately stopped. That was three years ago, and the patient has had no recurrence since.

Dr. **Alexander Randall**, Philadelphia: I was glad to hear Dr. Beer say that minor lesions are found in practically every individual over a certain age. I do not think it is fair to blame these minor lesions for profuse hematuria. They are nearly always present, and Israel has pointed out that it is the point of least resistance that gives way; if, in a kidney with a few minor lesions, a periodic congestion is added, a hematuria results, and the actual cause of the bleeding is not the nephritis, but the nephritic lesion plus congestion. When we attack a case like that, the thing to cure is not the nephritis but the congestion, and that is why I wanted to quote Brödel's words, which showed that opening the kidney along Brödel's line will cut across and completely occlude six of those large connecting veins. Dr. Arthur Cabot's remarks as to movable kidney come in the same category. Not all movable kidneys bleed. I think there is something plus the mobility which causes the hemorrhage. Obstruction to the vein or obstruction to the ureter would cause congestion, which in turn would be followed by a hematuria, as has been repeatedly proved experimentally. There the thing to be cured is the mobility of the kidney. So that there are quite a group of conditions that are entirely extrinsic to the kidney which are probably the ultimate pathologic condition, but the condition of moment is in the kidney in the form of a congestion, and that is what should be removed by operation. The case of pregnancy that was mentioned is along exactly the same line as the cases I cited in my paper. Those I think are due to pressure on the ureter or on the vessels. Albarran reported seven cases which he attributed to pressure on the vessels or the ureter, causing congestion of the organ and hematuria. Of course, in those cases we cannot completely exclude the action of toxic matter on the kidney, and probably a majority of the cases would be due to it, but there are some entirely due to pressure, the pressure causing a congestion and the congestion a hematuria.

Dr. Hugh Cabot, Boston: We were many of us, I think, brought up to believe that the ascending infections were the most common. Gradually that view was abandoned, first in regard to tuberculosis infection and subsequently in regard to the others. That ascending infection does not occur I am not prepared to say, but that it is rare, that most of the kidney infections originate in the kidney, I believe. The valve action on which Dr. Draper has been working seems important, not in protecting against infection of the kidney, but in protecting against dilatation of the ureter, against a reflux. I do not think that it is the whole protection, because in cases in which the ureter has been cross-cut and implanted higher up dilatation of the ureter does not always occur. I have, for instance, one case in which I implanted the ureter higher up eight years ago for cancer. The patient is still alive and the ureter is not dilated except in its lower 2 inches, which is the part of the ureter I worked on. We have all seen stones in the intravesical portion of the ureter. On the other hand, I think that that is not the most common point at which they lodge. They come down to where the oblique, bladder-wall portion of the ureter begins, and then if they do not promptly pass they are likely to form for themselves a pouch which lies below the oblique portion of the ureter, and that, I think, will not be reached by ureteral meatotomy. An incision on the upper side will go by it; I have two cases in which I approached the ureter from the outer side and the stone lay so far below the intravesical end of the ureter that I think it could not have been reached from within. Some of these stones lie for long periods in the lower end of the ureter without attracting the patient's attention sufficiently to send him to the doctor.

Someone asked whether I had seen the deposition of metallic silver in the kidneys as a result of collargol injections in pyelography. In one of our very early cases of large hydronephrosis in which we had not made a diagnosis at the time the injection was made, an acute obstruction and an acute infection of the kidney occurred immediately following the injection, and at operation five days later a part of our silver was found in the sacculated portion of the kidney. That is the type of case in which caution should be used, and it is not the type in which pyelography is particularly important or valuable. It is not in the detection of these large hydronephroses that pyelography is necessary; it is in the detection of the early cases and in the exclusion of hydronephrosis as a cause of symptoms that it is particularly valuable.

Dr. John W. Draper, New York: In animals hematuria can be experimentally produced by raising the pressure in the renal pelvis the very slightest extent. Pressure in animals is always negative. The moment that it changes from negative to positive, bleeding results. It is quite conceivable that this may be the explanation of certain hematurias in man. It just occurred to me at the time Dr. Beer was speaking that the injury to the ureter which must take place during those transplantations is important because we cannot expect its physiologic function to continue unimpaired after even very slight traumatism has been done to it.

THREE CASES OF FAMILY DYSTROPHY OF THE HAIR AND NAILS

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Family dystrophy of the hair and nails is a hereditary condition previously noted, to the statistics of which I wish to add these cases. Two reports of the unusual condition have been published; one in France by Nicolle and Hallipré;[1] the other in this country by Charles J. White.[2] Since that time the literature contains no further report. The three cases which I have observed are in many respects identical with the two previous cases cited, though occurring in patients enjoying somewhat better social and hygienic surroundings.

My cases are in three brothers, the third, fifth and ninth children in a family of nine, eight of whom are living and in good health. One child, a girl, who was not affected, died in infancy. The following is a list of the living:

Lee, aged 18; not affected.
Sidney, aged 15; not affected.
Carl, aged 14; affected.
Edna, aged 11; not affected.
Urban, aged 9; affected.
Arthur, aged 5; not affected.
Ina, aged 3; not affected.
Clyde, aged 1; affected.

It will be noted that between the births of the affected children, all boys, there were born healthy and normal children.

The father, aged 47, of German parentage, does not show any peculiarities of the hair and nails, nor, as far as can be determined, did any of his ancestors. The history of the mother and of her family, however, is of interest. The mother died shortly after the birth of the baby, Clyde, following abdominal section for "malignant tumor of the abdomen." She was affected with this peculiar familial anomaly, and, strangely enough, was of French-Canadian extraction, as was White's patient. This to me is of striking interest, inasmuch as the original report concerns a family living for generations in France, whence the progenitors of White's patient, as well as those of my patients, emigrated. The genealogic chart in the cases to be described is not so complete as the one published in connection with the cases in France; family records are rarely as complete in America as on the Continent. It shows, however, an unbroken line for five generations, and members in each generation have been affected with anomalies of the hair and nails. Only members positively known to be affected are cited.

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[1] Nicolle and Hallipré: Ann. de dermat. et de syph., 1895, vi, 804.

[2] White, Charles J.: Jour. Cutan. Dis., 1896, p. 220.

GENEOLOGIC CHART FOR FIVE GENERATIONS

Mme. S.	Great-great-grandmother
Mme. A. C.	Great-grandmother.
M. Cad′.	Grandfather of my patients living at the age of 90 in Canada.
M. Cad′. Jr. Mrs. G.	Mother of my patients.
Carl, Urban, Clyde.	The patients.

It will be noted that members of each generation are affected and that the condition is transmissible through both the male and female members; also that mother, as well as father, may transmit to sons and daughters alike. There are probably other members of the collateral branches of the family affected, but no definite knowledge of them is at hand.

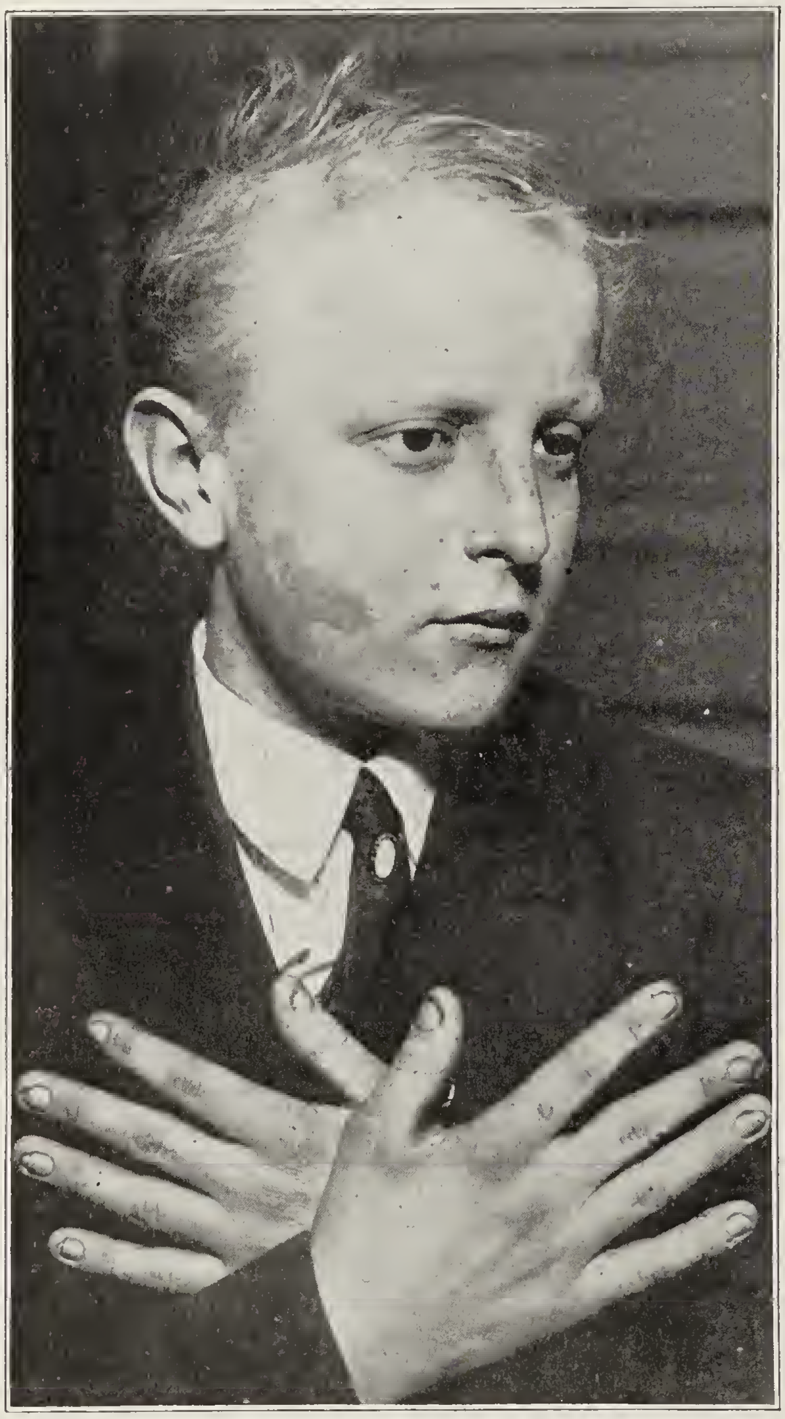

Fig. 1.—Carl G., showing dystrophy of hair and nails.

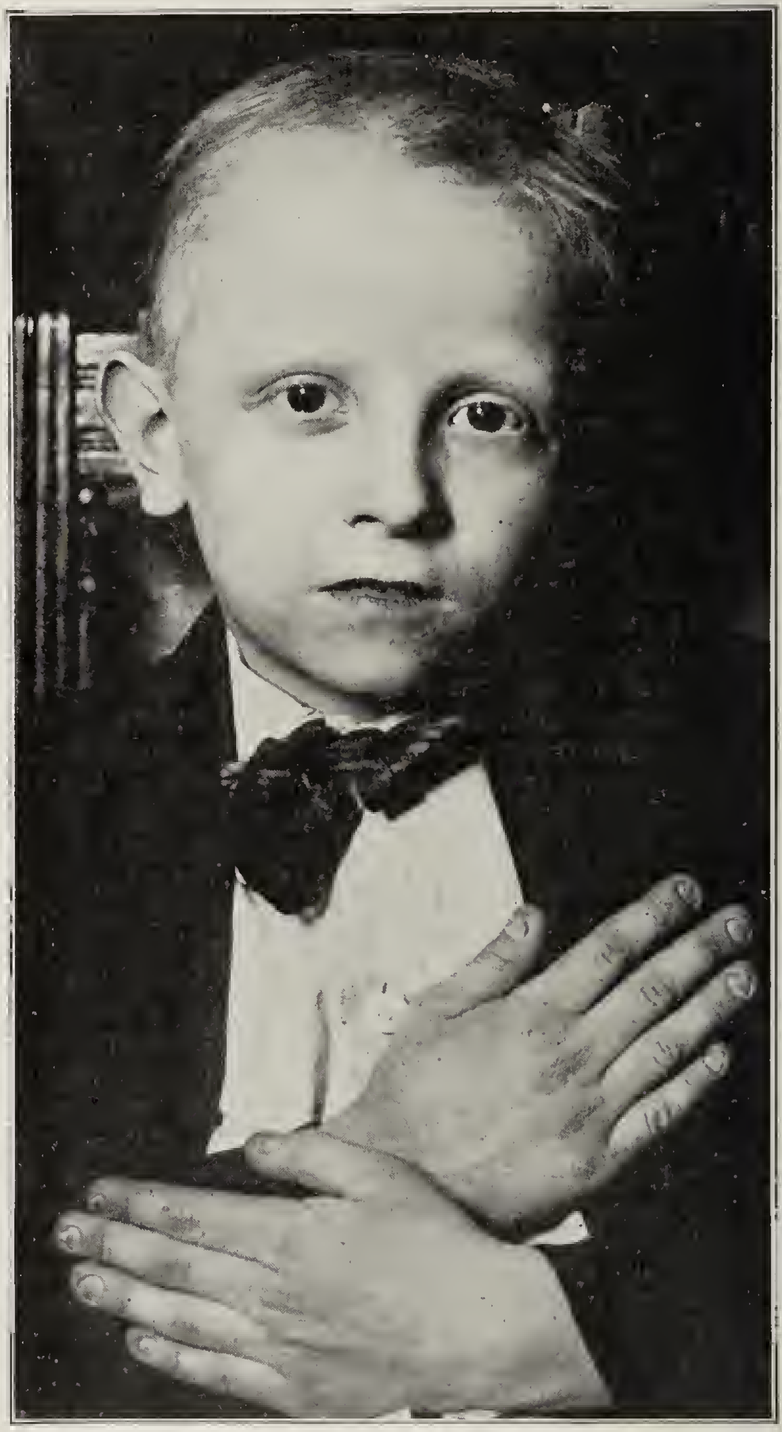

Fig. 2.—Urban G., younger brother, similarly affected.

I shall report minutely conditions noted in the eldest patient, which serve in every respect with regard to the hair and nails as an accurate description of the condition obtaining in the two younger boys.

Carl G., aged 14, height 4 feet 7½ inches, normal build, weight 96 pounds. His intelligence is at least normal for his age. He is of a friendly disposition and very straightforward and honest.

The head is of average size and normal contour, except for slight asymmetry, the right side being the larger. The scalp is negative, showing no seborrhea or parasites. There is, however, a curved linear scar from an old trauma over the left parietal bone. The hair-line begins 5.5 cm. from the bridge of the nose. The scalp is covered with a moderate growth of pale, downy hairs, none of which is over 2 or 2½ inches in length, in spite of the fact that the patient has not had his hair cut for many months. The hair grows very slowly. The ends are pointed and none is split or broken off. They are very easily removed and do not break on traction. There seems to be some anomaly in their implantation. Here and there at wide intervals are seen normally implanted coarser brown hairs. Microscopic examinations of the hairs were made and I found nothing abnormal; they appeared as normal fine blonde hairs. There were no parasites, no nodes, no rings, no air-bubbles and no splitting of the extremities. No bacteriologic examination was undertaken, as there was no evidence of even the slightest suspicion of bacterial or fungus invasion.

The eyebrows are very poorly developed. There are no coarse hairs and but a small number of lanugo hairs. The eyelashes are extremely sparse and pale. The pupils react to light and accommodation. Examination of the eye-ground by Dr. H. S. Gradle showed nothing abnormal. There is a plaque of erythematous lupus on the nose and two symmetrical patches behind the ears. These lesions have made their appearance within the last year. On the right cheek is a nevus flammeus of large size.

The buccal cavity is normal, palatal arch, tonsils and teeth showing no peculiarities. The neck is normal in contour and what is apparently a thyroid body can be made out.

The trunk and extremities are negative. There is no trace of axillary or pubic hair. The genitalia show no peculiarities and no increase of adipose tissue in this region. In the axillary region and on the anterior surfaces of the knees are sites of a papillary hypertrophy of moderate degree.

The hands are normal in contour save for the distal phalanges, which are noticeably increased in volume. The skin on the distal phalanges observed shows a moderate increase in thickness. The nails on the hands are all affected to about the same degree and show an enormous hypertrophy of the nail-bed (Figs. 1 and 2). The nails are kept short, because, if allowed to grow beyond a certain length, they become brittle and crack at the very slightest trauma. There is no marked accentuation of the striae, either vertical or horizontal, though a slight increase can be ascertained. Likewise there are no ulcerations about the base of the nail and no odor emanates from them. The nails of all toes of both feet are affected in a similar manner but to a less degree. The feet are in other respects normal.

There is absolutely no sign of hereditary syphilis in any of the children.

The features of these cases especially to be noted are the following:

The condition cannot be defined as a hypertrophy or atrophy of the hair and nails, but merely as a trophic anomaly occurring repeatedly for generations in a decadent family. Its occurrence in five consecutive generations, in which members of each are definitely known to have been affected. Its transmission through both male and female members to both sons and daughters (though these three patients are all males).

The previously published reports lay stress on the mental deficiency of affected patients; such deficiency cannot at this date be determined in these children. Nicolle and Hallipré record the absence of the thyroid gland in their patient; this is at least clinically not borne out in my eldest patient, Carl, though in the second patient, Urban, the presence of the thyroid body can not be determined.

The paronychiae emphasized in the other reports are absent in the cases under observation, probably because greater attention has been given these children and because they have not been subject to repeated traumas to the hands incidental to manual labor. My cases show no features not previously observed, but closely bear out the findings heretofore reported.

One might formulate interesting hypotheses in an attempt to explain etiologically and associate this peculiar condition with other dermatoses, which, of course, cannot at this moment be confirmed. The possible relationship between family dystrophy of the hair and nails and acanthosis nigricans occurred to me, inasmuch as the latter condition is characterized by dystrophic changes in the dermal appendages; furthermore, Carl G. shows the peculiar papillary hypertrophy, which is not at all unlike that noticed in acanthosis nigricans. Another suggestive fact is that the mother, also affected, died of some malignant abdominal growth — a marked and essential feature of acanthosis nigricans. The etiologic and pathogenic factors operating in this condition are like those in so many dermatoses, wholly or nearly in the dark, and I believe only with a broader understanding of general metabolism and especially the internal secretions of thyroid, pituitary, testicle and ovary will the obscurity be lifted.

52 North State Street.

The Radical Cure of Hernia.—A surgeon should take more pleasure in one patient cured by operation than in ninety-and-nine of those who keep their ruptures up by means of trusses. —H. T. Butlin in *Clin. Jour.*

A SIMPLE METHOD OF INTRODUCING THE PURSE-STRING SUTURE FOR COVERING THE STUMP OF THE APPENDIX

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Notwithstanding the many objections raised to and the number of devices suggested as a substitute for the old purse-string suture for burying the stump of the appendix, nevertheless, for the ordinary case, it still remains the suture of choice in the technic of the great majority of surgeons in this country.

The following plan is not suggested as a substitute, but as a simple method of introducing a suture to bury the stump of the appendix. It has to recommend it the fact that an assistant is unnecessary to depress the stump, and the fact that with just a little care there is slight danger of breaking the suture while tying. The stump of the appendix is treated according to the method of choice of the individual surgeon; perhaps ligature, phenol (carbolic acid) and alcohol is the best.

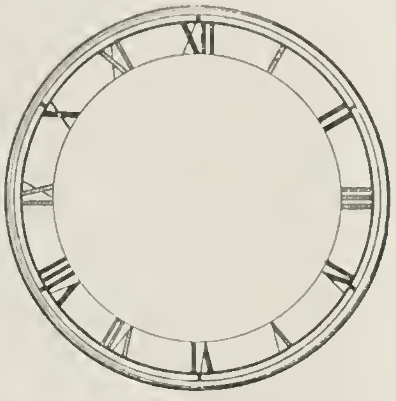

Fig. 1.—Diagram showing relative position of stitches for purse-string suture.

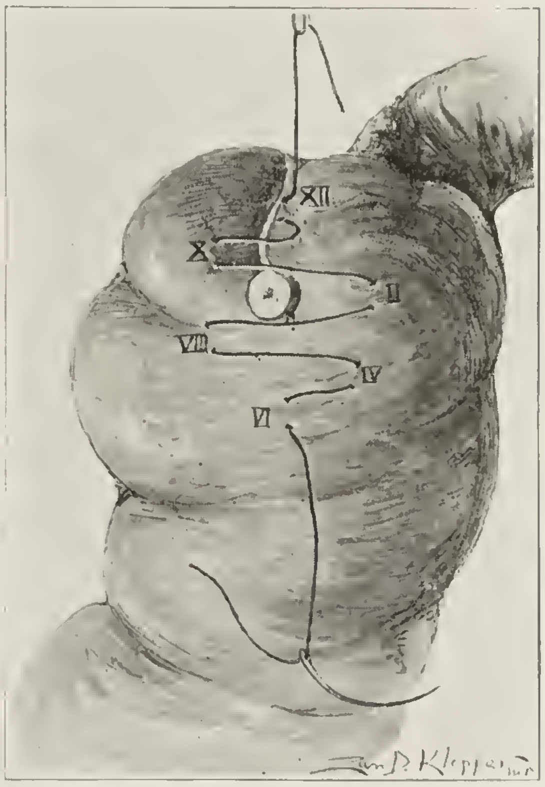

Fig. 2.—Stitches placed for purse-string suture to bury the stump of the appendix.

The suture is begun at the mesenteric side of the appendix, a bite being taken to include the vessel near the base and continuing away from the mesentery, far enough from the base of the appendix to insure a pocket in the cecum sufficiently large to hold the stump. Bites are taken in the wall of the cecum at points which may be illustrated by using, for instance, the numerals on the face of a watch as a guide for introducing the suture, taking 12 o'clock as the mesenteric side and introducing the needle, pointing it away from the mesentery at 12 o'clock, 10, 2, 8, 4 and 6 o'clock. The free ends of the suture are drawn on and the stump of the appendix automatically disappears, without the aid of a depressing instrument. The free ends of the suture are next tied, and the purse-string is complete with a sufficient number of approximating points to insure good coaptation.

In favor of this plan are the following points:

1. It is simple.
2. It is rapid of introduction.

3. The stump invaginates without assistance and thus obviates the frequent annoyance of the forceps or probe, with which the stump is usually inverted, becoming caught in the purse-string when tied.

4. Here there is a prompt invagination of the stump of the appendix accomplished by a straight pull, instead of one impeded by the kink of the knot.

5. There is lessened danger of contaminating the peritoneum of the bowel, as there is here no danger from the instrument, which may have picked up germs from the stump, slipping and inoculating surrounding tissues.

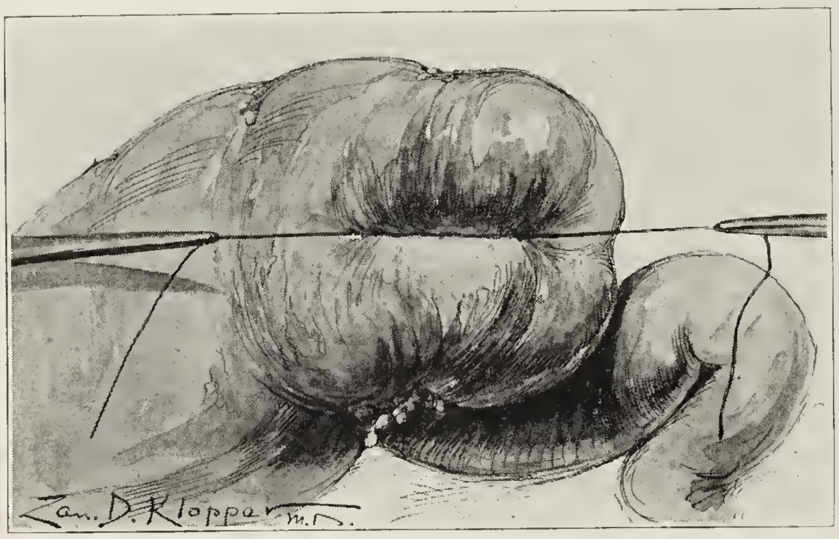

Fig. 3.—Invagination of stump of appendix.

6. There is less handling of the bowel, as the free end of the suture, when held, acts as a means of steadying the cecum.

32 North State Street.

SARCOMA OF LEFT FRONTAL LOBE OF BRAIN

WITHOUT DEFINITE SYMPTOMS UNTIL SHORTLY BEFORE DEATH *

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The patient was a white woman, aged 65, single; she was a well-educated woman of high intellectual and social attainments, alert, and keenly alive to her environment, interested in family and church affairs, a careful and temperate person in her diet and other habits. The family history is excellent, its members generally living to advanced age, and dying of some form of vascular degeneration.

HISTORY

Previous health was good except for occasional attacks of "indigestion." The patient's friends recall three or four attacks of this kind in the preceding two years. They were not sufficiently frequent or prolonged to suggest anything else than the result of indiscretion in diet. They came on usually in the night, and were associated with abdominal pain, nausea and vomiting. Recovery was prompt, and there were no after-effects, the patient feeling well, as at other times.

Regarding the period immediately preceding her illness, the following data have been obtained. Many of these points were not discovered until after death, and were not therefore available in arriving at the diagnosis:

In the autumn of 1910 an acquaintance who met and talked with her on a street-car noticed that she would sometimes stop in the midst of a sentence without completing it. He remarked at the time that it was unlike her natural self. An intimate friend noted that she seemed somewhat nervous during the winter of 1910-1911; that she lost some of the usual freshness of her complexion and, apparently, some weight. Her laundress reported that for some time (months?) before her illness developed, she had had much nose-bleed, sending to the laundry from seventeen to twenty bloody handkerchiefs a week. The patient evidently concealed this fact, as it was not learned till after her death.

During April, 1911, there was a gathering in the church of which the patient was a member, lasting several days. She spent herself freely in the preparations, entertaining, services and social functions connected with this affair, and was fatigued by it. May 6 she had a digestive attack similar to those already described. From May 11 to May 22 she visited a brother in a near-by city. The brother noted nothing abnormal except that she stated that she was tired, and that her visit had refreshed her. Returning, she talked at length with a friend who was making the same journey, and appeared to have all her faculties in their full perfection. She frequently said that she did not seem to digest well. During the last few weeks of her active life it was noted by a friend that she showed great "nervousness" at the meetings of a church organization of which she was president, and seemed troubled by this. A week before her illness was noticed, members of her Sunday school class noted that she recorded the amount of the collection incorrectly. When her attention was called to the error, she smiled, and wrote again an incorrect figure.

Shortly after her return from the visit to her brother (about May 24) she wrote him that she had declined an invitation to the wedding of a near relative, without assigning any reason for doing so. This was so contrary to her usual attitude in such matters, that her brother's concern was aroused. He felt sure that she must be ailing, and advised her to consult a physician. On May 27 the friend above referred to noticed that the patient was unnatural and unresponsive, seeming "hazy," and taking no interest in any person or thing. She directed another friend's attention to this, who confirmed the observation. Next morning the patient stayed in bed, though she did not complain of being indisposed. She did not wish to go to church or to be read to. Her indifference to both was in her most unusual.

I first saw the patient May 31, 1911. She was dressed and sitting down-stairs. I found a tall, well-nourished, well-formed woman; skin rather pale; expression apathetic; pulse normal, and radial arteries not appreciably thickened; tension not raised. Her answers to my questions were delayed and incomplete, and frequently qualified by "I can't remember" or "I think." She was unable to answer questions as to the simplest facts of her daily life, as what she had for breakfast, when her bowels moved, and how often she passed urine. She said after being urged, that she had declined the wedding invitation because she did not feel sufficiently interested in it to make it worth the effort to go, but acknowledged that it was unusual in her not to be interested in such matters. Her statements were obtained with difficulty, piecemeal, and by many questions and some guiding on my part as to answers.

June 1: The patient was in bed in the same mental state as on the day before. Examination of chest and abdomen was negative. The left pupil was smaller (slightly) than right, both reacting normally to light and accommodation. The urine was alkaline (kept over night, weather hot); albumin and sugar absent; indican, a slight excess over normal; a very few small hyaline casts. Blood examination showed hemoglobin, 90 per cent.; leukocytes, 9,200; red cells, 5,675,000; histology of cells normal. Blood-pressure was 150 mm.

The patient was seen in consultation with Drs. B. R. Logie and T. A. Williams on June 3 and 6, respectively. At these examinations and my own daily observations the following data were obtained:

No deviation was discovered in the muscular apparatus, or in general or special sense. Station and gait were normal; coordination of movements perfect; reflexes everywhere normal. Color sense was intact; field of vision normal in both eyes; ophthalmologic examination revealed no choked disk or other abnormality of retinal fields.

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* Case and specimen presented before the Medical Society of the District of Columbia, Feb. 28, 1912.

A sentence spoken to her in French was understood, and a brief but pertinent answer made in the same language. She stated correctly the names of flowers and their colors when shown to her. She gave correctly the names of members of her family; also of her nurse, who had been with her two days, but was unable to give that of her physician (myself) whom she had seen less than half a dozen times. She could not give the street or number of the house in which she lived. She stated correctly the name and function of a pen and of a piece of money. When shown a napkin-ring, she called it a "ring," and said it was used "to eat with." When questioned, her expression denoted great confusion. She would look from one person to another, as if seeking assistance, and wrinkle her forehead as if making an effort to express herself. All her answers were given slowly after more or less delay, necessitating frequent repetition of questions.

On request she wrote her name perfectly. A sentence of six words was given, and she was asked to repeat it, which she did slowly, but accurately. Asked to write the same sentence, she did so perfectly except the last word, which was not completed. She kept on writing, repeating the words of the sentence irregularly and without sense, misspelling words, leaving them unfinished, making a jargon. Her penmanship at the same time progressively lost its character, becoming like the scrawl of an untaught child. She stopped writing only when she had filled the page. She was then asked to write a sentence of eight words without first repeating it. She wrote no part of this correctly, repeating two or three words of the sentence, leaving them incomplete, and using the same immature style of penmanship. After writing thus three or four lines, she stopped. It is a matter of regret that the specimens of writing were lost, being thrown out by a hospital clerk when the record was filed.

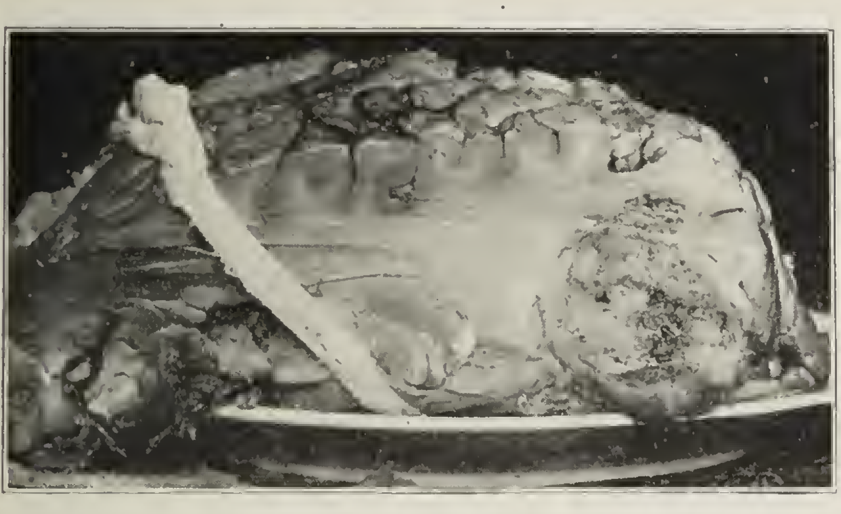

Fig. 1.—Sagittal section of left cerebrum 2 cm. from the longitudinal fissure (from a photograph). The tumor is situated in the frontal lobe on the right-hand side, overlapping the edge of the plate.

The patient was with difficulty persuaded to read a passage, but after beginning, read fluently, and in the main accurately. It was noted that she miscalled the word "Australian" for "Austrian"; for "lawyer" she substituted "solicitor."

On the above findings—blocking of mentality and power of expression, partial disorientation, loss of memory for words, apathy and pupillary disturbances—we made a diagnosis of organic lesion of the left frontal lobe, involving Broca's convolution. We were unable to determine whether the lesion was a tumor, a thrombosis or a hemorrhage. We definitely expressed the opinion that it was probably not a tumor, because we at that time had a negative history of any symptoms pointing to a progressive development of the disease.

The above conditions continued with little change until the evening of June 8, when at 8:30 I was summoned by the nurse with the statement that the patient had suddenly passed into a stupor. On arriving, I was told that she had clenched her left hand, violently rubbed the left side of the face and head, and then passed suddenly into a stuporous condition; that the tension of the pulse had decidedly increased at the same time.

I found the patient very pale; the jaw dropped, and the tongue drawn back; breathing slow and stertorous; pulse slow and strong, with tension somewhat increased. The nurse stated that the tension had been still higher at the onset of the attack. The pupils were contracted and did not respond to light. The eyes were closed, and efforts to separate the lids encountered marked resistance. This condition was much more pronounced on the left side than on the right. There was profound stupor. The right arm and leg seemed perfectly flaccid. This was not true of the left side. There was no response to sharp cutaneous stimulation on the right side. Patellar reflex weakly present on both sides. Slight Babinski reflex on left side, with sharp retraction of the leg on stroking the sole of the foot. The abdominal reflexes were everywhere absent. I observed the patient three hours. During this time she frequently rubbed the left side of the face with the left hand, as if wiping something away. She moved the left arm and leg frequently in a restless fashion, but not the right. Later, movement was induced in the right arm by placing it in an uncomfortable position, but there was no spontaneous movement of the right side. Breathing was puffing in character. Gradually the natural color of the skin returned, and the breathing became less stertorous, assuming a snoring type. Twice the patient roused slightly for a moment, and gave a look of recognition and a slight smile, but immediately relapsed into a stuporous state. The abdomen was quite distended, and the breath very offensive. I gave 2 minims of croton oil with a small stool resulting. This was repeated two hours later, without result. There was involuntary urination, and the patient vomited once.

June 9, 10 a. m.: The stuporous condition was still present, but less pronounced. Spontaneous movements were present in all limbs. When the patient's right hand was taken hold of, there was a slight convulsive movement of the fingers; it seemed to involve chiefly the middle and index fingers. This was kept up at intervals of a second or two as long as the hand was held. There was some rubbing together of the fingers and thumbs of both hands, and picking at the bedclothes and nightgown.

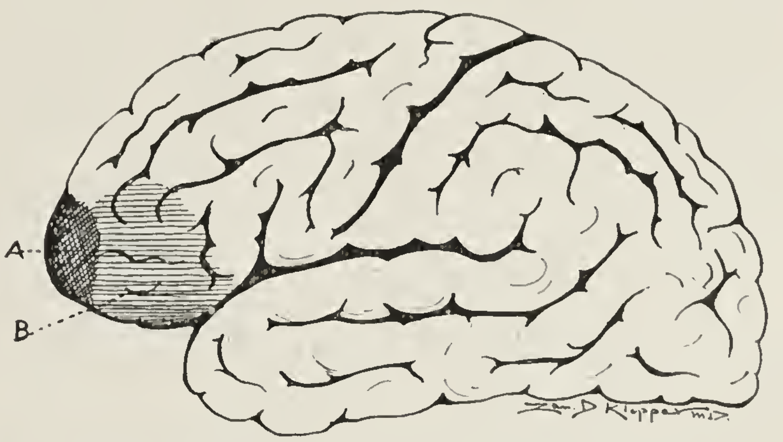

Fig. 2.—A, smaller tumor, denser than the subcortical one, but the same histologically, adherent to the parietal dura opposite the left eyebrow; B, area of softening.

10 p. m.: The general condition was unchanged. The Babinski reflex was carefully tested and found present on both sides, slightly more pronounced on the left. Slow hyperextension of both great toes was elicited by stroking the plantar surfaces, by firm stroking along the inner margins of the lower third of the tibiae, and, on the left side, by sudden grasping of the posterior tibial muscles (as suggested to me by Dr. Williams). Abdominal reflexes were absent. Pupils were not contracted, and reacted to light. The patient resisted efforts to separate the lids.

June 10: The Babinski reflex was present on the left side but not on the right. The sensitiveness to tickling the soles was much less than before. Abdominal reflexes were absent.

June 11: The Babinski reflex was absent on both sides, normal flexion being the result of stroking the plantar surfaces. Practically no retraction of the limbs followed tickling the soles. Abdominal reflexes were absent.

June 12: Same as preceding. On this day the patient was removed to the Garfield Hospital. Stuporous condition progressively increased, and patient died June 13, apparently of medullary paralysis.

AUTOPSY

Section of the skull only was permitted. Veins of the scalp were engorged, exuding on section dark blood. Congestion of dural sinuses. Nothing else noted *in situ*, except that the anterior portion of the longitudinal fissure was curved to the right. On removing the brain, the tip of the left frontal lobe was found adherent to the dura above the left orbit. The fore part of the right cerebral hemisphere was pushed aside, and encroached on by the corresponding portion of the left. There was diffuse atheroma of the arteries of the base, and thickening of the meningeal vessels.

On section of the brain an ovoid tumor was found in the left frontal lobe the size of a small hen's egg. It encroached on the lower and inner aspects of the surface of the hemisphere, approaching to within a few millimeters of the cortex in these situations, and producing a distinct depression on the surface of the opposite hemisphere. It was situated in the white matter, and was of a brownish-gray appearance. The margins were not clearly defined. On the tip of the left frontal lobe was a similar growth, adherent to the parietal dura and of a somewhat denser consistency, the size of a small chestnut. The white matter between the larger tumor and the temporal cortex was the seat of scattered minute areas of venous stasis or hemorrhage. The entire third frontal convolution from the smaller tumor backward to the sylvian fissure was the seat of an acute softening.

Microscopic sections were made from (*a*) the larger tumor; (*b*) the smaller tumor; (*c*) the white area between the larger tumor and the temporal cortex, and (*d*) the softened area of the third frontal convolution. Examination showed that *a* and *b* were similar, being round-celled sarcomas, rather rich in blood-vessels; *c* showed malignant infiltration, the tumor appearing to arise by proliferation of the adventitial cells of the blood-vessels; both *c* and *d* showed hemorrhage and thrombosis, both fresh and old (that is, in process of organization).

Careful examination failed to reveal any other abnormalities than those described above.

The points of especial interest are:

1. Should the diagnosis have been more definitely made before death? The case points out that rapidity of development of a clinical picture pointing to destructive brain lesion is not of itself an argument against the presence of tumor, as the growth may be without symptoms for a long time, and become suddenly active through rapid infiltration, metastasis, or the production of collateral brain disturbance.

2. Provided that the diagnosis of tumor had been made with the data available at the time, what should have been the attitude as to advising operation in this case? Pressure symptoms were not present, so that that justification for opening the skull was absent. The only indication was furnished by the chance of removing the tumor. In this case we know by subsequent developments that operation would have been futile, and would have resulted in death. But we do not have the data obtained by autopsy in determining the question of operation. The tendency of the advice generally received by general clinicians from both neurologists and surgeons is to operate in brain tumor unless there are positive contra-indications. Disregarding the personal factor of criticism for advising and undertaking ill-advised operations, the latter are, in the eyes of the layman, a reflection on both diagnosis and surgery, and operate by their influence to keep suitable cases from receiving the advantages of surgical relief.

3. What was the pathophysiology of the transient hemiplegia associated with the onset of June 8? I attributed it at the time to an ischemia of that side of the brain, established by Nature to control the extravasation of blood, occasioned, as I believed, by the occurrence of fresh hemorrhage. Cushing has pointed out that the high blood-pressure associated with intracranial hemorrhage is probably a protective mechanism, but whether this would be the effect of an acute softening, I am unable to say. We have nothing else than the occurrence of the softening with which to associate it, but it is entirely possible that there were other and unknown factors concerned in the production of the clinical picture.

4. The unusual symptom of epistaxis occurred too frequently and was too prolonged to be a mere coincidence. What connection, if any, did the nose-bleed have with the tumor?

5. What was the cause of death? There was no heart or lung or kidney affection, primary or secondary. Death apparently ensued from medullary paralysis. There was no apparent lesion in the medulla or its environment, though carefully searched for. I am unable to explain this.

I am indebted to the late Dr. John Neate of the Army Medical School for the preparation of the slides, and to Dr. H. H. Hazen of Washington, D. C., for the photograph from which Figure 1 is made.

2010 R Street, N. W.

THE ELIMINATION OF THE MIDWIFE *

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It is most gratifying to note the interest which has been awakened in the midwife problem during the past few years. The outlook is hopeful and an attempted early solution of the question may be anticipated. The danger lies in too great haste. Either we are going to settle the matter to our credit and future welfare, or we are going to make a serious and perhaps irreparable mistake. My own feeling is that the great danger lies in the possibility of attempting to educate the midwife and in licensing her to practice midwifery, giving her thereby a legal status which later cannot perhaps be altered. If she once becomes a fixed element in our social and economic system, as she now is in the British Isles and on the Continent, we may never be able to get rid of her. I agree with Dr. E. P. Davis, that she is a "menace to the health of the community, an unnecessary evil and a nuisance," and I am, therefore, unalterably and uncompromisingly opposed to any plan which seeks to give her a permanent place in the practice of medicine. In no other branch of medicine do we permit ignorant, non-medical individuals to give counsel and assistance in medical matters. Midwifery is the most poorly done of all medical work, not alone because about 50 per cent. of all labors are in the hands of midwives, but largely because of the low standards of midwifery existent among physicians and laity alike. And these standards cannot be raised so long as 50 per cent. of the cases are in the hands of individuals with as poor preliminary education and as little medical training as have the midwives. The argument that large numbers of physicians do as poor obstetrics as the midwives is entirely beside the question. We are quite ready to admit this, but to claim that for this reason we must retain the midwife, if we retain the physician, is absurd. Legally the midwife has as yet practically no status and, even if she had, there can be no reason why she should not be subject to the same laws and requirements as those governing all other individuals practicing medicine. The fact is, as I shall attempt to point out, that we can get along very nicely without the midwife, whereas all are agreed that the physician is indispensable. It thus seems that the sensible thing to do is to train the physician until he is capable of doing good obstetrics, and then make it financially possible for him to do it, by eliminating the midwife and giving him such other support as may be necessary.

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* Read before the American Association for Study and Prevention of Infant Mortality at the Annual Meeting in Cleveland, October, 1912.

I am opposed to educating and licensing midwives to practice obstetrics in this country for several reasons; first, because I believe it unnecessary, since I am convinced that a plan can be evolved and practically applied which will give to every child-bearing woman in the country competent medical attendants; and second, because I do not believe it possible to train women of the type of even the best of midwives to practice obstetrics satisfactorily.

In this country, with its great wealth and unlimited resources, it should be, and is, unnecessary that a system should exist and be supported which seeks to give to those unable to pay for competent service a service which is incompetent and unsafe and administered by untutored, non-medical individuals. We are passing through a political, social and economic revolution which is certain to result in giving to the worthy poor justice in the necessities of life, among which must be included competent medical service administered by those who are trained in medicine. They will demand it and they are going to get it. This does not necessarily mean socialism, but it does mean social justice. Talcott Williams in speaking on "Equality of Opportunity" in this country presents some astonishing facts and figures which show that the trend of modern times is toward "equality of opportunity in all that relates to economic progress." This fact, as he points out, is apparent in the marvelous growth in savings-bank deposits, industrial and regular life-insurance and in the increased ownership of houses and lands by the common people, showing that the average citizen is coming nearer and nearer to the place where he is able to secure for himself the things of life which he needs. If equality of opportunity as regards medical service is ever to come in this country, it cannot come so long as we train one class of practitioners to care for those who can pay, and another much inferior class to care for those who cannot. If this be true, then in the name of humanity and of justice let us not give to the midwife a permanent place in the practice of medicine when we know full well that she can never render anything but a service much inferior to that of the trained physicians of the future.

The practice of obstetrics carries with it much more than standing by while the natural forces of labor complete the act as best they may. Obstetrics is an important branch of medicine, and to practice it safely and successfully implies a knowledge of general medicine, as well as a knowledge and appreciation of the physiology and pathology, the normal and the abnormal, of the child-bearing process. The function of the physician in midwifery cases is to secure for the woman the best possible preparation for her labor, to accomplish her delivery safely and to leave her, so far as possible, in good physical condition; to prepare the mother for and to teach her the importance of nursing her baby, and to do everything that is possible to bring this about. A careful physical examination of the patient in each case, a thorough knowledge of her pelvis and a careful study of her previous labors may be indispensable to the successful conduct of her approaching confinement. It will perhaps never be known how many thousands of babies are sacrificed annually at birth because nothing is known of certain deformities and abnormalities until labor is well advanced. Every intelligent physician knows how important is the routine examination of the urine during pregnancy, and yet in more than 50 per cent. of all the labors occurring in this country, the urine is never examined until perhaps the woman is in convulsions. Then, too, think of the thousands of women who are annually invalided as the result of unrepaired injuries to the birth-canal and from infection, to say nothing of the many who lose their lives. Those familiar with the subject believe that this appalling condition of affairs can be very largely prevented by providing skilled medical attention before, during and after childbirth. This means that pregnancy in each case must be carefully supervised, labor scientifically conducted and the mother and baby left so far as possible in good physical condition, which cannot be accomplished by untrained, non-medical individuals like the midwives.

Another very pertinent objection to the midwife is that she has charge of 50 per cent. of all the obstetric material of the country without contributing anything to our knowledge of the subject. As I shall point out, a large percentage of the cases are indispensable to the proper training of physicians and nurses in this important branch of medicine. The whole country is indebted to Williams[1] for his studies on the midwife problem in this country. He has done a great and lasting service in laying bare the facts in regard to the teaching and practice of obstetrics in this country. On the other hand, Dr. Jacobi, in his inaugural address[2] at the meeting of the American Medical Association at Atlantic City in June of this year, has taken, in my opinion, a decidedly backward step as regards both the teaching and practice of obstetrics. His recommendation that 200 schools for midwives be established in the United States is as impractical as it would be impossible of accomplishment. According to Williams, but a single medical school in the country has adequate facilities for teaching obstetrics properly to medical students. A marvelous thing will have been accomplished if, during the next fifteen or twenty years, thirty institutions similar to the Sloane Hospital in New York City are established to meet the requirements of the thirty-one medical schools needed in this country, according to Flexner. To accomplish this would require the expenditure of about thirty millions of dollars and an annual budget of more than three millions of dollars to maintain them. So much is needed before we can hope to give to the students graduating from our medical schools adequate training in obstetrics, and before we can hope to compete with the German medical schools. If then, in addition, an attempt be made to establish the 200 schools recommended by Jacobi, or 170 additional ones, using the university schools also to train midwives, as in Germany, some idea may be gained of the utter foolishness of such a recommendation.

It is, at present, impossible to secure cases sufficient for the proper training of physicians in obstetrics, since 75 per cent. of the material otherwise available for clinical purposes is utilized in providing a livelihood for midwives. If schools for midwives were established in

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1. Williams, J. Whitridge: Medical Education and the Midwife Problem in the United States, THE JOURNAL A. M. A., Jan. 6, 1912, p. 1.

2. Jacobi, A.: The Best Means of Combating Infant Mortality, THE JOURNAL A. M. A., June 8, 1912, p. 1735.

all the larger cities of the country, a large number of additional cases would become necessary for training the midwives and we should soon find ourselves in the anomalous position of favoring the elimination of physicians from the practice of obstetrics, by still further depriving them of clinical material for their training in order to provide trained midwives to supplant them. If, moreover, the money which would be necessary for establishing and maintaining 200 schools for midwives, together with what would be necessary to supervise the midwives properly in their practice afterward, were used to pay physicians and nurses to care for the midwife cases, sufficient money would be available, to say nothing of the $5,000,000 which it is estimated is collected annually by midwives in this country and which should be paid to physicians and nurses for doing the work properly.

The question in my mind is not "what shall we do with the midwife?" We are totally indifferent as to what becomes of her as compared with the very vitally important question of how we shall provide competent medical service for the hundreds of thousands of the very best of our women while they are fulfilling the sacred obligations of maternity. And in this we include all classes, for we realize that obstetrics is frequently as poorly done among those who are able to pay for competent service as among the poor who are dependent on midwives or on public charity. The answer is to be found in providing proper training and adequate compensation for physicians and nurses who alone should do the work.

It is generally recognized that obstetric teaching in this country is woefully deficient. There has been a dearth of great obstetric teachers with proper ideals and motives, but the deficiency in obstetric institutions and in obstetric material available for teaching purposes has been even greater. It is to-day absolutely impossible to provide material enough to give to medical students before graduation anything more than the merest smattering in practical obstetrics. So far as I have been able to learn, in all but a few medical schools in this country, the students deliver no cases in a hospital under supervision, receive but little even in the way of demonstrations on women in labor and are sent into outpatient departments to deliver at most but a half dozen cases. When we recall that abroad the midwives are required to deliver in a hospital at least twenty cases under the most careful supervision and instruction before being allowed to practice, it is evident that the training of medical students in obstetrics in this country is a farce and a disgrace to a great nation, which in other branches of medicine holds high rank. It is then perfectly plain that the midwife cases, in large part at least, are necessary for the proper training of medical students. If for no other reason, this one alone is sufficient to justify the elimination of a large number of midwives, since the standard of obstetric teaching and practice can never be raised without giving better training to physicians.

On the other hand, it is equally plain that every woman has a right, as a citizen and as a mother, to such care during and following childbirth as shall preserve her and her children in life and health. It is not difficult to prove that this cannot be accomplished by midwives, but that it can be and is being done by students of medicine under careful supervision and by recent graduates in medicine who have been trained in well-equipped and properly conducted maternity hospitals. In the Boston Lying-In Dispensary, for example, about 2,000 consecutive cases of labor have been conducted by medical students without a single maternal death and similar records are to be found all over the country where maternity dispensaries exist.

I believe that the midwife should be eliminated as rapidly as possible, but I do not believe that this can be accomplished at once or perhaps even very rapidly. Legislation will not eliminate the midwife, unless hand in hand with such legislation provision is made to take her place. While a substitute is being provided she must be supervised in her work. She should, however, not be given a license but should be given a certificate to be renewed from time to time or canceled as deemed advisable under the circumstances. Licensing her will not add to her knowledge and will not make her more efficient, but will place on the state permanent responsibility for her work. No attempt should be made to establish schools for midwives since, in my opinion, they are to be endured in ever decreasing numbers, while substitutes are being created to displace them.

Our present system of caring for the so-called "charity cases" is entirely wrong and this does not apply to midwifery cases only. Our charities are for the most part but poorly investigated and supervised and are inefficiently administered. Much of this charity is not legitimate and the cost is unjustly distributed. Physicians have been called on to do much more than their share. There is not the slightest reason why the physician should give his professional services without pay, as it is no more his business to administer without compensation to the dependent and sick poor than that of any other citizen. The fact that he is especially fitted so to serve them does not in any wise alter the situation. The poor when ill are the state's charges, just as much as when they must be fed, clothed and sheltered, and the state should minister to the needs in one case just as much as in the other. Until physicians are justly compensated for their services to the poor, the poor will not receive adequate medical attention. In the long run individuals receive just about the service to which they are entitled by the compensation provided. This is just as true in medicine as in any other field of endeavor, and so far as I can see there is not the slightest reason why it should not be. Public charities of all kinds should be placed on a strictly business basis, should be well organized, thoroughly supervised and all the workers should be justly compensated.

The placing of the burden of medical service to the poor on physicians, without compensation, has led them to seek in return excessive fees from those who can pay, with the result that much harm has been done to the cause of medicine. The practice of medicine has been thereby converted into a trade, and commercialism has destroyed much of its higher and finer side and has done untold harm in the attitude which the public should have toward the physician and the schools which educate him. And for this the leaders of the profession, the teachers of medicine, have been largely responsible. They have frequently used their professorial appointments for personal profit, prostituting the ideals of medicine to their greed for gold and "exploiting their patients at the expense of the entire profession." This does not apply to the so-called laboratory men, who have worked on modest salaries and yet have shown an unselfish devotion and enthusiasm which have astonished the whole world, and who have contributed practically the only knowledge in medicine which has been worth while. Such men as Koch, Behring, Ehrlich, Flexner and a score of others are striking examples of medical men who have done a lasting service to humanity without levying a tribute on it and stand out in striking contrast, for example, to an equal number of American surgeons whose very work has been made possible only through that of the laboratory workers but who, unlike them, have demanded from their patients unreasonable and dishonest fees for no other reason than that they had the opportunity for doing so. No one questions the justice of the man of means paying in accordance with his ability toward the medical care of the dependent poor and that on this basis the burden should be equitably distributed, but it is the business of the state to collect such moneys for the purpose and not the business of private persons to levy tribute on individuals of means on the plea that they are serving the poor without pay. The state should pay the physician adequately for all his services to the poor and should collect by taxes from all the people their just share of the money necessary to care for its charges.

In medical charities economy and efficiency are all important and can best be secured when such charities are utilized for teaching purposes. Since patients in teaching institutions receive the best possible attention at the least possible cost to the state, medical education and medical service to the poor should go hand in hand. Both are matters for the state rather than for private individuals and the state should therefore see that each contributes to the other all that is possible. It is not generally appreciated that medical schools should be first of all educational institutions rather than medical institutions, that they should, moreover, be public service organizations and exist for the public good, as do other educational institutions, and that the teacher of medicine should be an educator in the highest sense of the term and should stand in the closest relationship to all the problems of medical education, medical practice, eugenics and social service. He should spend his life, therefore, as a public servant and should use his calling and the innumerable possibilities and opportunities which go with it, not to enrich himself at the expense of the profession but to serve his generation in all that pertains to the public good. For all these reasons medical schools should be liberally supported by the state, as in Germany, where medical education and medical service have reached their greatest development. The number of medical schools should be limited to the actual needs of the country, and medical teachers should be put on liberal salaries and should be required to devote their entire time to teaching, research and the care of hospital and dispensary patients. Until this is done, it will not be possible to prevent many medical teachers from seeking and obtaining professorial appointments for the purpose of advancing their own personal interests

But, you may ask, what has all this to do with the subject of my paper? This much, that men and women of influence and of means will never contribute all that is necessary in money and in legislation to medical education and medical charities, until they have more confidence in the ideals and motives of those who administer them. And this brings up a very important matter which cannot be neglected in such a discussion as this, namely: the administration of medical charities — hospitals and dispensaries. Each supplements the work of the other and if properly coordinated they cover, without conflict, the entire field of medical service to the poor. Each is therefore indispensable and each has its legitimate field. In so far as they care for the state's charges, they should be supported by the state, the one just as much as the other. All patients applying for care through either should be rigidly investigated and required to pay to the extent of their ability. To this class belong all patients who are unable to pay adequate physicians' fees, whether they can pay all, a part or none of the cost to the hospital or dispensary of caring for them. In this investigation all the facts should be taken into consideration — the size of the family, the income and cost of living, the actual legitimate earning capacity of the family; while the physical health and mental equipment must not be overlooked. If the income, whatever it be, is entirely needed for the necessities of life, it ought not to be used to pay physicians' fees. Such individuals cannot, therefore, be looked on as of any legitimate financial value to the physician, to whom their care by hospitals and dispensaries should give no cause for offense. The manifest and professed purpose of the science and art of medicine is the prevention and cure of disease. The physician exists therefore for the benefit of the patient and not the patient for the benefit of the physician; and the solution of this matter will not be reached until this fact is fully appreciated and until it governs our attitude toward providing medical service for the dependent poor. Any system, therefore, which does not provide the most economical service consistent with essential efficiency is wrong. On the other hand, physicians should not be criticized for not giving medical service gratuitously to such patients; on the contrary, they should be paid for their services to the poor, and this applies with equal force to nurses and social workers.

In Pennsylvania, the hospitals and dispensaries are paid by the state to the extent of the difference between what it costs to care for their patients and the receipts secured from them and from private gifts. This is as it should be.

Staff physicians in hospitals and dispensaries, who are given a monopoly of clinical material and therefore possess exceptional opportunity for the development of skill and the establishment of a reputation, should not be allowed to use their positions to gain a monopoly over private patients as well. This is the great evil of the present hospital system and can be prevented only by putting staff physicians and their assistants on salaries, and requiring them to devote their entire time to the work of the hospital, to research and to teaching. In the larger cities where medical schools exist, all patients for whom the state is responsible, or as many thereof as may be necessary, should be cared for in the hospitals in which the staff positions are held by the members of the medical faculties. In this way a tremendous amount of clinical material would become available for teaching purposes, and students and practitioners of medicine would be given an opportunity of securing any desired amount of training in chosen branches of medicine, while the patients themselves would receive the most efficient service at a minimum cost to the state. Nothing would be taken from the physicians in the way of income, their opportunities for advanced medical training would be much increased and the medical heads of such hospitals would become invaluable public assets as teachers, investigators and consultants. The salaries of the staff physicians and of the clinical members of the medical faculties could be provided, if necessary, by fees from the necessary number of private patients.

The vast majority of private patients should, however, be cared for in private hospitals supported by private or corporate capital. No one objects to any physician making all the money to which his skill and reputation entitle him, but he has no right to do so on the investments of public moneys.

From what has been said it would appear that the elimination of the midwife is to be brought about in time through the establishment of obstetric charities consisting of maternity hospitals and maternity dispensaries with all that goes with them in the form of social service, visiting nurses, prenatal work, relief work, etc. The hospital is to care for all who, for one reason or another, cannot secure proper attention at home, and the dispensary for those who are delivered at home. The majority of women will always be cared for at home, and it is desirable that they should be when conditions permit it. A mother with a number of children cannot usually leave them to advantage, and while it is true that physically she cannot and should not care for them, her presence in the home is necessary to order and discipline. Then, too, the cost of caring for patients in hospitals is much greater than in their own homes. Dispensary patients, moreover, are more likely to do for themselves all that they are able to do and thus be not so entirely dependent on help. Both the hospital and dispensary should be in charge of one head in the form of a medical director and, in medical centers, both institutions should be a part of, or closely affiliated with, a medical school.

In cities of the first and second class, especially where medical schools exist, the midwife can in time be entirely eliminated through the establishment and extension of obstetric charities — hospitals and dispensaries. The vast majority of patients who are unable to pay physicians can be cared for by medical students, provided the requirements for graduation are increased so as to give students the necessary training in obstetrics.

My own feeling is that before going into private practice each student should be required to deliver personally not less than fifty cases under careful supervision, and should also be taught to do on the living subject all the obstetric operations which the granting of his diploma gives him license to perform, as I hold that it is little less than criminal to permit practitioners of medicine to jeopardize the life and health of human beings by performing on them operations which they had not done and perhaps had never seen performed in their student days. The average practitioner who gains his experience in obstetrics by operating solely on his own responsibility rarely, if ever, learns to do it safely, and therefore always remains a menace to his patients, and should he eventually become an accomplished operator, his knowledge has been gained at the cost of much invalidism and of a number of deaths. My argument, therefore, is that if he must acquire the knowledge, it is much better that he should do so under careful supervision and instruction. The public should learn that it is the duty of every citizen, if for no other reason than that of the safety of his own family, to insist that students of medicine be not only supplied with clinical material, but that they be required to utilize it in acquiring the knowledge which is indispensable to efficiency in the practice of obstetrics. If the midwife cases and such others as are dependent on public charity were used for teaching purposes, not only would the patients themselves receive excellent care but also sufficient clinical material would be available to give every graduate in medicine such obstetric training as would make him a safe and efficient practitioner.

In the larger cities, therefore, maternity hospitals and maternity dispensaries, properly coordinated, well equipped and efficiently conducted, offer the sane and logical solution of the midwife problem. In the smaller cities and towns the problem is somewhat more difficult, but even there it can be very largely handled by utilizing as maternity dispensary stations the many small hospitals, which are being established so rapidly all over the country. By increasing the annual hospital budget to include such dispensary service, all patients unable to pay physicians, including also the vast majority of midwife cases, could be provided for at a very reasonable cost per patient. In this way the pupil nurses in such hospitals could be given the training in obstetric nursing which is now so generally required for the registration of graduate nurses, while the medical service could be very largely supplied by recent graduates in medicine serving as interns in such hospitals, and thereby acquiring, under proper supervision, invaluable experience in operative obstetrics. In the rural and other districts where there are no hospitals and where there will always exist a lack of medical practitioners, the midwife must continue her work, "doubly dangerous" because of the scarcity of physicians, unless the state places a higher value than heretofore on human life and health and comes to the rescue. On this point, I am in entire agreement with Professor Pritchett of the Carnegie Foundation in saying that "a sanitary service, subsidized by the state, will alone render efficient relief in backward districts without demoralizing the profession."

In attempting to secure certain data with regard to midwives in several of the large cities, I have been much disappointed. In Boston, for example, with 18,000 births reported last year, it is not known how many midwives there are or how many cases are delivered by them, although birth registration is compulsory. As Boston has a much smaller percentage of foreign-born population than Pittsburgh, it would seem fair, on the basis of Pittsburgh statistics, to estimate that the number of cases cared for in Boston by midwives and dispensaries combined would not exceed 30 per cent. As the dispensaries care for about 19 per cent., the midwives probably deliver not over 11 per cent. or 1,980 cases.

In New York City, according to Dr. Baker, 51,996 births, or 40 per cent. of the total number in 1911, were in the hands of about 1,300 midwives. In Philadelphia, in 1911, the estimated number of births was 44,000 and the actual number registered was 40,066, of which latter number, 21.09 per cent., or 8,450, were delivered by 194 midwives. In Baltimore, in 1911, there were but 9,283 reported births, showing very incomplete returns. On the basis of the United States Census Reports, the annual birth-rate for Baltimore should be about 17,000 and if the midwives deliver 50 per cent. of this number they care for about 8,500 cases. The number of registered midwives in Baltimore is 162.

There were 15,422 reported births in Pittsburgh in 1911, of which 4,864, or 31.53 per cent., were delivered by 150 midwives. Of 12,839 births reported in Cleveland from July 1, 1911, to July 1, 1912, 5,127, or 40 per cent., were in the hands of 266 midwives.

In Chicago, registration is not compulsory so that complete statistics are not available. Dr. Henry G. Ohls, who has gone over the records of all births reported between Jan. 1 and July 1, 1912, gives the first reliable birth statistics, as far as they go. He finds in the total of 19,939 births reported during the six months that 43.55 per cent., or 8,445, were in the hands of an unknown number of midwives. Dr. Ohls estimates the number of births in Chicago for 1912 to be 57,438. On the basis of his statistics, 50 per cent., or 28,719, ought to be a fair estimate of the number of cases delivered by midwives.

On the basis of the number of students graduating annually (1911-12) from the combined medical schools in Boston, New York, Philadelphia, Baltimore, Pittsburgh, Cleveland and Chicago, it is interesting to see to what extent the midwife cases in these cities could be handled by students alone.

In the data given, it would appear that in some instances, at least, not all of the cases credited to undergraduate students were actually delivered by them, since many of the deliveries were most probably demonstration cases, observed collectively by a number of students, while the actual delivery was being conducted by one of their number under supervision. Then, too, in certain cities, large numbers of cases are delivered by graduate physicians doing postgraduate work and their cases are also included among those credited to undergraduate students. These facts doubtless account, to some extent at least, for the great difference in the number of cases reported as delivered by students in the different cities, and must be taken into consideration in interpreting the following figures. In this study it is estimated that, if midwives did not exist, at least 25 per cent. of the patients now under their care could afford to and would employ physicians.

1. Boston: Number of students, 190; cases delivered by students in outpatient departments, 3,500 (19 per cent.); midwife cases, 1,980 (11 per cent.). Cases credited to each student, 18, and 10 additional to handle the midwife cases, or a total of 28 cases per student.

2. Philadelphia: Number of students, 437; cases delivered by students in outpatient departments, 2,566; midwife cases (less 25 per cent.), 6,338. Cases credited to each student, 6, and 15 additional to handle the midwife cases, or a total of 21 cases per student.

3. Baltimore: Number of students, 334; cases delivered by students in outpatient departments, 1,746; midwife cases (less 25 per cent.), 6,375. Cases credited to each student, 5, and 19 additional to handle the midwife cases, or a total of 24 cases per student.

4. Pittsburgh: Number of students, 66; cases delivered by students in the hospital and dispensary, 264; midwife cases (less 25 per cent.), 3,648. Cases credited to each student, 4, and 55 additional to care for the midwife cases, or a total of 59 cases per student.

5. Cleveland: Number of students, 66; cases delivered by students in outpatient departments, 605; midwife cases (less 25 per cent.), 3,845. Cases credited to each student, 9, and 58 additional to care for the midwife cases, or a total of 67 cases per student.

6. Chicago: Number of students, 608; cases delivered by students in outpatient departments, 1,927; midwife cases (less 25 per cent.), 21,540. Cases credited to each student, 3, and 35 additional to handle the midwife cases, or a total of 38 cases per student.

7. New York City: Number of students, 325; cases delivered by students, 3,780; midwife cases (less 25 per cent.), 38,997. Cases credited to each student, 12, and 120 additional to handle the midwife cases, or a total of 132 cases per student. If the students delivered 50 cases each or a total of 16,250, there would still remain 26,527 cases to be cared for, so that in New York City at least, it would seem that the midwives must do a large part of the work for some time to come, unless the city or state does a considerable part of the work through dispensaries, employing physicians and nurses on salaries. At the same time this would not be so much of an undertaking as it at first appears, since fully 50 per cent. of the 38,997 midwife cases could pay to dispensaries, as they now pay to midwives, $10 each and the remainder could pay at least $5 each, the minimum midwife fee in New York City. If the midwives were eliminated in New York City, all their cases could be handled through maternity dispensaries for an additional expenditure of not over $100,000 a year, provided such dispensaries received as much in fees as the midwives now do.

I shall conclude my paper with the plan which we have adopted for the solution of the midwife question in Pittsburgh.

It will perhaps be best appreciated what the Pittsburgh plan is when I say that it is, in its development, the concrete expression of the views set forth in this paper. If the recommendations which have been made appear visionary and impracticable, it must be remembered that a number of them are already in operation in Pittsburgh and are working out beautifully and that we fully expect to carry out the entire scheme within the next half dozen years.

About three and a half millions of dollars are available for the building, equipment and endowment of a woman's hospital, to be built in Pittsburgh during the coming year; and the sum of $50,000 has already been subscribed, from an entirely different source, for the maintenance of a maternity dispensary which was opened about six months ago.

The hospital, which is the first of its kind to be established in this country, has been modeled largely after the well-known *Frauenkliniker* of Germany and will therefore care for both obstetric and gynecologic cases. Abraham Flexner, in his "Medical Education in Europe," expresses exactly the point of view which we have taken for years and which now finds its expression in the new Magee Hospital. He says, in speaking of the German clinics for women, that "the women's clinic combines obstetric and gynecologic wards. Separation into two specialties tends to make a midwife of the obstetrician and an abdominal surgeon of the gynecologist, to the neglect of the fundamental pathologic and physiologic problems in both cases. Consolidation avoids the necessity of drawing arbitrary lines by way of making two specialties where Nature has made but one: for obstetrics and gynecology have a single physiologic and anatomic point of departure, namely the child-bearing function."

The new hospital will have accommodations for 125 adult patients in the wards and twenty-five private rooms. It is peculiarly well adapted for teaching purposes, having an operating and teaching amphitheater, a number of examining rooms, delivery rooms and recovery rooms, research laboratories, a medical library, museum and the necessary offices and other rooms for the medical director and his assistants. There are also rooms for photography, *x*-ray and hydrotherapeutic departments and an isolation department for infected cases, with the necessary operating and sterilizing rooms. In the private pavilion there is a private gynecologic operating-room, several private delivery and recovery rooms, a cystoscopy room, etc. The institution will be erected in the center of a ten-acre plot of ground and will be surrounded by a number of separated and isolated gardens for private patients, ward patients, nurses, physicians, etc.

The medical director of the hospital is also professor of obstetrics in the University of Pittsburgh. He resides with his family on the hospital grounds, is paid a salary sufficiently large to make him independent of private practice and to enable him to devote all his time to the work of the hospital, to research and teaching. All fees received from private patients go into the hospital treasury.

The Pittsburgh Maternity Dispensary, within two blocks of the Magee Hospital, is closely affiliated with the hospital, having the same directing head. It is located in two large houses of twelve rooms each and has dormitory accommodations for a dozen physicians and students, as many nurses and social workers, in addition to the dispensary rooms proper. The present staff of workers consists of a social worker, two graduate physicians, and three graduate nurses, all on salaries and devoting their entire time to the work of the dispensary; also a number of medical students. The number of workers will be increased as the growth of the work demands it.

The present hospital, housed in temporary quarters, will care for about 350 cases of labor during the present year and we expect to care for as many more cases in the dispensary during the first year of its existence, or a total of 700 cases, all available for teaching purposes. Our senior medical students, forty-five in number, will during the present year witness at least fifteen deliveries each, of which number each student will personally deliver six cases under constant supervision and instruction, three in the hospital and three in the dispensary.

The work in Pittsburgh is young, but the outlook is most promising and we feel that we have in the combination of hospital and dispensary, both teaching institutions, the solution of the midwife problem. And what can be done in Pittsburgh can be done in every other large city in the country. The creation of obstetric charities, such as I have attempted to describe, and the education of the people will, in time, make the midwife unnecessary and her elimination inevitable.

Forbes and Halket Streets.

TREATMENT OF DYSENTERY DUE TO INFECTION WITH ENTAMOEBA HISTOLYTICA

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It is but a few years since all forms of dysentery were grouped as acute and chronic, as endemic and epidemic, or as tropical and otherwise, without any attempt being made to differentiate them on etiologic grounds, and hence a variety of pathologic conditions due to as many different factors was looked on practically as one disease and treated as such solely for the reason that there was in common one symptom: dysentery.

It is now realized that there are many causes, some infective and others toxic, and unless careful differentiation is made we are likely to err grievously in our management and treatment.

The term "tropical dysentery" is also misleading and has been regarded more or less as synonymous with amebic dysentery. The latter affection is not limited to the tropics, but extends well into the temperate zones. It has been as much dreaded by the tropical resident as any of the endemic diseases and, directly or indirectly, has been responsible for a great many deaths.

It can be shown that this disease has lost its terrors and plays a minor rôle in the forms of dysentery encountered in the Canal Zone, as far as its incurability, chronicity and secondary effects are concerned.

The following forms of dysentery are more or less frequently encountered in Ancon Hospital and for the most part can be readily differentiated:

1. Amebic dysentery, caused by the *Entamoeba histolytica* of Schaudinn.

2. Amebic dysentery, caused by the *Entamoeba tetragena* of Viereck.

3. Bacillary dysentery, caused by Shiga's or Flexner's bacillus, and the allied varieties.

4. Bilharzial dysentery, caused by the *Schistosomum mansoni.*

5. Balantidial dysentery, caused by the *Balantidium coli.*

6. Malarial dysentery, occurring in the course of a general malarial infection.

7. Dysentery due to tuberculous ulceration of the intestine.

8. Nephritic dysentery, associated with acute diffuse nephritis or secondary to a chronic nephritis with an acute process superadded.

9. Diphtheritic colitis, associated with a diphtheritic or a gangrenous inflammation of the mucous membrane of the whole colon, rectum and part of the adjacent small intestine—a very fatal form.

10. Dysentery in the course of pellagra.

11. Dysentery resulting from the ingestion of decomposing meats or fish.

12. Dysentery resulting from the ingestion of infected milk. The last two may be bacillary in character.

13. Dysentery secondary to cardiac or to hepatic disease.

14. Clinical dysentery, which comprises the greatest number of cases and embraces that large group of undetermined etiology which occurs here in large numbers usually about May—about the close of the dry and the beginning of the wet season. Neither microscopic nor cultural findings have been able to determine its etiologic factor. These cases, however, are not very severe, lasting usually from four to ten days and requiring no specific treatment. If, however, any such dysenteries be associated with *Entamoeba coli*, by the uninitiated they are grouped as amebic dysentery, and hence give rise to mistaken statistics.

A brief glance at this clinical and pathologic classification will suffice to show how important it is to ascertain the etiologic factor underlying the dysentery concerned before treatment is initiated.

One reason that there is such disparity of opinion between different authors as to the best methods of treatment is failure to determine the etiologic factor before treatment is begun; that dysentery is but a symptom and not a pathologic entity is not appreciated.

During the past year 110 cases of all classes of dysentery were admitted to Ancon Hospital, and of this number only twenty-one were due to infection with *Entamoeba histolytica.*

Owing, however, to the importance of this form of dysentery in the sick-rate in the tropics, and its recurrence, chronicity and complications, the greater part of this paper will be devoted to the method of treatment adopted and the results obtained.

Three distinct varieties of *Entamoeba* have been recognized in the Canal Zone as parasitic in the human alimentary canal: the *Entamoeba histolytica* of Schaudinn, the *Entamoeba tetragena* of Viereck and the *Entamoeba coli* of Schaudinn. The last-named is apparently harmless, having been found in the dejecta of dysenteric and non-dysenteric patients alike; we know that it has persisted for at least three years in two patients under constant observation, without having given rise to any dysenteric symptoms. Therefore we do not consider it as a pathologic species.

The *Entamoeba histolytica* is encountered here most frequently and is responsible for almost all of our cases of amebic dysentery. If the disease produced by this species is not properly treated it tends to relapse and to become chronic; by metastatic development it is also responsible for nearly all of the hepatic, pulmonary and brain abscesses that occur in Ancon Hospital.

In the treatment of dysentery associated with this species we have secured brilliant results by the use of bismuth subnitrate, as will be shown later.

During the past year, Dr. S. T. Darling, Chief of the Board of Health Laboratory, has shown that *Entamoeba tetragena* also is present here. In another case at present in the hospital, which will be reported by Dr. W. M. James, and the clinical course of which has been followed by him for several months, it has been shown that *tetragena* infection is associated with a dysentery, chronic in character, tending to relapse, and that this species is not affected by the bismuth treatment, which is so destructive to *histolytica*. It is possible that against *E. tetragena* ipecac has a specific action. If this be true this fact will tend to harmonize the differences of opinion held by various authors as to the value of the ipecac treatment in amebic dysentery. In James' case, rest in bed and dietetic treatment has been all that has been necessary on two occasions to clear up the symptoms, but repeated doses of Epsom salts have twice brought about a relapse. The dysentery does not appear to be so severe as that produced by *histolytica*, but its tendency to relapse makes it an important factor in tropical dysenteries.

TREATMENT

From a previous article I quote the following paragraphs on treatment:[1]

> A variety of methods have been tried in this hospital with varying success. They resolve themselves into oral medications and local treatment in the form of irrigations. Among the former may be mentioned castor oil, magnesium sulphate, opiates, ipecac, and bismuth and opium; among the latter, quinin irrigations in varying strengths, but usually 1 to 500, thymol irrigations 1 to 2,000 or 3,000, combinations of them, silver nitrate 0.25 per cent., boric acid, starch and laudanum, tannic acid, copper sulphate, normal salt solution and plain water, warm and cold.
>
> Of all the different methods used, one stands out preeminently; that is, bismuth by the mouth, and simple irrigations, either normal saline or plain water per rectum. The method is simple, harmless and physiologic, and, as our statistics show, more than justifiable. Absolute rest is enjoined, an absolute milk diet, of which there should be an abundance, saline or water irrigations and bismuth subnitrate in heroic doses. We do not object at the beginning, if tenesmus and distress be very severe, to an occasional hypodermic of morphin and atropin, but as a routine measure it is not considered good treatment.

This method of treatment was begun at Ancon Hospital in 1908 and the uniformly satisfactory results were such that it remains to-day our standard. Of the last sixty-eight patients treated in this manner, extending over a period of thirty months, we have not lost one whose case was uncomplicated. Further, in 190 cases fully treated by this method we have had no traceable relapses and no liver abscess.

Any method of treatment to be of value must be physiologic. That our method meets this requirement I shall now endeavor to prove. The responsible organism, that is, the *Entamoeba histolytica* of Schaudinn, and the pathologic condition have already been described;[1] also the probable symbiotic character of the organism, that is, the necessity of associated growth with some putrefactive or fermentative bacteria. In this connection it is interesting to note that the fecal odor in the bowels is confined to the lower part or extends but slightly into the ileum, and that the location of the amebic ulceration corresponds precisely. It is stated that the lesions generally occur in the cecum, sigmoid and rectum. This can be explained on the basis that these are the more dependent parts of the bowel, or that it is in the cecum where the entamebas first come in contact with the putrefactive bacteria, there meeting the symbiosis necessary to their existence; it is in the rectum and sigmoid, and also in the cecum, that the feces with their bacterial contents are longest in contact with the mucous membrane of the bowel.

It is with a consideration of these conditions, that we advocate, after a preliminary dosage of castor oil, the following treatment:

1. Rest, in order to increase the patient's resistance and give the minimum of movement to the bowel. This is classical treatment in all acute infections.

2. A generous milk diet, because it is physiologically nutritious, admits of a minimum of intestinal putrefaction, and is practically absorbed before it reaches the large bowel, which, owing to its ulcerative condition, is more or less physiologically inert.

3. Saline or plain water irrigations, one to three daily, purely for the purposes of lavage in order to rid the bowel of toxic products.

4. The administration of bismuth subnitrate in heroic dosage. We give a heaped teaspoonful, equivalent to about 180 grains by weight, mechanically suspended in almost a tumbler of plain or preferably effervescent water, every three hours, night and day in severe cases, lessening the amount only when improvement takes place. The mechanical suspension in a large amount of water is essential, otherwise it is prone to form a paste, thus lessening its physiologic effect. When the stools are fewer in number and the tongue becomes clean, the number of doses is reduced to three or four daily. In very chronic cases it is wise to continue one or two doses daily for a month after convalescence is established. The absolute milk diet is not departed from until the tongue clears, the tenderness over the bowels disappears, the lack of elasticity in the abdominal skin returns to normal, and the number of stools has been reduced to one in twenty-four or forty-eight hours. Then a normal diet may be gradually resumed as in convalescence from typhoid. We do not object to, but recommend, plain fruit-juice once or twice a day instead of the milk during the acute attack.

How does bismuth subnitrate act? In 1883, Theodore Kocher demonstrated that the insoluble preparations of bismuth are actively antiseptic to fermentative and putrefactive bacteria. It is further known, clinically, that on the mucous membrane of the intestine, bismuth has a local sedative and astringent action. In the former paper by Deeks and Shaw it was suggested that the curative power of bismuth nitrate in amebic dysentery rested largely on its antiseptic properties against the symbiotic putrefactive or fermentative bacteria. Now, however, we are led to believe that the process is more elusive than we had believed. Dr. S. T. Darling has shown that the bismuth salt locks up the free sulphur in the intestine on the surface of its crystals and even seizes on the nuclear sulphur of the bacteria, turning it very black. Bismuth salts also affect the general flora of the intestines, destroying certain organisms and influencing others. Dr. W. M. James of this hospital has shown that the bismuth salts have a direct influence on the entamebas or on their food-supply, as degenerating organisms in large proportion are found as soon as the bismuth is seen in the stools. The entamebas show early degenerative changes. They become vacuolated and swell up, and the nuclei are plainly visible, and fragment. As I have noticed repeatedly, the characteristic fecal odor disappears after bismuth in this dosage.

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[1] Deeks and Shaw: Treatment of Amebic Dysentery, Med. Rec., New York, Nov. 13, 1909.

After a few days, depending on the severity of the lesions, the free sulphur resulting from bacterial decomposition of proteins is all combined and the bismuth salt, scarcely changed in appearance, is seen in the dejecta. In only two instances in our experience have *Entamoebae histolyticae* been observed in the stools after four days' treatment by the bismuth method, no matter how grave the condition was when the treatment was begun. In one of these cases entamebas were found alive on the fifth day but not afterward, and in the other, after disappearing on the third day, they reappeared again on the eighth day in large numbers, evidently from the discharge of an amebic abscess in the intestinal wall, as the patient afterward made an uninterrupted recovery.

Untoward effects of large doses of bismuth are frequently referred to in the literature. We have had four cases showing a form of bismuth subnitrate poisoning. Two were in patients suffering with diffuse nephritis and associated acute colitis; one in a patient with carcinomatous colitis, and one in a patient with pernicious malaria with diarrhea. The patients became cyanotic, but with full pulse and good heart action. Though the symptoms were alarming, recovery immediately followed the administration of magnesium sulphate. The phenomena were probably due to the liberation of nitrous oxid or some similar gas in the blood, through the decomposition of the bismuth salt, or, perhaps, to contamination of the bismuth salt with arsenic, as suggested by Dr. H. T. Summersgill.

One more drug should be mentioned because of its general use in the treatment of this affection: opium and its derivatives. Though an occasional hypodermic of morphin and atropin may be administered at the onset of the attack, particularly if the tenesmus is severe, still we deprecate its general use in the treatment of this affection: (*a*) because it interferes with the production of enzymes and enzyme digestion and (*b*) because it lessens intestinal peristalsis, thus favoring the retention of toxic products that irritate the normal mucous membrane, which we should endeavor to eliminate. Exceptional cases are occasionally seen in such extreme conditions of emaciation and exhaustion and showing such toxic symptoms that it is not wise to temporize; but immediate surgical interference is then indicated. The method which has given the most satisfactory results is that devised by Dr. A. B. Herrick of this hospital. He performs a wide open cecostomy, which has three great advantages: (1) it prevents any ingested food from reaching the ulcerated surface of the colon; (2) it admits of a more generous and varied diet; (3) it enables free irrigation of the large bowel, so as to wash out toxic products. The sole objection is the length of time it incapacitates the patients, because a restorative operation is necessary later. This, however, is of small importance, as by its means alone some lives can be saved.

No matter what methods of treatment are advocated the burden of proof as to their respective values rests on the results, temporary or permanent. Particularly is this true of amebic dysentery with its well-known tendency to recur or relapse. It will be my object now to analyze the results of methods of treatment conducted in Ancon Hospital from the beginning of 1905 to the end of 1911, a period of seven years, and trace as far as possible the previous and subsequent histories of the patients for relapses and complications.

During this period we have admitted 282 cases, diagnosed as amebic dysentery, with a total mortality by all methods of treatment of sixty-one, or 21.6 per cent.

TOTAL ADMISSIONS TO ANCON HOSPITAL, CASES OF AMEBIC DYSENTERY AND PERCENTAGE OF DEATHS

Year	Total Admissions	Amebic Dysentery	Deaths	Percentage of Deaths
1905	7,666	10	3	30
1906	13,172	55	20	36
1907	14,012	88	26	29
1908	15,378	27	5	18
1909	18,531	44	3	6.8
1910	20,122	37 (34)	4 (1)	10.8 (2.9)
1911	22,275	21	0	0

It can be seen at a glance that, notwithstanding our increase in hospital admissions, there has been on the whole a decrease in amebic cases, and a very marked decrease in the mortality in successive years. It has been argued that the lowered rate of mortality is due to improved sanitation. We are willing to concede that sanitation has wrought miracles in lessening the number of cases, but as to mitigating their severity, we join issue. Some of the patients admitted could not have had a more severe attack and remain alive; in fact, some have died within twenty-four hours after their admission. From July 1, 1909, to Dec. 31, 1911, a period of thirty months, seventy-four patients were admitted; the cases were complicated and uncomplicated and of all grades of severity. Necessarily, in a hospital of this size, not all the cases came under one method of treatment. In this series of seventy-four cases it was fortunately so, because it enabled us to compare the results of the different methods adopted. Sixty-four of the patients were treated with the method we recommend, which we shall indicate as the bismuth-milk-saline method of treatment. Two of these patients had not made satisfactory progress on the fifth and twelfth days respectively, and cecostomy was performed.

In this series of sixty-four cases there was one death, that of a United States citizen of German birth, admitted March 7, 1910, with a double tertian malarial infection in addition to the amebic dysentery. His temperature on admission was 102. His urine contained hyaline casts, renal epithelium, pus and albumin, evidences of a severe nephritis. His stool, with the entamebas, pus, blood, etc., had also flagellates. The temperature reached normal on the second day after the admission of the patient, remaining so on the third and fourth, and the patient died on the fifth day with a temperature of 104. Unfortunately there was no necropsy, but the clinical course of the disease was not that of a straight amebic dysentery, and the complications of a severe diffuse nephritis with a double tertian infection contributed to, if they were not responsible for, the fatal termination.

Leaving this case out of consideration we had 100 per cent. of recoveries.

Of the remaining ten patients of this series one was treated with quinin irrigations (1: 1,000) in September, 1909, and returned with multiple liver abscesses the following January. Another patient was treated with quinin irrigations, 1: 2,000, and bismuth subgallate, 10 grains, with opium by mouth for seventeen days. He was admitted September 23, and returned November 6 of the same year. He was then given the treatment we recommend, and has not since come back. One patient was not dieted, but took large doses of bismuth at irregular intervals. He relapsed and was later admitted to Colon Hospital. Two other patients died on the day of admission, and received no other treatment but stimulation. One patient died of general peritonitis from an unrecognized liver abscess which ruptured on the under surface of the left lobe; another of a pernicious estivo-autumnal malaria within forty-eight hours of admission, and a third of multiple liver abscess, complicated by chronic nephritis, one week after admission. This patient was operated on and a large abscess drained.

This leaves two patients to be accounted for. One, a Panamanian, died on the eleventh day after admission with a complicating disseminated tuberculosis, secondary to ulcerative pulmonary lesions. The cause of death in this case can scarcely be attributed to amebic dysentery. The last fatal case to be considered in this series was a Martiniquan, admitted May 3, 1910. He was treated for ten days by the bismuth-milk-saline method, but not improving, a cecostomy was performed, and he died the next day. The necropsy findings were emaciation, suppurative conjunctivitis, chronic aortitis, chronic adhesive pleuritis, acute splenic tumor, cloudy swelling of the kidneys and liver, and acute and chronic colitis (chronic amebic and acute healing processes). The interesting feature about this case is that notwithstanding the patient's emaciated condition on admission and his lowered powers of resistance, the necropsy revealed, on the twelfth day after admission and following the bismuth-milk-saline method of treatment, acute and chronic healing ulcers from which "smears failed to show entamebas."

If, then, we leave out of consideration the two patients who died within twenty-four hours after their admission, the patient who died from tuberculosis—this was a complicated case—and the two who died from liver abscess and pernicious malaria, we have treated in the last two and one-half years fifty-five cases with one death, a mortality-rate of 1.8 per cent.

That amebic ulcers do heal under this method of treatment we have ample evidence to prove. Dr. H. T. Clark informs us that at autopsy in three of the cases in which the dysenteric process was complicated by other diseases, but was treated by this method, two of them having had cecostomy as well, active pink granulations were found, running out from all the islets and strands of the mucosa not destroyed, which in some cases quite filled the ulcer.

CASE REPORT

M. C., Hospital No. 86,158, Jamaican negro, was admitted Oct. 11, 1910, with typical amebic dysentery, and a subnormal temperature which did not rise above normal until the fifth day. He was treated by the bismuth-milk-saline method, with a disappearance of the dysentery on the eleventh day. On the fifth day, however, his temperature began to increase and to intermit, and he died Jan. 21, 1911, with a general disseminated tuberculosis and chronic nephritis. The interesting feature of this case is that the necropsy revealed a great number of cicatrices throughout the cecum and rectum of the healed amebic type. This was an instance of cure of amebic dysentery, in the presence of developing fatal tuberculosis and chronic nephritis, and it is not a solitary example of its kind. These healed cicatrices are stellate, pigmented, somewhat depressed, and contain a lace-like collection of arterioles, according to Dr. Clark, and the healed mucosa seems to functionate.

It was stated in my previous paper[1] that the appendix is frequently involved, and this is the only organ in which Dr. Clark has been able to find amebas at the necropsies in most of the cases treated with bismuth. This is interesting because the appendix is almost inaccessible to the bowel contents, which come into it from the cecum. As the cecum is very frequently involved, so is the appendix. The cecum, however, is more accessible to treatment and heals before the appendix does, for in the latter the putrefactive bacteria can subsist only as long as suitable pabulum is provided for them from the cecum. When this is rendered antiseptic and the appendix is not further supplied, then the bacteria must die, with consequent death of the entamebas.

In twelve of the twenty cases necropsied by Dr. Clark, liver abscesses, single or multiple, complicated the dysentery. This complication is a very serious one, particularly if the abscess be of the acute fulminating type, in which case the disease generally runs a rapidly fatal course.

I have demonstrated that amebic ulcerations do heal by the bismuth-milk-saline method of treatment even under the most adverse complicating conditions; now what about relapses? In order to ascertain as far as possible the number of relapses that have occurred in Ancon Hospital, we have examined carefully the records of our 282 cases as to the number of admissions and the kind of illnesses subsequent to the admissions for amebic dysentery. We have been able to trace the records of only forty-six such patients. Some have undoubtedly left the Isthmus, and some have been admitted to other hospitals. Of these forty-six patients with one or more subsequent visits to the hospital twenty-nine were treated by the bismuth-milk-saline method, and we find that not one recurrence followed—in other words, 100 per cent. of perfect recoveries. Of these, one patient had been previously treated with quinin irrigations.

Of those who had been treated by other methods in vogue here, such as irrigations of different kinds, bismuth subnitrate in small doses, with or without opiates, opiates alone, bismuth subgallate, ipecac, etc., there were seventeen readmissions; of these patients ten, or 59 per cent., relapsed once or twice. This is eloquent testimony for the efficacy of the bismuth-milk-saline method of treatment. All of these forty-six patients had from one to eight subsequent admissions, and in almost all instances the stools were examined by routine at every admission. Those considered as cured gave in subsequent admission no history of having had dysenteric or diarrheal symptoms following their treatment.

What evidence have we as to the development of liver abscesses after treatment by the bismuth-milk-saline method? Eighty patients with liver abscess have been admitted to this hospital. In but one case was this method of treatment administered, at a previous hospital admission, and that for three days only. We have every reason to feel, therefore, from clinical experience and pathologic evidence, that, if the treatment be carried out as I have detailed above, we can anticipate perfect cures, no relapses and no metastatic abscesses. This holds good for acute as well as for chronic cases. Our statistics show that those who sought hospital relief early, after the onset of the disease, were those most quickly cured; still, chronicity is not a hopeless or deterrent factor, and relief quickly follows treatment. We have admitted patients with chronic cases which were contracted in the United States, Brazil and the Philippines. These patients had resisted treatment for years, but recovered promptly under the bismuth-milk-saline method of treatment. One patient had been under treatment for eleven years, during which time formed stools had been passed for six days only. Twelve days' treatment in the hospital and about a month outside with reasonable diet precautions effected a perfect result.

It has been stated above that the *Entamoeba histolytica* is symbiotic, or associated with some other organism in its life-history; further, that metastatic abscesses are frequently found in the liver, and occasionally in the lungs and brain. In the latter two situations, they are generally found secondary to those in the liver and are secondarily infected, thus having associated bacteria to elaborate their nutriment.

We need then consider only those abscesses which develop in the liver and which for the most part are sterile, showing no evidence of symbiosis. In explanation of this it may be said that symbiosis means that the elaboration of metabolic products by the one is necessary to form suitable pabulum for the other organism.

The liver is the great metabolic gland of the body, where the absorbed products from the gastro-intestinal tract in the portal circulation are elaborated. It is more than probable that this medium is all that is necessary to form suitable nourishment for the entamebas when they have gained access to it through the portal circulation. It has been suggested that the entamebas carry their symbiotic organisms with them when they form metastases. If this is true, then cultures ought not to be so frequently sterile. The abscesses are the result for the most part of necrosis of liver tissue through the action of the *Entamoeba histolytica* which appears to have the action of an enzyme on the tissues. We have seen two cases here in which enormous sloughs slowly developed from an initial liver abscess. All the tissues melted before the process and no measures seemed to stay its course.

I believe that the frequency of liver abscess and its comparative absence in other organs, except when secondarily infected, can be best explained on this theory, that in the liver the cell metabolism elaborates a medium suitable for the development of the entamebas which in the intestines require symbiotic or associated organisms.

I have, in conclusion, not only shown results, but have given a reasonable physiologic explanation of them, and am willing to submit my results to other workers for criticism or trial. No matter what may be said, the conclusions here arrived at are drawn from, and rest on, the analysis of case records.

SUMMARY

1. Amebicidal irrigations are useless.
2. The bismuth-milk-saline method of treatment gives, in almost all cases, a perfect result, if the lines indicated for its administration are adhered to.
3. This method of treatment gives a maximum of cures with a minimum of recurrences and metastatic developments, the most frequent of which is liver abscess. This offers a serious complication in the treatment, particularly if of the acute or fulminating type.
4. Occasionally, in extreme cases, surgical interference, after Dr. A. B. Herrick's method, is indicated.

A NOTE ON THE CULTIVATION OF MALARIAL PLASMODIA AFTER THE METHOD OF BASS AND JOHNS *

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Shortly after the publication of the paper by Bass and Johns[1] on the cultivation of malarial plasmodia, preparation was made to try their method. Cases of malarial fever, which a little earlier in the season had been quite frequent in our wards, were at this time rather rare; but in the course of the following three weeks or so three cases were admitted. Two of these were estivo-autumnal and one was a quartan.

The technic outlined by Bass and Johns was adhered to closely, and no essential deviation was made from their description. In two of the cases the attempt was made to cultivate the second generation. In doing this use was made of only one of the methods given by Bass and Johns. This method was by the test-tube fitted with the little shelf of paper supported by a piece of glass rod, as described in their paper.

In the first case, at the time blood was drawn, smears from the punctured ear showed a rather heavy infection of *Plasmodium falciparum,* small ring forms. This culture was made in the late afternoon. The next morning many larger, pigmented forms were observed. The culture was returned to the incubator, but on later examination it was evident that growth had ceased. I think it very likely that this culture was killed by undue tilting of the tube in handling. The parasites, according to Bass and Johns, grow only in the superficial layer of blood-cells, and if the tube is tilted and this top layer disturbed it results in death of the parasites.

In the second case, at the time blood was drawn, smears from the ear showed a light infection of *P. malariae.* Indeed, the parasites were quite scanty, only half a dozen being found in a twenty minutes' search of a well-stained slide. The culture from this case was not successful.

The third case was another heavy infection of *P. falciparum.* All forms seen in the smear from the ear, at the time blood was drawn, were small rings; none was pigmented. In this case, as in the second, the attempt was made to grow the first as well as the second generation. That is, the blood was drawn, mixed with the dextrose solution, defibrinated, and centrifugated to get off the serum and to eliminate leukocytes in the tube for the second generation. The tube with the little paper shelf was then prepared, and the original tube, which still had a layer of a scant half inch of serum over the red cells, was preserved also. Both were put at 40 C. In this case the parasites grew readily in both tubes and went on to sporulation, but for some reason the merozoites did not enter fresh blood-cells, and of course growth ceased. All conditions seemed favorable and this result was a disappointment.

This successful culture was made from a case of very persistent infection, which had been under treatment in our wards for some time. At the time the culture was made the patient was suffering from a fresh outbreak.

No attempt was made to differentiate varieties, but the parasites developed into large forms and rosettes in something over thirty hours. The sporulation was not uniform and continued to take place for some time. Motility was observed in the pigment granules, but ameboid movement in the parasites was not so prominent. In the tube from which the leukocytes had not been removed (original tube), phagocytosis of the rosette forms was occasionally observed. This, as Bass and Johns state, probably occurs after the parasite has digested the capsule of the red cell or otherwise damaged it, since leukocytes will not attack parasites in an uninjured red cell.

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* From the Laboratory of the United States Marine Hospital at Savannah, Ga.

[1] Bass and Johns: Jour. Exper. Med., 1912, xvi, 567.

With the Leishman stain I succeeded in staining the parasites readily when the first rosettes developed, but later for some reason I was not successful. As Bass has said, it is only necessary to see such a stained slide to feel convinced of the growth of the parasites *in vitro*, for such pictures are not observed in the peripheral blood of cases of malaria.

This brief note is made only in confirmation of the beautiful results of Bass and Johns. It is regrettable that further trials could not be made, but the cases have not been available; and it is rather late in the season now to expect them.

Bass and Johns have made a notable contribution to the study of malaria, and their paper is an extremely interesting and suggestive one on several phases of this disease. A full account of their important work will be awaited with much interest.

PARALYSIS AGITANS IN NEGROES *

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Paralysis agitans is rare in negroes. The patient whose case is here reported was the only negro among the ninety-two persons suffering from it admitted to the Philadelphia General Hospital (Blockley) during the last eight years. I find no case recorded at the Orthopedic Hospital and Infirmary for Nervous Diseases. The number of negroes treated at the latter hospital, however, is relatively small; at Blockley it is large. Dr. James W. McConnell tells me that at the clinic for nervous diseases at the University of Pennsylvania he has not found any case recorded save the patient who later came under my care at Blockley. I have never seen any other case, and in a rapid glance over the literature of the disease I have found no reference to its occurrence in the negro.

Patient.—A negro man aged 52 was admitted to the hospital June 3, 1912. His parents were black but he does not know whether any of his forebears were white. He denies syphilis, and presents no evidence of it, but admits alcoholic excess. He states that his present illness began four years ago with numbness in the right foot which slowly extended to the leg and later appeared in the other leg and hands. At the same time all his voluntary movements began to be slow, but at no time did he notice any marked tremor. He has had an intercurrent attack of general cardiac edema. During the last few months he has grown much weaker not only because of his heart trouble but locally in the arms and legs. His legs become so stiff at night that he has trouble in turning in bed, though the desire for change of position is great. He often feels hot after being in bed a short time. There is no loss of control of the bladder or rectum.

Examination.—As he sits he presents the typical appearance of paralysis agitans barring tremor—the vacant stare, the head and shoulders somewhat flexed, the fingers and thumbs in the position of holding a pen. He rises with difficulty and slowly, stands a few moments, then starts off to walk with short, shuffling steps, scarcely raising the soles from the ground, then takes larger and quicker steps and soon begins to run (festination). He must be aided in starting to walk and then can go alone. His articulation is stammering and tremulous; after he has spoken a few sentences, his speech often becomes so hurried that he cannot be understood (festination in speech). While at rest, tremor is wholly, or almost wholly, absent from the entire body. Under the influence of emotion a fine tremor develops in the hands, and when talking very rapidly some appears in the lips. The tongue is never tremulous. The knee-jerks are normal. The irides react to light and with accommodation, and the optic nerve-heads are normal. There is no nystagmus. The patient presents no signs of mental disorder. He is not of a high mental type, but there is neither imbecility nor dementia. He believes in ghosts and spirits, but has never seen or talked with any, and I am quite sure that these beliefs are racial and environmental, not pathologic. Voluntary movements of the arms are slow and weak and of the legs still slower, weaker and stiff, but there is no true palsy. Sensibility is normal over the entire body. The arteries are palpably sclerosed, and the arterial tension is high. The heart is somewhat hypertrophied and there is a loud booming mitral systolic murmur. The second aortic sound is accentuated. The abdominal organs are normal except for chronic nephritis.

Diagnosis.—Notwithstanding the absence of the characteristic tremor, the case is clearly one of paralysis agitans. Whether tremor was present earlier in his illness is impossible to discover because the patient's intelligence is not high enough, or his memory good enough, for him to give an accurate account of his early symptoms.

We know a great deal, or rather are learning a great deal, clinically about the racial incidence of disease. We know little of the causes of racial differences in susceptibility to disease. Certainly in some diseases of known mycotic origin there arises a greater or less immunity after many generations of a given race have been infected. On the other hand, an apparent racial immunity may be not racial but due to the absence of the cause of the disease. Thus until recently Irishmen in Ireland rarely had paresis, though in this country it has always been quite common among them. This apparent immunity was probably not racial but due to the infrequency of syphilis in Ireland and to the absence of the stress of life (for after all life is not so strenuous in Ireland as here) and to the frequent breaking down of all restraint when the young immigrant comes to this country. The havoc that any infectious disease appearing for the first time in a primitive race plays is well known.

To go back to the negro, Dr. Weir Mitchell showed years ago that St. Vitus' dance is very rare among negroes. In a study of locomotor ataxia made some years ago I found, as later writers have verified, that it also is rare. This is remarkable because syphilis, which surely is the great predisposing cause of tabes, is wofully frequent in American negroes, and cerebrospinal syphilis is fully as common in them as in the whites. Paresis, the first cousin if not the brother of tabes, is rapidly becoming as common in negroes who have an admixture of white blood as it is in Caucasians, though in real negroes it is almost unknown. Tabes also is occasionally seen in half-breeds.

I am entirely unable to give any reason for the rarity of paralysis agitans in negroes. It would seem that it does not altogether depend on a more sensitive, that is, a more finely balanced, nervous system in Caucasians, because in them it is not the most highly strung who are prone to the disease. Though the shock of fright is occasionally the exciting cause, it occurs most frequently in persons with good emotional and intellectual equilibrium and not so often in those who do not have good inhibition. The neurasthenic type of man is not prone to be affected. In fact, it is not proved beyond all doubt that paralysis agitans is primarily a nervous disease; it may really be muscular in origin, and the rarity of its occurrence in negroes may be due to racial differences in muscular development rather than to differences in the nature of the cells of the nervous system.

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* Read at the October, 1912, meeting of the Philadelphia Neurological Society.

Concerning the large question of nervous diseases in negroes, I think that we have enough data to warrant the following generalizations:

1. Barring epilepsy, the so-called functional nervous diseases, that is, those nervous diseases which do not have a plainly manifested and generally accepted morbid anatomy (one can surely include paralysis agitans in this group) are much less frequent in negroes than in Caucasians.
2. The gross nervous syphilitic diseases, which after all are really vascular and not primarily nervous disorders, are common, while the so-called parasyphilitic diseases are very rare.
3. Idiopathic epilepsy is as common in negroes as in whites.
4. Certain disorders occur in negroes of mixed blood which are never seen in the pure black.

1918 Spruce Street.

HEMOPHILIA TREATED BY HUMAN BLOOD-SERUM

A. H. Traver, M.D., Albany, N. Y.

In view of the fact that several cases of hemophilia were reported recently in The Journal,[1] I though a brief report of the following case might be of interest as it so clearly demonstrates the value of human blood-serum.

In April I was called to see a boy aged 5, in whose family there was a clear history of "bleeders," three of his mother's brothers having died of hemorrhage. Soon after this boy was born it was noticed that even after the slightest injuries he frequently had large black-and-blue spots. He has had several attacks of swelling of the ankles and knees said to have been "rheumatism," but probably hemorrhages into the joints.

Five days before I was called, while cutting an apple he had received a slight cut on the finger. This had been bleeding constantly since. After much trouble this hemorrhage was stopped by the application of tannic acid together with about twenty minutes' constant pressure applied by my assistant, Dr. Pitts, and myself.

In September he had his next severe hemorrhage. This time he caught his tongue between his teeth and received a slight cut. Dr. Shaw of Albany had treated the case for six days. He had tried about all the known remedies, as tannic acid, epinephrin and several injections of horse-serum, without effect. When I saw the patient on the sixth day, with Dr. Shaw, the child was very pale; his pulse could barely be felt and he was unable to sit up in bed; in fact, the case looked pretty hopeless. As the only thing left to be tried was human serum I suggested that. After carefully preparing the father's arm I opened the median basilic vein and filled an 8-ounce sterile bottle with blood. This bottle was placed in an ice-box for ten hours. Then 20 c.c. of the serum were injected subcutaneously into the child's buttocks. Within twenty minutes there was a firm clot forming on the tongue. Previously there had been no tendency toward clotting. This clot gradually grew larger for twelve hours. As it was becoming so large that it was difficult for the child to close his mouth, the clot was removed. It was feared that hemorrhage would start on removing the clot, but in this we were happily disappointed. I gave a second injection eight hours later and a third sixteen hours later as a measure of precaution, but it did not appear necessary as there was but slight bleeding after the first injection.

The child has had no injury since September, so it remains to be seen if hemorrhage is troublesome in the next accident.

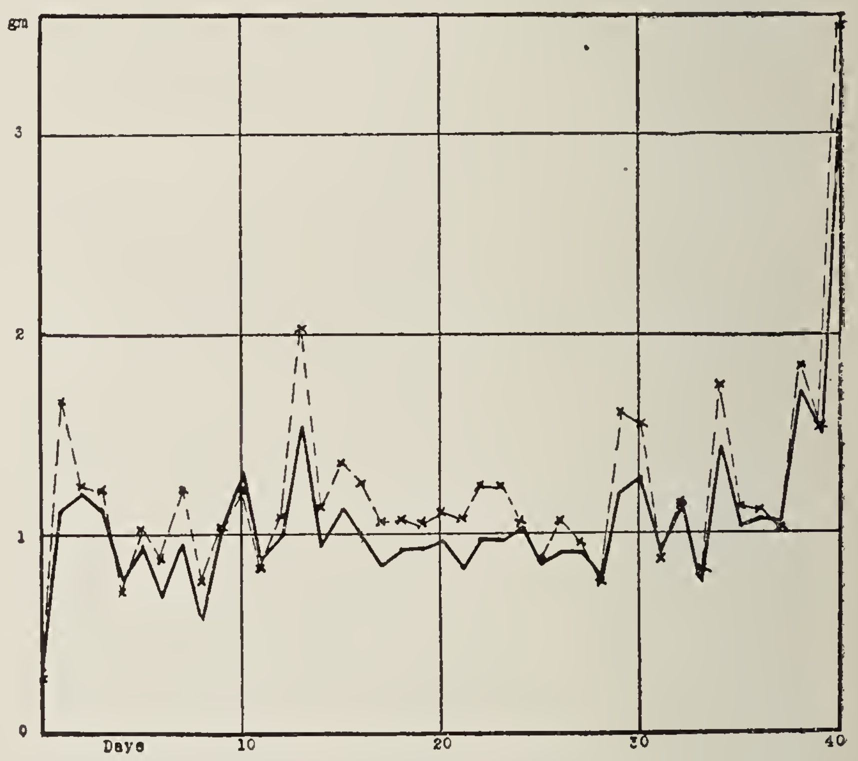
It was interesting to watch the clot form within a few minutes after the injection, while there was no tendency toward clotting before. I think the injection of the human blood-serum saved this patient's life, as nothing else seemed to have the least effect.

27 Eagle Street.

THE RUHEMANN URICOMETER FOR URIC ACID ESTIMATION *

H. C. Bradley, Ph.D., and E. Bunta, Madison, Wis.

A critical examination of the Ruhemann method for the clinical estimation of uric acid was undertaken in this laboratory, and the results may be of interest to clinicians. The urine of a single individual was examined for a period of forty days. The dietary was so arranged that the first estimations were made after a purin-free period and represent therefore the individual's endogenous uric acid excretion. There followed periods of mixed and vegetarian diets, with and without violent exercise, with and without excessive fluid ingested. The test concluded with a period of purin-rich diet, pushed to the extreme during the last twenty-four hours, so that the subject attained the extraordinary excretion of 3 gm. per day. The accompanying chart represents the fluctuations in uric acid output as measured by the uricometer and by the standard method of Folin. The former requires about ten minutes and no special equipment beyond the empirically graduated tube and the special iodin solution; as is well known, the latter requires twelve hours to complete a determination; a number of special solutions, and good technic. The latter is seldom used clinically except in hospitals well equipped with chemical laboratories and trained technicians. The former could readily be applied by the average practitioner.



Fluctuations in uric acid output as measured by the Ruhemann uricometer and by the Folin method. The solid line represents the Folin figures; the line composed of dashes, the uricometer figures.

As will be seen, the two methods show a fair degree of parallelism. The uricometer tends to give abnormally high readings, especially as the absolute amount of the uric acid increases. It may exceed the absolute figure by as much as 30 per cent. Its inaccuracies are therefore large and progressively so as the level of excretion rises. This may be due to inherent inaccuracies of the method, such as incorrect empiric graduation of the tube, or to the presence in the urine of other substances which absorb iodin. The purin bases, albumin; diacetic acid and various drugs may be instanced. In pathologic conditions the possibility of error from this source is of course great.

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[1] Barringer, B. S.: Unilateral Kidney Hemorrhage Controlled by Injection of Human Blood-Serum, The Journal A. M. A., Oct. 26, 1912, p. 1538. Reichard, V. M.: Spontaneous Hemorrhage of the New-Born with Recovery, ibid., p. 1539. Perkins, M. J.: Diphtheritic Serum Used to Control Bleeding in a Hemophiliac, ibid., p. 1539. Claybrook, E. E.: A Case of Hemophilia, ibid., p. 1540. Blood-Serum in Hemophilia, editorial, ibid., p. 1549.

* From the Department of Physiology, University of Wisconsin.

In general, then, the uricometer method of estimating uric acid is accurate within reasonable limits so long as the amount indicated is low, and the lower the level of uric acid metabolism registered by the method, the greater the presumption of accuracy. Thus at a level of 0.3 gm. per day the probable errors will not exceed 10 or 15 per cent.; above 1 gm. no limit can safely be put on the degree of error in pathologic cases. Knowing these inherent inaccuracies, the clinician who is unable to make the long Folin determination might still apply the Ruhemann uricometer with advantage when it is desirable to define the general uric acid metabolism of the patient. If the level is low it will be well indicated by this method.

New and Nonofficial Remedies

The following additional articles have been accepted by the Council on Pharmacy and Chemistry of the American Medical Association. Their acceptance has been based largely on evidence supplied by the manufacturer or his agent and in part on investigation made by or under the direction of the Council. Criticisms and corrections are asked for to aid in the revision of the matter before publication in the book "New and Nonofficial Remedies."

The Council desires physicians to understand that the acceptance of an article does not necessarily mean a recommendation, but that, so far as known, it complies with the rules adopted by the Council.

W. A. Puckner, Secretary.

CALCIUM GLYCEROPHOSPHATE.—Calcii Glycerophosphas. Calcium glycerophosphate is monohydrated calcium glycerophosphate $Ca(CH_2OH.CHOH.CH_2)PO_4.H_2O$ the normal calcium salt of glycerophosphoric acid, $H_2(CH_2OH.CHOH.CH_2)PO_4$, containing not less than 90 per cent. of anhydrous normal calcium glycerophosphate.

Calcium glycerophosphate is a fine white powder, odorless and almost tasteless; somewhat hygroscopic.

It is slightly (about 1-400) soluble in water; almost insoluble in boiling water; easily soluble in dilute acids; insoluble in alcohol or in ether.

The aqueous solution is alkaline to red litmus paper. A cold, saturated, aqueous solution yields white, iridescent scales when heated to boiling (anhydrous calcium glycerophosphate).

At about 130° C. (266° F.) calcium glycerophosphate loses its water of hydration. When heated above 170° C. (338° F.) the salt is decomposed with evolution of inflammable vapors, and at a red heat it is converted into calcium pyrophosphate.

On the addition of ammonium oxalate solution, the aqueous solution yields a white precipitate, insoluble in acetic acid or in a solution of citric acid, but soluble in hydrochloric acid. With lead acetate solution the aqueous solution yields a white precipitate which is soluble in nitric acid.

If 1 Gm. of calcium glycerophosphate be dissolved in 10 Cc. of diluted nitric acid and an equal volume of ammonium molybdate test solution be added, no precipitate should be formed within one hour.

If 1 Gm. of calcium glycerophosphate be dissolved in 100 Cc. of 1 per cent. hydrochloric acid, the solution should not respond to the U. S. P. time-limit test for heavy metals.

If 0.1 Gm. of calcium glycerophosphate be dissolved in 10 Cc. of diluted nitric acid and 1 Cc. of silver nitrate solution added, not more than a distinct opalescence should appear within one minute.

If 0.1 Gm. of calcium glycerophosphate be dissolved in 10 Cc. of diluted hydrochloric acid and 1 Cc. of barium chloride solution added, no distinct turbidity should appear within one minute.

If 1 Gm. of calcium glycerophosphate in water be titrated with tenth-normal potassium hydroxide, using phenolphthalein as indicator, not more than 1.5 Cc. of the alkali should be required.

If 1 Gm. of the finely powdered salt be shaken with 25 Cc. of alcohol, the mixture filtered, the filtrate evaporated on the water bath and the residue dried for one hour at a temperature not exceeding 70° C. (158° F.), the residue should weigh not more than 0.01 Gm.

If from 0.5 Gm. to 1 Gm. of the finely powdered salt be dried to constant weight at 130° C. (266° F.), the loss should not exceed 10 per cent.

If from 0.3 Gm. to 0.5 Gm. of anhydrous calcium glycerophosphate be weighed into a Kjeldahl flask, 10 Cc. of a mixture of equal parts of fuming nitric acid and concentrated sulphuric acid added, the mixture heated until oxidation is complete, a little more fuming nitric acid being added if necessary, the solution diluted with 50 Cc. of water and the phosphorus determined in the usual way, by precipitation with ammonium molybdate and final weighing as magnesium pyrophosphate, the weight should correspond to from 14.16 per cent. to 14.75 per cent. of phosphorus.

If from 0.3 Gm. to 0.5 Gm. of anhydrous calcium glycerophosphate be dissolved in 20 Cc. of a 5 per cent. solution of citric acid, 80 Cc. of water added, the calcium precipitated as oxalate in the usual way and weighed as calcium oxide, the calcium oxide should correspond to from 18.7 per cent. to 19.8 per cent. of calcium.

Actions and Uses.—Glycerophosphates were introduced as "nerve foods" and tonics on the theory that their phosphorus, being a step nearer lecithin, is assimilated more readily than that of hypophosphites. Neither the experimental nor the clinical evidence is considered conclusive by all authorities. Recent animal experiments indicate that glycerophosphates possess no advantages over inorganic phosphates in phosphorus metabolism.

Dosage.—0.2 to 0.65 Gm. (3 to 10 grains) in powders, wafers, capsules or tablets, suspended in water or syrup, or dissolved by the addition of sufficient citric acid or diluted hydrochloric acid.

Non-Proprietary Preparation:

Calcium glycerophosphate, Monsanto.—Manufactured by the Monsanto Chemical Works, St. Louis, Mo.

SERUM ANTIDIPHTHERICUM AND ANTIDIPHTHERIC GLOBULINS (See New and Nonofficial Remedies, 1912, p. 201).

Slee Laboratories, Swiftwater, Pa. (The Abbott Alkaloidal Co., Chicago).

Slee's Refined and Concentrated Diphtheria Antitoxin.—Diphtheria Antitoxin (Slee's concentrated), prepared according to Banzhaf's method and preserved in 0.25 per cent. trikresol, contains less than 20 per cent. of solids. It is supplied in packages containing 1,000, 2,000, 3,000, 4,000 and 5,000 units, in vials and also in syringes.

PHARMACEUTICAL PREPARATION ACCEPTED FOR N. N. R.

The following dosage form of an accepted proprietary article has been accepted for N. N. R.:

Vacules Cornutol.—Each vacule contains Cornutol 30 Cc. (1 fluidounce) in sealed ampoules. The air in the container is removed before sealing, whereby, it is claimed, deterioration of Cornutol is retarded.

Therapeutics

DISTURBANCES OF THE HEART

TREATMENT OF BROKEN COMPENSATION

(Continued from Vol. LIX, page 2317)

E. MEDICATION (CONTINUED)

2. *Cardiac Stimulants.*—A cardiac stimulant is a drug that makes the heart beat more strongly and the frequency becomes more nearly normal. The drugs named as cardiac stimulants, however, camphor, alcohol and ammonia, do not leave a heart better than they found it—they are not cardiac tonics.

Camphor: This is one of the best cardiac stimulants that we possess. It is a quickly acting nervous and circulatory stimulant, acting principally on the cerebrum and causing a dilatation of the peripheral blood-vessels. No subsequent weakness follows after a dose of camphor. Too much will make a patient wakeful, a little often quiets nervous irritability. It should be used as a cardiac stimulant during serious illness more frequently than it has been, and during the endeavor to make a non-compensating heart again compensatory camphor will often act for good. The dose is 2 teaspoonfuls of the camphor-water every three or four hours, as deemed advisable. Each teaspoonful represents a little more than ¼ grain of camphor. The spirits of camphor of course may be used, if preferred.

For cardiac emergencies ampules of sterile saturated solutions in oil are now obtainable and are valuable. Such hypodermatic stimulation acts quickly, and may be repeated every half hour for several times, if the patient does not respond. The solution should be injected slowly, and as a rule intramuscularly.

Many times while other measures are being used to repair a broken compensation, camphor makes a splendid circulatory and nervous bracer. Camphor has long been used as a so-called antispasmodic in hysteric or other nervously irritable persons. It really acts as a stimulant to the higher centers of the brain, promoting more or less nervous control. Perhaps its ability to increase the peripheral circulation may be one of the reasons that it seems at times to be almost a nervous sedative by relieving internal congestion. As just stated, after the camphor action is over there is no depression. This is not true of alcohol.

Alcohol: It is of course now generally understood that alcohol is not a cardiac stimulant in the sense of its being more than momentarily helpful to a weak heart. If alcohol is pushed when a heart is in trouble, the secondary vasodilatation and more or less nerve prostration and muscle debility will cause greater circulatory weakness than before it was administered. To obtain cardiac stimulation from alcohol it must be given in strong solutions, generally in the form of whisky or brandy, for local irritation of the mouth, esophagus and stomach; reflexly the heart is stimulated and the blood-pressure rises. As soon as complete absorption has taken place the blood-pressure falls. For continuous stimulation another dose of alcohol must be given before this depression occurs. This may be in from one to three hours. To continue such stimulation the dose of alcohol must be increased. The future of such treatment means an alcoholic sleep with depression, alcoholic excitement that is not desired, or profound nausea and vomiting, with peripheral relaxation and cold perspiration. Obviously none of these conditions is desirable; but in arteriosclerosis, or when the blood pressure is high and the heart labors under the disadvantage of contracting against an abnormal circulatory resistance, alcohol may act perfectly to relieve this kind of circulatory disturbance. In this condition the alcohol should not be given concentrated, and as soon as it is thoroughly absorbed vasodilatation occurs, peripheral circulation and therefore warmth is increased, and the heart is relieved of its extra load. In such instances, in proper doses not too frequently repeated, rarely more than 1 or 2 teaspoonfuls every three hours, alcohol is a valuable drug. Such good action of alcohol is often seen when the surface of the body is cold from chilling or the extremities are cold from vasomotor spasm. A good-sized dose of alcohol, best given hot, equalizes the circulation and acts for good. On the contrary, it is obvious that, if the patient is cold from collapse and there is cold perspiration and very low blood-pressure, alcohol is not the drug indicated, although one dose may be of benefit while other more slowly acting cardiac tonics or stimulants are being administered.

During serious prolonged illness and when the patient has not had sufficient food and is not taking sufficient food, alcohol in the form of whisky or brandy, not more than a teaspoonful every three hours, acts as a necessary food, and will more or less prevent acidosis from starvation.

It will be seen that alcohol, except possibly in a single dose occasionally, or for some special reason, is rarely indicated in broken compensation.

When alcohol is administered regularly, whether during a fever process or for any other reason, if it causes a dry tongue, cerebral excitement, flushed face and a bounding pulse, or if there is the odor of alcohol on the breath, the dose is too large, and alcohol is contraindicated.

Ammonia: In the form of ammonium carbonate or the aromatic spirits of ammonia this has long been used with clinical satisfaction as a cardiac stimulant. Probably, however, it is seldom wise to use ammonium carbonate. It is exceedingly irritant, and constantly causes nausea, perhaps vomiting, and often heart-burn or other gastric disturbance. It has no value over the pleasanter aromatic spirits of ammonia, which is essentially a solution of ammonium carbonate. The dose of the aromatic spirits is anywhere from a few drops to half a teaspoonful; given with plenty of water. It is a quickly acting stimulant, with an effect much like alcohol, followed by very little or no depression. It is more of a cerebral irritant than alcohol, and probably has but few, if any, advantages over camphor.

When but little nutriment has been taken for some days, it may be a chemical question, since ammonium compounds so readily form and become cerebral irritants, whether any more ammonium radicals should be given the patient. This is especially true with defective kidneys. In these conditions camphor is better.

To continue the action of ammonia it may be given every hour for several doses and then less frequently.

3. *Vasodilators.*—In various conditions of high blood-pressure, arteriosclerosis and even during the sthenic stage of a fever, vasodilators may be indicated. The most important are nitrites, iodids and thyroid extracts. Alcohol, as above stated, may act as a vasodilator. Aconite and veratrum viride are now rarely indicated, although possibly aconite should be used when there is high tension and the heart is acting irritably and stormily.

Of the nitrites, no preparation seems to act more satisfactorily than nitroglycerin (trinitrin, glyceryl, nitratis, glonoin). Its action may not be so prolonged as other forms of nitrite such as sodium nitrite or erythrol tetranitrate, but it is not irritant, and only a little less rapid than nitrite of amyl, and although the marked dilatation lasts but a short time, often apparently only for minutes, still, when frequently repeated or given a few times (from four to six) in twenty-four hours, it frequently keeps the blood-pressure lower than it would be without the drug. In diseases of the heart the sudden vasodilatation caused by amyl nitrite inhalations is indicated only in angina pectoris. When the surface of the body tends to be cold, however, when the peripheral blood-pressure is increased and the heart is laboring, nitroglycerin in small doses is valuable. The dose may be from 1/400 to 1/100 grain, dissolved on the tongue or given hypodermatically for quick action, or given by the mouth for more prolonged action. In sudden cardiac dyspnea nitroglycerin sometimes acts specifically, especially when there is asthma. When a drop or two of the official spirits, which is a 1 per cent. solution, is given on the tongue, or a soluble tablet of 1/100 grain is dissolved on the tongue, the action is almost as rapid as though the dose had been administered hypodermatically. Many times when such increased peripheral circulation is desired and alcohol seems indicated, nitroglycerin in small doses will act as well. It cannot be termed a cardiac stimulant, although many times a heart acts better and the pulse is fuller and stronger after nitroglycerin than before. It should not be used, except if specially indicated, in broken compensation or in other myocardial weakness.

Iodids: These have no immediate action. The vasorelaxation that often occurs from iodid is quite likely due to the stimulation of the thyroid gland by the iodin, and the thyroid gland secrets a vasodilating substance. Small doses of iodid, however, when indicated in various kinds of sclerosis, have seemed to lower blood-pressure. While large doses may have more of this action, they are not now under consideration, and large doses are rarely indicated. Too much iodid has been given for many conditions. If the indications for an iodid are present, such as sclerosis anywhere, or unabsorbed inflammatory products, exudation in or around the heart, or an apparent insufficiency of the thyroid, from 0.1 to 0.2 gm. (1½ to 3 grains) once or twice in twenty-four hours, after meals, is all that is required to give the action desired, and the circulation is benefited. It is sometimes a question whether small doses of iodid are not actually stimulant to the heart, possibly through the action on the thyroid gland.

Thyroid Extract: In slow hearts and in sluggish circulation, often in old age, quite frequently in arteriosclerosis and in every condition of insufficient thyroid secretion (these instances are frequent), small doses of thyroid extract will benefit the circulation. Its satisfactory action is to increase the cardiac activity, slightly lower the blood-pressure, and increase the peripheral circulation and the health of the skin. If it causes tachycardia, nervous excitement, sleeplessness or loss of weight, it is doing harm and the dose is too large, or it is not indicated. The dose for the cardiac action desired is 2 or 3 grains once a day, continued for a long period.

When an improved peripheral circulation is desired, and especially when a reduction of the pressure in the heart is desired and a diminished amount of blood in overfilled arteries is indicated, the value of the sitz-bath, hot foot-baths, warm liquids (not hot) in the stomach, and warm, moist applications to the abdomen should all be remembered.

4. *Cardiac Nutritives.*—Iron: Nothing is of more value to a weakened heart muscle, when the nutrition is low, the patient anemic, and the iron of the food not properly metabolized, than tonic doses of some iron salt. It has frequently been repeated, but should constantly be reiterated, that there is no physiologic reason or therapeutic excuse for the patient to pay a large amount of money for some organic iron preparation. Small doses of an inorganic salt act perfectly, and nothing will act better. As previously suggested, a drop or two of the tincture of iron, a grain or two of the reduced iron, or 2 or 3 grains of the saccharated oxid of iron, given once or twice in twenty-four hours, is all the iron the body needs from the points of view of the blood and the heart.

Calcium: It has lately been learned that calcium is an element that a heart needs for perfect activity. Many patients who are ill lose their calcium, and they may not receive a sufficient amount of it unless milk is given them. Even if such patients are taking milk, a heart and the whole general condition sometimes seem to improve when calcium is added to the diet. It may be given either in the form of lime-water, calcium lactate or calcium glycerophosphate. If a medium-sized dose is given three or four times in twenty-four hours, it is sufficient and will often act for good.

Whether calcium can do harm in a chronic endocarditis or an arteriosclerosis to offset the value that it seems to have in quieting the nervous system and in being of value to a weak or nervously irritable heart is a question that has not been decided. Theoretically lime should not be given when there is a tendency to calcification, or when a patient is past middle age. Lime seems to be essential to youth, and to the welfare of nervous patients.

5. *Cardiac Emergency Drugs.*—Besides some of the drugs already mentioned (such as camphor hypodermatically, nitroglycerin when indicated, strophanthin hypodermatically or intravenously, caffein and strychnin), often ergot, suprarenal vasopressor principle, pituitary vasopressor principle, atropin and morphin should be considered.

When there is low blood-pressure, venous stasis, pulmonary congestion, cyanosis and a laboring, failing heart, intramuscular injections of ergot, with or without coincident venesection, may be the most valuable method of combating the condition. Life has been saved in this kind of sudden acute cardiac failure in valvular disease. When venesection is not indicated in certain conditions of low blood-pressure and heart failure, ergot has saved life. It causes contraction of the blood-vessels and seems to tone the heart. Incidentally it quiets the central nervous system. If the blood-pressure is much increased by it, the ergot should not be repeated, as too much work should not be thrown on the heart muscle. Often, howhowever, it may be administered hypodermatically with advantage in aseptic preparation as offered in ampules, at the rate of one ampule every three hours for two or three times, and then once in six hours for a few times, the future frequency depending on the indications.

Epinephrin and Pituitary Extract: The blood-pressure-raising substance of the adrenals or of the pituitary gland (hypophysis cerebri) has been much used in heart failure. These substances certainly would not be indicated in high blood-pressure; they are indicated in low blood-pressure. They have been given intravenously; they are frequently given hypodermatically. They often act rapidly when a solution in proper dose is dropped on the tongue. The blood-pressure rise from epinephrin is quickly over; that from the pituitary extract lasts longer. In large doses or when it is too frequently repeated epinephrin depresses the respiration. Pituitary extract acts as a diuretic. Sterilized solutions of both, put up in ampules ready for hypodermatic medication are obtainable, the strength offered generally being 1 part of the active principle to 10,000 of the solution. Hypodermatic tablets of epinephrin may also be obtained. Stronger solutions of 1 part to 1,000 may be dropped on the tongue, or tablets may be dissolved on the tongue. The blood-pressure is temporarily raised and the heart stimulated by these treatments, but epinephrin is not used so often for cardiac failure as it was a short time ago.

The most satisfactory action, especially from the epinephrin, is from small doses frequently repeated. Sometimes in serious emergencies it has been found to be of value when given intravenously in physiologic saline solution. The dose, of course, should be very small. In circulatory weakness in acute illness epinephrin has been given regularly, a few drops (perhaps the most frequent dose is 5) of a 1: 1,000 solution, on the tongue, once in six hours. Such a dosage may be of value, and certainly is better than the administration of too much strychnin. Much larger or more frequent doses are likely, as just stated, to depress the respiration.

Besides the small amount of blood-pressure-raising substance secreted by the hypophysis cerebri, it has not been shown that any other gland of the body furnishes vasopressor substance except the adrenals. Contrary to the generally accepted belief that this vasopressor principle of the adrenals was necessary for the proper tonus of the vasomotor system, recent experiments by Haskins and McClure[1] show that this pressor element of the adrenal secretion is unimportant; they say, "Adrenal secretion is not, therefore, a direct factor in the maintenance of the tonus of the vasomotor system." There must be some way of amalgamating previous experimentation and beliefs with these newer investigations. It would be absurd to believe that as active a blood-pressure-raising substance as epinephrin is of no value to the economy and plays no part in the function in which it seems to be the most physiologically active. More confirmatory experimentation is needed before we can believe that adrenal secretion does not play an important part in the blood-pressure of the arterioles of the abdomen as well as of the entire body.

Atropin: When there is great cardiac weakness atropin may be used to advantage. The dose is from 1/200 to 1/150 grain hypodermatically, not repeated in many hours. It will whip up a flagging heart, more or less increase the blood-pressure, cause cerebral awakening, and may often be of value. If there is any idiosyncrasy against atropin, if the throat and mouth are made intensely dry, or if there is serious flushing or cerebral excitement, the dose should not be repeated.

Morphin: This would rarely be considered as an emergency drug in cardiac weakness. A small dose of it, not more than one-eighth grain, especially if combined with atropin, will often quiet and brace a weak heart, when there is cardiac pain in particular.

Just which drug or drugs should be used and just which are not indicated can never be specifically outlined in a text-book, a lecture or a paper. The decision can be made only at the bedside, and then mistakes, many times unavoidable, are often made.

In all conditions of shock with cardiac failure the blood-vessels of the abdomen and splanchnic system are dilated, and more or less of the blood of the body is lost in these large veins, and the peripheral and cerebral blood-pressure fails. The advantage in such a condition of firm abdominal bandages, and of raising the foot of the bed or of raising the feet and legs, need only be mentioned to be understood.

It is a pretty good working rule, in cardiac failure, not to do too much. On the other hand, life is frequently saved by proper treatment, and the physician repeatedly saves life as surely as does the surgeon with his knife.

CONVALESCENCE

When compensation has been restored, the patient may be allowed gradually to resume his usual habits and work, provided that these habits are sensible, and that the work is not one requiring severe muscular exertion. Careful rules and regulations must be laid down for him, depending on his age and the condition of his arteries, kidneys and heart muscle. It should be remembered that a patient over 40, who has had broken compensation, is always in more danger of a recurrence of this weakness than one who is younger, as after 40 the blood-pressure normally increases in all persons, and this normal increase may be just too much for a compensating heart which is overcoming all of the handicap that it can withstand. Such patients, then, should be more carefully restricted in their habits of life, and also should have longer and more frequent periods of rest.

The avoidance of all sudden exertion in any instance in which compensation has just been restored is too important not to be frequently repeated. The child must be prevented from hard playing, even running with other children, to say nothing of bicycle riding, tennis playing, baseball, football, rowing, etc. The older boy and girl may need to be restricted in their athletic pleasures, and dancing should often be prohibited. Young adults may generally, little by little, assume most of their ordinary habits of life; but carrying heavy weights up-stairs, going up more than one flight of stairs rapidly, hastening or running on the street for any purpose, and exertion, especially after eating a large meal, must all be prohibited. Graded physical exercise or athletic work, however, is essential for the patients' future health, and first walking and later more energetic exercise may be advisable.

These patients must not become chilled, as they are likely to catch cold, and a cold with them must not be neglected, as coughing or lung congestions are always more serious in valvular disease. Their feet and hands, which are often cold, should be properly clothed to keep them warm. Chilling of the extremities drives the blood to the interior of the body, increases congestion there, and by peripheral contraction raises the general blood-pressure. A weak heart generally needs the blood-pressure strengthened, but a compensating heart rarely needs an increase in peripheral blood-pressure, and any great increase from any reason is a disadvantage to such a heart. The patient should sleep in a well-ventilated room, but should not suffer the severe exposures that are advocated for pulmonary tuberculosis, as severe chilling of the body must absolutely be avoided.

The peripheral circulation is improved, the skin is kept healthy, the general circulation is equalized, and the heart is relieved by a proper frequency of warm baths. Cold baths are generally inadvisable, whether the plunge, shower or sponging; very hot baths are inadvisable on account of causing a great deal of faintness; while warm baths are not stimulating and are sedative. The Turkish and Russian bath should be prohibited. They are never advisable in cardiac disease. With kidney insufficiency, body hot-air treatment (body-baking), carefully supervised, may greatly benefit a patient who has no dilatation of the heart and who has no serious broken compensation. Surf-bathing and, generally, sea-bathing and lake-bathing are not advisable. The artificial sea-salt baths and carbon dioxid baths may do some good, but they do not lower the general blood-pressure so surely as has been advocated, and probably no great advantage is apt to be derived from such baths. If a patient cannot properly exercise, massage should be given him intermittently.

Any systemic need should be supplied. If the patient is anemic, he should receive iron. If he has no appetite, he should be encouraged by bitter tonics. If sleep does not come naturally, it must be induced by such means as do not injure the heart.

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[1] Haskins and McClure: Arch. Int. Med., October, 1912, p. 343.

Perhaps there is no better place in this series on diseases of the heart to discuss the diet in general and the resort treatment than at this point, as the question is one of moment after convalescence from a broken compensation, at which time every means must be inaugurated to establish a reserve heart strength to overcome the daily emergencies of life.

DIET IN HEART DISEASE

The diet in cardiac diseases has already incidentally been referred to. The decision as to what a patient ought to eat or drink must often be modified by just what the patient will do, and, as we all know, it is absolutely necessary to make some concessions in order for him to aid us in hastening his own recovery or in preventing him from having relapses. Consequently, we cannot be dogmatic with most patients with chronic heart disease. Parents should be prohibited from allowing children or adolescents with heart disease to drink tea, coffee or any alcoholic stimulant. The young boy and young man must absolutely be prohibited from indulging in tobacco at all. There is no excuse for allowing these stimulants or foods in such cases. If the patient is older and has been accustomed to tea and coffee, one cup of coffee in the morning may be allowed, provided the "dekofa" preparation is not found satisfactory. Dekofa is coffee with most of the caffein removed.[2] Whether a small cup of coffee or a cup of tea is allowed at noon is again a matter for individualization; they should rarely be allowed after the noon meal. In a patient who has been accustomed to alcohol regularly (generally an older patient), careful judgment should be used in deciding whether or not a small amount of alcohol daily should be allowed. It should never be in large amounts, even of a dilute alcohol like beer; it may be a weak wine; it may be a small amount of diluted whisky, if it seems best. Ordinarily the patient is better without it. If he is used to smoking, and a small amount does not raise the blood-pressure much, it may do him no harm to smoke a small mild cigar once or twice a day. On the other hand, if a hard smoker suddenly has heart failure, whether from exertion, from chronic disease or from acute illness, a small amount of smoking is of advantage as it tends to remove cardiac irritability, to raise the blood-pressure, and actually to quiet and improve the circulation. It is unwise during acute circulatory failure to take tobacco away entirely from a chronic tobacco user.

The character of the food which each patient should receive depends on his blood-pressure and his age. The older person with a tendency to high blood-pressure should have the protein (especially meat) reduced in amount, as any putrefaction in the intestine with absorption of products of such maldigestion irritates the blood-vessels, raises the blood-pressure, and injures the kidneys. On the other hand, a young patient should receive a sufficient meat diet rather than be overloaded with vegetables and starches, to the easy production of fermentation and gas. Flatulence from any cause must be avoided. It dilates the stomach and intestines, causing them to press on the diaphragm, so that the heart and respiration are interfered with. Also, an increased abdominal pressure, especially if there is any edema or dropsy, is bad for the circulation. A distended, tense abdomen is serious in cardiac failure. On the other hand, a flaccid, flabby, lax abdomen should be well-bandaged in cardiac failure with low blood-pressure.

Children do well on a milk diet, but it should be remembered that excessive amounts of any liquids, even milk and water, are inadvisable, if the circulation is poor and there is a tendency to dropsy. It has been recommended at times to limit a patient's diet for a week or so to a small amount of milk, not more than a quart in twenty-four hours. If such a patient is in bed and does not require carbohydrates, sugars or stronger proteins or more fat, such a restricted diet may aid in establishing circulatory equilibrium, although he will lose in nutrition. The excretory organs are relieved by the decreased amount of excretory products, the digestive system is rested and the circulation is improved. Such a limited diet should not be tried longer than a week, but it may be the turning-point of circulatory improvement.

The ordinary diet for a convalescing heart patient should be small in bulk, of good nutritive value, and should represent all of the different elements for nutrition. This means a small amount of meat, once a day to older patients, twice a day to those who work hard or for young patients; such vegetables as do not cause indigestion with the particular patient, and these must be individualized; such fruits as are readily digested, especially cooked fruits; generally plenty of butter, cream, olive oil if the nutrition is low, and milk, depending on the age of the patient or the ease with which it is digested. Soups, on account of their bulk and low nutritive value, should be avoided. Anything that causes indigestion, such as fried foods, hot bread, oatmeal or any other gummy, sticky, gelatinous cereal should be avoided; also spices, sauces and strong condiments. Anything that is recognized as especially loaded with nuclein and xanthin bodies, such as liver, sweetbreads and kidneys, should be prohibited, as tending to cause uric acid disturbance; and the more tendency to gout or uric acid malmetabolism the more irritated are the arteries and the more disturbed the blood-pressure. Sugars should be used moderately, unless the patient is thin and feels cold, in which case more may be given, provided there are no signs of gout or disturbed sugar metabolism. Very cold and very hot drinks or foods should be avoided.

Many times these patients have a diminished hydrochloric acid secretion, and such patients thrive on 5 drops of dilute hydrochloric acid in water, three times a day, after meals. When their nutrition has improved and the digestion becomes perfect, hydrochloric acid will generally be sufficiently secreted and the medication may be stopped.

If the patient is overweight, this obesity must be reduced, as nothing more interferes with the welfare of the heart than overweight and overfat. In these cases the diet should be that required for the condition.

If there are edemas, or a tendency to edemas, the decision should be made whether salt (sodium chlorid) should be removed from the diet. Unless there is kidney defect, probably it need not be omitted, and a long salt-free diet is certainly not advisable. This salt-free diet has been recommended not only in nephritis and heart disease, but also in diabetes insipidus and in epilepsy. It is of value if there is edema in nephritis; it is of doubtful value in heart disease; it is rarely of value in diabetes insipidus; and in epilepsy its value is probably in allowing the bromid that may be administered to have better activity in smaller doses, the bromin salt being substituted in the metabolism for the chlorin salt.

(To be continued)

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[2] See Dekofa, a Caffein-Poor Coffee, The Journal A. M. A., July 1, 1911, p. 37.

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BREAD

In these days when small differences in the quality and composition of food products are magnified into important factors in nutrition, the student of dietetics is often called on to exercise a highly discriminating judgment in his attitude toward what we eat. The question of the relative value of different types of bread has been debated for many years and from various points of view since the days of Sylvester Graham. This temperance reformer of the early part of the nineteenth century based his cure for alcoholism on certain radical changes in diet, laying special stress on abstinence from meats, and the use of bread made from unbolted wheat meal. Hence the names "graham flour" and "graham bread."

Wheat deserves the wide-spread consideration which has been given it, because of its intrinsic superior value as a cereal food. It easily ranks first among the food products at our disposal, although rice probably forms the staple food for a larger proportion of the human race. Wheat is the source of a large variety and number of dietary products which enter into common use everywhere; and it is this adaptability to diverse applications which figures largely in the popularity of the cereal. The wheat kernel is made up of a number of well-known parts which experience different treatment in the various milling processes that have been introduced from time to time in the preparation of flour.

When the grain is crushed in the simplest method of milling wheat, it is reduced more or less completely to a powder, and the meal thus prepared contains coarse particles of bran, the outer coverings of the seed. Bread made from such wheat meal will obviously contain all of the nutrients of the original wheat; but the bread will be coarse in texture, dark in color, and rather strong in flavor. Graham flour or wheat meal is usually made from soft winter wheats which are relatively low in protein and high in starch content, and do not accentuate the possible objectionable features referred to in the same degree as meals made from hard spring wheat. Graham flour found in the market is therefore usually lower in protein than is high-grade patent flour. Sifting wheat meal to remove the coarser particles was the first step toward the making of white flour. The early methods of the manufacture of fine flour from starchy wheats resulted in flours relatively low in inorganic ingredients and protein, and rich in carbohydrate, so that flours with no more than 8 per cent. of protein and 0.3 per cent. of ash were not uncommon. This feature is said to have inspired Liebig to recommend a return to the more albuminous wheat meal and to have given Graham the basis for his crusade in favor of bread made from unbolted wheat meal.

Despite these chemical facts and the vigorous propaganda against it, the use of fine bolted flour and the preference for white bread rapidly increased with the progress of the years. The investigations of Lawes and Gilbert[1] in England and subsequent nutrition studies in Germany gave indication that although graham and whole-wheat bread actually carry more protein and ash than white bread they yield up relatively less of these to the digestive and metabolic processes. It is further maintained by some that an increased peristaltic action due to the mechanical irritation produced by the bran on the lining of the intestine also tends to offset the supposed chemical advantage in the whole-wheat bread; others state that this mechanical irritation is beneficial, especially for those with a tendency to constipation.

The advent of the later roller-process methods of milling has continued the essential feature of the earlier schemes in separating the bran from the interior of the grain; but it has materially improved the bread flours in common use until the standard flours from hard wheat carry more protein than almost any graham flour in the market thirty years ago, and as much as many now offered for sale. Newer methods of agriculture exemplified in wheat production have assisted in increasing the gluten content of wheat flour through the altered composition of the newer varieties of the cereal.

The most reliable available nutrition experiments in respect to the digestibility and available energy of bread made from the different types of flour here discussed afford these data:

	Digestibility of Protein, Per Cent.	Availability of Energy, Per Cent.
Graham flour	81	83
Entire wheat flour	83	87
Standard patent flour	89	91

These facts have lately been supplemented by English statistics[2] which corroborate them. They show that with respect to the availability of their total energy the breads differ little; with regard to the protein there is a slight advantage on the side of the white bread. At present the differences in the composition of flours are due not only to the method of milling, but also and especially to the variety of wheat used in their manufacture. It is as important therefore to know the kinds of wheat as any other factor in making intelligent comparison of flours.

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1. Lawes and Gilbert: Chemistry of Wheat and Flour, 1857.
2. Newman, L. F., Robinson, G. W., Halnan, E. T., and Neville, H. A. D.: Some Experiments on the Relative Digestibility of White and Whole Meal Breads, Jour. Hyg., 1912, xii, 119.

In various discussions about rice we have called attention to the special nutritive significance of unknown constituents present in the cortex of the grains. In the case of wheat also these are undoubtedly removed by some of the white-flour milling processes. Ordinary metabolism experiments give no clue to the importance of these accessory factors. Presumably, however, they can have a predominating significance only when bread forms a large proportion of the total dietary; and their influence can be tested only by long observation carried out on special communities.

So far as digestibility is concerned there is no justification at present for extreme views as to the advantages or disadvantages possessed by different kinds of bread of the commoner types, at any rate as regards the availability of the more familiar nutritive constituents. The gratifying fact is that flour of all kinds is an economical food even at the present prices.

THE SOURCE OF THE STREPTOCOCCI IN EPIDEMIC SORE THROAT

On the theory that epidemic sore throat is caused by the transmission of streptococci through milk, the question arises, How does the milk become infected? There are two possible sources, bovine and human. In some of the epidemics, the conditions surrounding the outbreaks indicated that the milk might have been contaminated from either or both sources. In others, as in the Boston epidemic, possibilities of contamination from bovine sources could not be traced. The source of some of the English epidemics is said to be disease of the udder. It is clear that there always will be difficulty in excluding infection from human sources during the transit of the milk from the cow to the consumer. Since we do not know, however, that bovine streptococci, which are altogether like the human streptococci, are never pathogenic for man, we must continue to reckon with the possibility that epidemic sore throat at times may be of purely bovine origin. This course is indicated all the more when we consider the known facts in regard to milk and streptococci.

That streptococci are present in cow's milk even when it is obtained with proper safeguards from clean and healthy animals has been recognized for some time, and the idea that their presence always indicates mastitis has been given up. Heinemann and others have shown that streptococci are the common cause of lactic acid fermentation or souring of milk. This milk streptococcus — the *Streptococcus lacticus* — is present normally in the milk-ducts, the feces and on the skin of cows, and it occurs in practically all milk. Heinemann regards it as identical with *S. pyogenes*, but recently Ruediger[1] makes the point that *S. lacticus* differs from *S. pyogenes* in that it produces green or grayish colonies with little or no hemolysis; that is, it belongs to the less harmful group of streptococci as now understood. There seems to be little doubt, however, that hemolyzing streptococci, corresponding closely to *S. pyogenes*, are also frequently present in milk even from cows with healthy udders. Thus Rosenow,[2] in his attempts to secure sterile milk from absolutely healthy cows and under ideal external conditions by the use of "milk-tubes," succeeded five times in twelve trials; the milk in three of the seven failures contained *S. pyogenes* in large numbers, the cultures being pathogenic for guinea-pigs. That the milk from cows with mastitis or garget contains *S. pyogenes* in large numbers is well known everywhere. It appears, then, as if the udder of the cow occupies about the same relation to streptococci as the tonsil in man, both harboring members of the two groups of streptococci as judged by the manner of growth on blood-agar.

Certain experimental results appear to show that streptococci of bovine origin are capable of adaptation in the direction of a more vigorous parasitic existence and the acquirement of virulence as much as are the streptococci from other sources. At the time of the Chicago epidemic[3] there was an unusually large number of cases of mastitis in the cows furnishing the incriminated milk, and of sore throat among the farmers handling it. From the milk of one of the cows with mastitis Davis[4] isolated *S. pyogenes* which, after being passed through three guinea-pigs, acquired a capsule and produced watery growths — characteristics peculiar to the streptococci isolated from patients with sore throat and its complications. He obtained the same results with a strain from the throat of a young girl with rheumatism on the same farm. In other words, assuming that the streptococcus from the milk was derived from the cow and not from the milker, Davis produced the same modification in both strains, which thereby acquired the peculiar features of the strains isolated from the patients in Chicago.

There are enormous numbers of streptococci in the separator and clarifier slime of the milk industry, and Rosenow found that cultures of this slime gave rise almost exclusively to non-hemolyzing colonies without virulence for animals, but that on injection of the slime directly into animals they usually died of streptococcemia, the blood yielding pure cultures of hemolyzing streptococci which on further passage through animals became encapsulated and formed large and moist colonies on blood-agar like the strains from epidemic sore throat. On artificial cultivation these characters were soon replaced by those of the typical *S. pyogenes*. This result indicates that among the myriads of virulent streptococci present in the slime there lurked a few that were capable of acquiring more virulent powers under suitable conditions.

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[1] Ruediger, Gustav F.: Science, Feb. 9, 1912, p. 223.

[2] Rosenow: Jour. Infect. Dis., 1912, xi, 338.

[3] Capps, Joseph A., and Miller, Joseph L.: The Chicago Epidemic of Streptococcus Sore Throat and Its Relation to the Milk-Supply, The Journal A. M. A., June 15, 1912, p. 1848.

[4] Davis, David J.: Bacteriologic Study of Streptococci in Milk in Relation to Epidemic Sore Throat, The Journal A. M. A., June 15, 1912, p. 1852.

Rosenow also studied the action of fresh milk, obtained in sterile condition by means of milk-tubes, on typical strains of *S. pyogenes* from diverse sources, both human and bovine. It was found that on residence in such milk, especially if growth was delayed or prevented by keeping the inoculated milk at low temperature, the streptococci would become changed and assume the characteristics peculiar to the strains isolated from cases of epidemic sore throat — encapsulation and relatively rich growth with little hemolysis on blood-agar — and that there resulted some increase in virulence for animals. This observation is of special importance because it indicates that under certain conditions milk may favor the development of pathogenic power in streptococci that may get into it.

In accord with current views we may regard this change in the streptococci as evidence of a beginning adaptation to special conditions. Like other body fluids, milk possesses a genuine but feeble germicidal power, and by offering resistance to the growth of streptococci, especially by virtue of its opsonins and its leukocytes, the cocci are trained, so to speak, to adapt themselves to the conditions, and thus become more actively parasitic. Further investigations on the action of fresh sterile milk on streptococci should be made. Thus it would be interesting to know whether or not strains modified by Rosenow's procedure would become more resistant than before to phagocytosis by human leukocytes in the presence of human serum. If that should prove to be the case it would be strong evidence in favor of increase in virulence for man. It seems likely that by further experiments in this direction we may learn to understand better than we now do some of the conditions that tend to favor the development in streptococci of the power of becoming virulent for human beings.

As milk gives rise to epidemic sore throat and its complications by being the vehicle of virulent streptococci, it is reasonable to suspect that it frequently may be the means of transmission also in single and scattered cases of the various forms of streptococcus infection. Consequently we must endeavor to determine clearly the actual possibilities of milk in the spread of pathogenic streptococci.

IS THE MODEL TENEMENT A FAILURE?

Two of the most widely known New York model tenements are the Vanderbilt tenement, built especially for the tuberculous poor, and the Open Stair tenement across the street from it, which is now offered for sale by the private group which financed its erection. The architect of these buildings, Mr. Henry Atterbury Smith, now declares[1] that such dwellings are failures as far as housing the poor is concerned, and that they have not accomplished the purpose for which they were built. Such statements by an authority deserve consideration.

The New York model tenements, Mr. Smith says, cannot help being a failure under the present conditions of their maintenance and under the provisions of the tenement-house law now in force in the metropolis. There are three reasons for such failure: 1. Legislation concerning the erection of tenement houses is becoming, in some points, too strict, demanding conditions which, in their turn, make necessary more expensive buildings and higher rents — results negativing the very purpose of such legislation. 2. Model tenements, being built by private philanthropy, are constructed of too expensive material and furnished with too many luxuries. 3. The private individuals and organizations that own the dwellings have heretofore found necessary for their maintenance the employment of salaried officials and clerks for the observation of the house's management, the gathering of statistics, etc.; the "red tape" of private philanthropy has helped to hold the rents of model dwellings at a prohibitive figure.

The model tenements of New York are really apartment houses in tenement districts. Air, light and space, and of course proper sanitation and plumbing, are essential in place of the old-fashioned dark, damp, sunless, often pest-ridden ramshackle structures. Putting up a building with high-priced luxuries, and expecting the poor to pay for them, certainly dooms it to failure. The model tenement provides electric lights, built-in tubs, telephones, roof-gardens, monolithic floors, ash chutes, garbage receptacles and closets in every room. There are certain "smart" apartment houses in expensive neighborhoods that for comfort and beauty are not nearly equal to these model tenements. So the very poor families for whom model tenements were built continue to live in other places.

Who then do live in the model tenement? "Settlement workers, social investigators, writers, artists, professional men and women, several comfortably well-off families of laboring men, some tradespeople, a good many young bachelors who keep garages and things like that." As fine a rendering of a Lizst rhapsody, evidently by a near-virtuoso, as one would hope to enjoy in a concert hall has been heard in such a model tenement. Here are indeed charming apartments for people who can afford to live in them, but they are not for the poor, who must continue to live in the old dark, insanitary tenements, the conditions of which have not been bettered by a single model tenement. Worse than this, the model tenement is not only itself too high-priced for the poor, but its presence in the neighborhood raises the rents of the inferior dwellings in that locality, and makes the housing problem for poor families one point worse than it was before. For example, near the Vanderbilt tenement referred to is a more or less ramshackle old building in which the owner has painted and made certain superficial improvements — and raised his rent!

Mr. Smith thinks that there should be a public board of appeal for the Tenement House Department but it is its conscientious administration of the tenement law now in force which is largely responsible for the prohibitive model tenement prices. And he would find a middle stopping-place between the dark, insanitary old-style tenements and the needless luxury of the model dwellings. Moreover, he would have such dwellings cared for by the speculative real estate dealer, simply as a matter of business, with ordinary business competition. The situation in New York has its counterpart in Chicago and other large American cities; the subject is of general and vital importance.

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[1] Smith, Henry Atterbury: Quoted in the New York Times.

DEMAND CLEAN ADVERTISING

At this time of the year, those physicians—and we believe they are in the majority—who believe the proprietary medicine evil to be a serious one, can do much to lessen it, if they will. The use of worthless or fraudulent proprietary medicines by physicians depends largely, as does the use of worthless "patent medicines" by the public, on the psychology of advertising. If preparations of this type were not advertised they would go out of existence, for their continued use depends, not on any inherent merit, but on the artificial stimulation that comes from advertising. And it is the easy-going tolerance of physicians that permits the continued appearance of such advertisements; they would be barred from the pages of many medical journals if the subscribers and contributors to such journals would protest. There are, it is true, a number of so-called medical journals that exist primarily for the exploitation of proprietary nostrums. Protests in such cases would be a waste of time, for the owners of such publications could not afford to heed them. Here the subscription list is a minor question; the advertisers are the real masters of the situation.

But there remain many medical journals which, editorially, rank high and for which a subscription price is charged that makes the carrying of advertisements of worthless proprietaries entirely unnecessary from a financial point of view. For instance, there are the *Medical Record* and the *American Journal of Obstetrics*, published by William Wood & Co. The price of each is $5 per annum; in both instances the subscriber pays sufficient to warrant a demand that the advertising pages be kept clean. The same may be said of the *Annals of Surgery*, published by the J. B. Lippincott Company, which costs the subscriber $5, and the *American Journal of the Medical Sciences*, published by Lea and Febiger, also costing $5. Sporadic protests from a few physicians have been made to the owners of journals of this class. Such protests, at least in the cases of two publishers, the Lippincott Company and Lea and Febiger, were met with the statement — doubtless a true one — that the number of subscribers who have objected has been so small as to warrant the belief that their readers in general are in sympathy with the advertising policy in effect. Each of these journals carries advertisements of nostrums that are worthless or fraudulent, or both. That they do so is chargeable not to the publishers, who issue them merely as a money-making proposition, but to the physicians who continue to subscribe for them and contribute to them without raising a protest. These journals are referred to specifically, not because they are worse than, or even as bad as, many others but because they are such journals as the intelligent and better-read members of the profession might be expected to patronize. And it is such physicians, certainly, who ought to be the first to uphold the fight that the Association is making on fraud and deception within the ranks of the profession. If a hundred subscribers to each of these journals would write to the publishers protesting, there is little doubt that such advertisements would cease to appear. But so long as the medical profession will supinely tolerate this evil, so long will the evil exist.

That an advertising policy which rejects nostrum advertisements is not impossible of attainment in privately owned medical journals has been proved by at least three high-grade publications, the *Cleveland Medical Journal*, Cleveland, O., the *Southern Medical Journal*, Mobile, Ala., and *Surgery, Gynecology and Obstetrics*, Chicago. The stand taken by these three journals is the more to be commended when it is remembered that they are not published by large medical-book-publishing concerns that find a medical journal a comparatively inexpensive method of advertising their own business. The thinking members of the profession should give these journals their undivided support; at the same time they should register a protest against those other medical journals whose advertising policy is subversive to the best interests of scientific medicine, the medical profession itself and to the welfare of the public. Action is necessary in either case; passive sympathy on the one hand and unvoiced indignation on the other will do no good.

THE MILK SEDIMENT TEST

The present era of "standardization" of foods and drugs has brought about marked improvement in many products which enter largely into every-day life. This has been accomplished in various instances by the introduction of scientific methods of examination which are sufficiently "practical" to be easily applied without recourse to specially skilled experts, and which are simple enough to appeal to the average layman as furnishing useful information. The Babcock "test" for the estimation of the fat content in milk is a conspicuous illustration of the value of an accurate, yet uncomplicated analytic device. It has been largely responsible for the improvement in the composition of milk by making an exact determination easy to carry out. Even in the smallest hamlet the results of the Babcock fat test are to-day the criteria by which the commercial value of milk is adjudged.

In determining the purity as well as the quality of milk the bacterial count has an obvious importance; but this calls for elaborate laboratory technic. The acid test gives some indication of the age and general condition of milk and is used along with curd and fermentation tests by some creameries and cheese factories. The latter tests show the presence of gaseous or other undesirable fermentations; while the flavor and odor of milk always betray any bad contamination.

The so-called sediment test has of late achieved considerable prominence in certain parts of the United States.[1] The amount of sediment in milk is an indication of insanitary conditions, for dirt in milk is not only unsightly and unpalatable, but also carries with it the dangers of all kinds of contaminating bacteria. Dirty milk always has a high bacterial count. It is very objectionable if not actually dangerous.

Clean milk does not necessarily call for special farm equipment or great outlay; it merely demands attention to small details and a reasonable amount of care in stable-management. The partially covered milk-pail has been an efficient innovation in the direction of excluding dirt acquired during the milking process. One of the best ways of inducing the delivery of clean milk is by convincing the producer that his milk contains sediment, and by demonstrating through actual trials that it is easy to produce the cleaner variety. The sediment test is made by straining a pint of milk through a cotton disk one inch in diameter which is attached to the bottom of one of the several varieties of inexpensive testers. It requires only a few comparisons to show the effect of a clarifier or separator on the amount of dirty sediment in milk; and the detection of gargety and colostral milk is also rendered easy by an inspection of the cotton disks. The evidence all indicates, further, that when small-top milk-pails are used the dirt content is decreased and the number of bacteria present is correspondingly reduced. Under certain conditions the sediment test may even be used as an approximate indication of the number of bacteria that are introduced into the milk on the farm. Of course dirty market milk may be strained carefully so that it appears cleaner than its earlier handling justifies; but dirt and manure will leave their effects no matter how milk is subsequently treated. The sediment test record is a case in which "seeing is believing."

THE COST OF DESTROYING LIFE

There is always something fascinating about striking statistics when they appear to present truth in a more tangible and concrete form than do the glittering generalities of an argument. In a recent issue[2] we quoted from a magazine distributed by the Equitable Life-Assurance Society to its policy-holders. The conservation commissioner of the society, Mr. E. E. Rittenhouse, is authority for the statement that the sum of $1,500,000,000 is a low estimate of the annual economic loss from preventable deaths. The experience of Colonel Gorgas and his sanitary corps in the Panama Canal Zone is, as we have said, a convincing demonstration that good health is a purchasable commodity and that sickness can be insured against and prevented if the public is willing to pay enough for safeguards. The cost of accomplishing the wonderful saving of lives on the Isthmus is estimated at about $2.43 per person annually.

In contrast with such figures, which compare favorably with familiar per capita expenditures for fire and police protection and the conservation of material property, are the data relating to the cost of the actual destruction of mankind. According to President Jordan of Stanford University[2] it now costs on the average about $15,000 to kill a man in modern war, and in the Boer War this expense ran up to nearly $40,000. When it is recalled that in a time of peace we spend nearly a million dollars a day in our own country on matters concerned with past or future wars, it is comforting to believe that the saving of human life is far cheaper than its destruction.

We have no desire to discuss the merits of the proposals for universal peace or to become partisans in a propaganda which lies outside the sphere of medical journalism. There is merit, however, in the suggestion that nations can afford to do their duty in preparing against a foe like the plague, the danger of which is always present and more ominous than war, quite as well as they can raise funds for defense against unlikely or avoidable human combats. It is perhaps an optimistic exaggeration to hold with Jordan that no infectious disease would long exist if we made adequate quarantine provision. We scarcely know all of the enemies or their insidious ways well enough yet to make it possible to fight them successfully in this fashion. But civilized nations show a lack of perspective, to say the least, when they continue to destroy life at high cost and fail to save it though a combination of knowledge with a little national energy and international cooperation would lead the way to humane economies.

DEATHS OF PHYSICIANS IN 1912

During 1912 the deaths of 2,120 physicians in the United States and the Dominion of Canada were noted in The Journal. Reckoning on a conservative estimate of 150,000 physicians, this is equivalent to an annual death-rate of 14.13 per thousand. For the ten previous years the death-rates were as follows: 1911, 15.32; 1910, 16.96; 1909, 16.26; 1908, 17.39; 1907, 16.01; 1906, 17.2; 1905, 16.36; 1904, 17.14; 1903, 13.73; 1902, 14.74. The average annual mortality for the period from 1902 to 1912 inclusive was therefore 15.93 per thousand. The age at death varied from 22 to 99, with an average of 60 years and 23 days. The general average at death since 1904 is 59 years, 9 months and 28 days. The number of years of practice varied from 1 to 76, the average being 33 years, 2 months, 14 days. The average for the past 9 years is 32 years, 4 months and 8 days. The chief death causes in the order named were senility, cerebral hemorrhage, "heart disease," pneumonia, external causes and nephritis.

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[1] Baer, A. C.: The Milk Sediment Test and Its Application, Univ. Wisconsin Agric. Expt. Sta., Circ. Information 41, Sept., 1912.

[2] Medical Economics Department, The Journal A. M. A., Dec. 7, 1912, p. 2087

[2] Science, Dec. 6, 1912, p. 769.

Causes of Death.—There were 187 deaths assigned to general diseases; 264 to diseases of the nervous system; 278 to diseases of the circulatory system; 176 to diseases of the respiratory system; 95 to diseases of the digestive system; 147 to diseases of the genito-urinary system; 334 to senility; 4 to diseases of bones; 36 to suicide; 90 to accident; 12 to homicide, and 4 to other causes. Among the principal assigned causes of death are senility, 334; cerebral hemorrhage, 219; "heart disease," 200; pneumonia, 153; external causes, 138; nephritis, 127; accident, 90; after operations, 86; tuberculosis, 55; cancer, 38; suicide, 36; appendicitis, 29; angina pectoris, 25; typhoid and arteriosclerosis, each 24; diabetes, 18; septicemia, 17; gastritis, 12; anemia and meningitis, each 11; myocarditis, 10; paresis, mental alienation, embolism, cholelithiasis and cirrhosis of the liver, each 9; influenza and bronchitis, each 7; intestinal obstruction and peritonitis, each 5; hernia, 4; erysipelas, rheumatism, endocarditis, gastric ulcer, prostatitis and furunculosis, each 3; malaria, dysentery, alcoholism, pleurisy, anesthesia and enteritis, each 2, and pellagra, uncinariasis, drug addiction, locomotor ataxia, mastoiditis, pulmonary edema and placenta praevia, each 1.

The causes assigned for the 90 deaths from accident were poison, 16; falls, railways, automobiles and by animals, each 10; drowning, 9 (four physicians went down to death on the *Titanic*); asphyxia and firearms, each 5; burns and street-cars, each 4; strangulation, crushing and freezing, each 2, and sunstroke, 1. The 36 physicians who ended their lives by suicide selected the following methods: poison and firearms, each 15; asphyxia, 4, and strangulation and cutting instruments, each 1. Of the 12 homicides, 11 were due to firearms and 1 to a crushing injury from a blunt instrument. Of these 5 occurred in feuds or affrays.

Ages.—Of the decedents 19 were between the ages of 91 and 99; 157 between 81 and 90; 411 between 71 and 80; 425 between 61 and 70; 409 between 51 and 60; 319 between 41 and 50; 178 between 31 and 40, and 75 between 22 and 30. The greatest mortality occurred at the age of 65 when 62 deaths were recorded; at 70 with 56 deaths; at 73 with 55 deaths; at 60 with 54 deaths; at 68 with 52 deaths, and at 72 when 51 died. There were 7 deaths at 90; 5 at 91; 4 at 92; 5 at 93; 1 at 94; 3 at 95, and 1 physician died a week before his one-hundredth birthday anniversary.

Years of Practice.—By periods of 10 years the deaths were as follows: in the first decade, 165, of whom 3 had been in practice less than 1 year and 17 less than 2 years; in the second decade, 338; third decade, 418; fourth decade, 470; fifth decade, 409; sixth decade, 243; seventh decade, 69, and eighth decade, 4, 1 of whom had been in practice for more than 75 years.

Military Service.—During the year 306 died who had served in the Civil War, and of these 98 followed the fortunes of the Lost Cause, 97 were medical officers of United States Volunteers and 3 were medical cadets. There were 5 veterans of the Mexican War; 13 had served in the Spanish-American War and 10 had seen service in foreign wars. The Army lost 10 medical officers, past and present, 4 officers of the Medical Reserve Corps on the active and inactive lists and 18 acting assistant or contract surgeons. The Navy lost 16 medical officers, the Public Health Service 10 officers and the Revenue Cutter Service 1. The death-loss of the organized militia was 24, of whom 9 had attained the grade of surgeon-general.

Medical Positions.—Medical colleges sustained the loss of 141 professors, lecturers, instructors and demonstrators; hospitals lost 272 members of staffs; municipalities, townships and counties, 154 health officers; and school boards or boards of education, 79 members. There were 37 deaths of members of state boards of health, medical registration and examination and charities; 55 of coroners and medical examiners and 100 of railway surgeons.

Civil Positions.—Of those who died, 2 had been members of Congress; 2 governors of states; 11 members of the state senates; 54 members of the house of representatives; 54 had been mayors, 32 councilmen or aldermen; 56 had served in various civil official positions; 14 had been postmasters; 19 editors of medical or lay journals; 15 were also clergymen, of whom 8 were or had been foreign missionaries; 1 had been an attorney; 8 had been members of the diplomatic corps, one of whom was minister to Liberia; 24 were bankers, 9 dentists; 2 pharmacists; 3 chemists, and 12 had been medical directors of life-insurance companies or fraternal-insurance societies.

INSECTS AND POLIOMYELITIS

The epidemiology of epidemic poliomyelitis can point to cases that occur sporadically over widely scattered areas which are apparently isolated from immediate sources of contagion, as well as to instances of the transmission of the disease by more familiar contact methods. Some of the possibilities of infection have frequently been referred to in these columns. The virus has been found in the tonsils and the secretions of the mucosa of the nasopharynx; and the nasal secretions of persons in contact with acute cases have furnished infectious material, thus suggesting a factor in the mode of transmission through apparently healthy persons to the localities where sporadic cases arise. The marked viability of the virus under the adverse conditions of drying and temperature, so that it can, for example, be scattered unimpaired with dust, offers one explanation of localized epidemics.

The seasonal incidence of poliomyelitis corresponds to a certain extent with the annual wave of insect life, suggesting the possibility that some insect may play a part in the transmission of the disease. In view of this Drs. Howard and Clark of the Rockefeller Institute for Medical Research have investigated the ability of several insects that are in close relation to human beings to carry the virus of poliomyelitis.[1] They have found that the common house-fly, *Musca domestica,* can carry the virus in an active state for several days on the surface of its body and for several hours within its gastro-intestinal tract. Insects of this type, inhabiting the surroundings of man, act as mere contaminators of objects with which he is in intimate relation. House-flies cannot be viewed as active inoculators of the virus, since these insects do not bite. Their power of flight is not negligible; therefore, as Howard and Clark remark, these potential passive contaminators are theoretically capable of carrying and depositing the virus at a considerable distance from the point at which the original contamination occurred. Through the ordinary active habits of the fly the virus may be transferred to persons or to things with which persons come into close relation, and by their death the flies may through disintegration liberate surviving virus that may possibly be converted into dust.

Among the biting insects investigated, the mosquitoes, *Culex pipiens, Culex sollicitans, Culex cantator,* failed to take up the virus from infected materials. Lice, *Pediculus capitis,* and *Pediculus vestimenti,* also failed to take it out of the blood of infected animals. The bedbug, *Cimex lectularius,* on the other hand, can remove the virus from the blood and maintain it in a living state within its body for a period of at least seven days. These findings must not be hastily accepted as proof that biting insects are the common carriers of poliomyelitis virus; they are rather an indication of the possibilities that must be kept in mind in the study of the problem of transmission.

Current Comment

POLIOMYELITIS AND THE VITAL STATISTICS LAW IN KENTUCKY

Kentucky is one of the few states that has an efficient vital statistics law. Its enforcement is under the supervision of the state registrar, who is the head of the bureau of vital statistics. The September number of the *Bulletin* of the State Board of Health is prepared under the auspices of the bureau and contains an intensive epidemiologic and symptomatic study of an epidemic of poliomyelitis which occurred at Covington, embracing forty-eight cases. The report of this epidemic shows the value of a good vital statistics law efficiently administered. The federal census bureau has regarded as satisfactory the returns from Kentucky both in numbers and in completeness of the reports. The state bureau of vital statistics, however, has realized that the reports have been incomplete from some parts of the state, and recently an amendment to the law was enacted which makes it easy for physicians to comply with the law, and violations will no longer be tolerated. Vigorous prosecution will follow failure to report to the local and state registrars. It is the aim of the bureau to make their records of vital statistics 98 per cent. perfect. Through the reports made to the state registrar an investigation of the epidemic of poliomyelitis at Covington was started within thirty days, and all precautions taken to prevent its spread so that the epidemic ended with forty-eight cases. Similar reports of epidemics from other sections of the state of this and other contagious or infectious diseases enable the health authorities at once to set in motion machinery for their control. This was done also in the case of the epidemic of cerebrospinal meningitis which occurred in Louisville early in 1912. This prompt action based on accurate official information gives a sense of security to the people of the state in regard to the spread of epidemic diseases, and should be an example to all other states. The failure of almost one-half the states of the union to enact laws requiring the careful recording of births, deaths and reportable diseases is an almost unaccountable dereliction on the part of an intelligent people. It is said in the *Bulletin* of the Kentucky state board that if the bureau of vital statistics had done nothing else during the year except the work in connection with the two epidemics of poliomyelitis and cerebrospinal meningitis, the establishment of the bureau would be justified and the cost of its operation returned many times. Other states would no doubt find equal benefit from adequate vital statistics laws. The *Bulletin* also contains a well-written description of the etiology, pathology, symptomatology, diagnosis and treatment of epidemic poliomyelitis which is in accordance with the latest knowledge concerning the disease. The pamphlet is a valuable contribution to the literature of epidemic poliomyelitis and is a shining example of what an efficient vital statistics bureau can do for the people of a state.

THE INFLUENCE OF FATS ON THE ACTION OF NARCOTICS

The Overton-Meyer theory of narcosis, which has enjoyed much popularity in the past few years, lays stress on the relative solubility shown in the fat-like and non-fat-like tissue constituents by those indifferent substances which exert narcotic action and exhibit anesthetic properties. There appears to be a close relationship or parallelism between the narcotic strength of a compound and its so-called distribution coefficient between fatty and watery solutions. The greater the comparative solubility of a narcotic in fat as contrasted with water, the smaller will be the molecular concentration of the narcotic necessary for narcosis. This fat-soluble property of so many of the familiar narcotics might well be expected to modify their pharmacologic behavior when they are introduced into the alimentary tract simultaneously with fats. It would appear not unlikely that the local irritation produced by substances like alcohol in contact with mucous membranes might be decidedly modified in the presence of a product like fat in which they are more or less soluble. Furthermore, the possibility at once suggests itself that owing to such a condition of lipoid solution the narcotic will be transferred but slowly to the watery solvents in the alimentary tract during the course of the digestive cleavage and absorption of the fats; and thus the unfolding of its appropriate physiologic action may be only gradual. These conjectures have been tested experimentally in Professor Jacobj's laboratory at Tübingen.[1] When alcohol is administered to subjects simultaneously with abundance of cream or oil emulsions, the typical symptoms of intoxication are greatly delayed and modified. Pronounced interference with typical alcohol effects is here scarcely to be expected, because of the relatively good solubility of alcohol in water. Its coefficient of distribution between fat and water is low. When other narcotics, notably amylenhydrate and paraldehyd, exhibiting a far greater differential solubility in fats, are administered in the same way, the protective influence of the solvent fats is far more conspicuous. It is even possible to annihilate completely the intoxicating effect of narcotic doses of these drugs by suitable admixtures of fat. Curiously enough it is a common dietary practice, especially in the sick-room, to administer alcohol in its various guises in creamy milk or with eggs having a fat-rich yolk. This may be a far more rational procedure than has been appreciated, especially as the irritant features seem to be entirely avoided in this way; and perhaps the intake of alcohol can be greatly increased without untoward effects by feeding it along with cream when desirable. It has been suggested, in fact, that the incipient excitatory stage produced by some of the narcotics taken by mouth is due to local irritation of the gastro-intestinal mucosa more than to any inherent stimulating property of the drugs. If this is true, a corrective measure for use with narcotics like paraldehyd suggests itself.

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[1] Howard, C. W., and Clark, P. F.: Experiments on Insect Transmission of the Virus of Poliomyelitis, Jour. Exper. Med., 1912, xvi, 850.

GOOD SECRETARIES SHOULD BE GIVEN LIFE SENTENCES

This is the time of the year when many of our county medical societies are holding their annual elections and are selecting the men who will have charge of their society activities during the coming year. While it is important that all of the officers in a wide-awake and active medical organization should be filled by efficient and energetic members, the position of secretary is perhaps of more importance than all the rest combined. It has come to be accepted in medical organizations that the activity and efficiency of a local medical society is measured largely by the effectiveness of the secretary. If he is an energetic, active officer, keenly appreciating the responsibilities and possibilities of his position, understanding the many opportunities for usefulness to the public and the profession, quick to see the need for action, and clever and original in devising methods by which these needs can be met, then, as a rule, the society is also wide-awake, efficient and active, and a power in its community. If, on the other hand, the secretary is inactive and inclined to stick close to the beaten track of conventional methods, interest in the society is apt to die out and the organization will become a perfunctory one, lacking in real efficiency and influence. The principal problem before each of our county societies is to find among its members the ideal man for an executive position. Happy is that society which has found such a secretary! He should be retained just as long as he is willing to serve, in order that his ability and energy, and especially his experience may be utilized by the organization. Good secretaries should be searched for without ceasing until they are found, and having been found they should be given the support of every good member of the society and should be continued in office as long as they are willing to serve. While the other offices may be distributed as honors to deserving members, for the good of the public, the profession and the organization, let the good secretary be retained as long as he is willing to carry on his self-sacrificing work.

ANTITYPHOID VACCINATION AS AN EXCUSE

A disposition to make the method of vaccination against typhoid an excuse for maintaining insanitary conditions is not one that should be encouraged. This seems, however, to be the tendency of a recent newspaper editorial on typhoid immunization, in which it is declared that the method will "be a boon in towns where water-purification plants cannot be built because of the expense." It can hardly be believed that this point of view will find many supporters. It is too much like blowing out the gas because there is a good chance of recovery if the pulmotor is brought in time. Taking trouble and especially spending money for a good water-supply may seem to some minds more difficult than having some one inject a prophylactic dose of dead bacilli, thus permitting the intelligent but impecunious citizen to drink sewage-laden water with impunity. We can hardly believe, however, that this method of reasoning will become general.

FRAUDULENT ADVERTISING IN HIGH-CLASS MEDICAL JOURNALS

It is the favorite retort of the publishers of some medical journals, when criticized for carrying advertisements of fraudulent proprietary remedies, that they are just as capable of determining what constitutes a fraudulent or worthless preparation as is the Council on Pharmacy and Chemistry. Of course the contention is an absurd one. A glaring instance in point may be found in recent issues of the *Annals of Surgery*. Here appear advertisements of "Mothersill's Seasick Remedy," a rank "patent medicine" advertised under fraudulent claims. Full details regarding this humbug may be found in "Nostrums and Quackery." The publishers of the *Annals of Surgery* have stated, to those who complained of the class of advertising this journal carried, that their advertisements are submitted to, and passed on by, some of the most noted surgeons in the country! And their board of censors has, presumably, approved of this worthless and fraudulent "patent medicine"! There are few physicians but will recognize, when their attention has been drawn to it, the incongruity of such an advertisement appearing in a medical journal of presumably high class; unfortunately, however, many of the same physicians will fail to realize that the *Annals of Surgery* carries advertisements of other proprietary nostrums that are just as worthless and just as fraudulent as the alleged cure for seasickness.

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[1] Salzmann, Max: Aufhebung der narkotischen Wirkung der Stoffe der Alkoholgruppe bei gleichzeitiger Aufnahme von Fett auf Grund ihres Teilungskoeffizienten zwischen Fett und Wasser, Arch. f. exper. Path. u. Pharmakol., 1912, lxx, 233.

THE CARE OF EPILEPTICS IN ILLINOIS

It is said that there are ten thousand epileptics in the state of Illinois for whose custody and care no provision has been made. Several attempts to establish an epileptic colony within the state have proved abortive on account of the failure of the legislature in each instance to vote any appropriation. When epileptics become public charges they are now confined in homes for the feeble-minded, in insane hospitals or jails—certainly a deplorable situation. The Committee of Fifty, composed of representative citizens of Chicago and the state of Illinois, is conducting a movement for securing the much-needed legislation providing for an epileptic colony. In a pamphlet issued by the committee the need of such an institution is forcefully set forth and an appeal is made to the citizens of the state to aid in securing a law and an adequate appropriation. An acquaintance with the conditions surrounding many of these epileptics, examples of which are given in the pamphlet, should at once convince the public and the legislators that a colony for epileptics is sorely needed.

THE CONSTRUCTIVE WORK OF THE COUNCIL ON PHARMACY AND CHEMISTRY

During the first two or three years of its existence, a single phase of the work of the Council on Pharmacy and Chemistry — the exposure of the many worthless or fraudulent proprietary medicines foisted on the medical profession — attracted attention. Gradually, however, another phase is becoming more prominent — that of its constructive work, manifested in the improvement of preparations already on the market and in the check exercised on the output of new medicines. In the New and Nonofficial Remedies Department of this issue are found two examples of the influence which the Council has had in the way of improving the quality of drugs. The manufacture of a satisfactory brand of calcium glycerophosphate by the Monsanto Chemical Works is the direct result of the report of the Council[1] on the poor quality of the calcium glycerophosphate on the American market. This report, it will be remembered, gave the results of an examination made in the Association's laboratory of the various brands on the market which showed that all were highly impure and that some were not deserving of the title "calcium glycerophosphate." In view of the poor quality of the product, the Council at that time decided not to describe calcium glycerophosphate in N. N. R. It now has been able to admit this drug and has listed the Monsanto brand as complying with the requirements adopted. Vacules cornutol represents a further improvement by the H. K. Mulford Company in the reliability of their ergot preparations. The general unreliability of ergot preparations having been demonstrated, the Mulford Company some time ago presented to the Council for examination its standardized ergot preparation, cornutol.[2] Experiments have indicated that the deterioration of ergot preparations is retarded materially when they are kept away from the air. The firm, therefore, now offers its cornutol in sealed containers from which the air has been removed prior to sealing. These efforts to market products of good quality indicate a recognition of the principle that mere words (advertising claims not substantiated by the facts) can no longer be depended on for profitable investment, but that for continued commercial success, goods of merit are demanded.

Medical News

CONNECTICUT

Personal.—Dr. Raymond Dodge, professor of psychology in Wesleyan University, Middletown, Conn., has been appointed consulting experimental psychologist at the Nutrition Laboratory of the Carnegie Institution and has had a special laboratory equipped for his work.——Dr. Laura Health Hills, Willimantic, is reported to be ill with diphtheria.——Dr. J. Hobart Egbert, Willimantic, hospital inspector for the United States Government in South and Central America, has accepted the position of chief medical officer of the Colombia Division of the United Fruit Company, with headquarters at Santa Maria.——Dr. W. G. Steadman, Southington, is reported ill with typhoid.——Dr. Joseph M. Flint has been appointed chief surgeon of the New Haven Hospital.——Dr. William F. Verdi has resigned from the staff of the New Haven Hospital to become chief of staff of the St. Raphael Hospital, New Haven.

Hunt Memorial Library Dedicated.—The new library addition to the Hunt Memorial, the building of the Hartford Medical Society, was officially dedicated December 16. The president of the society, Dr. Oliver C. Smith, in his opening address of welcome, gave a brief outline of the history of the Hunt Memorial building. The welcome was further extended by Col. Louis R. Cheney, mayor of Hartford, and Dr. Edward T. Bradstreet, Meriden, president of the Connecticut State Medical Society. To these addresses Dr. John W. Farlow, librarian of the Boston Medical Library, responded, speaking of the importance of the library not only to the medical men of the city, but to the people at large. Dr. Walter R. Steiner, librarian of the Hartford Medical Society, spoke of the further efforts to be made to increase the facilities of the library. Dr. Abraham Jacobi delivered the dedicatory address. The library annex is in the rear of the Hunt Memorial building, and is planned to permit further extension if necessary. It consists of a stack-room, a periodical room and a librarian's room. The stack-room is practically a fire-proof vault, completely shut off from the rest of the building by sliding fire-proof doors. The foundations are of concrete and the exterior walls are of brick to match the brick in the main building. The doors and frames are of metal and the window-frames and sashes are metal-covered, those in the stack-room being glazed with wired obscure glass. The three-story stack-room is on one side and the reading-room and the librarian's room on the other. The middle tier of stacks is the only one completed; the supports running to the basement, however, make it necessary only to add the ends, shelf-supports and shelves for the others when the library has grown sufficiently. An iron stairway leads from the basement stack-room to the first tier of stacks, on a level with the reading-room. From the stack-room, doors open into the reading-room and the librarian's room, thus facilitating the handling of books. The librarian's room, located at the end of the reading-room, is shut off by a glass screen, through which a full view is obtained of the entrance to the reading-room from the main building. At one side of the reading-room is a large magazine case with slanting shelves for the current periodicals, and straight shelves underneath for the previous issues of that particular periodical. The stack-room is equipped with the Snead standard stacks, finished in dark green enamel. The deck floors are of light Vermont marble, which reflects the light onto the lower books. The completed tier is estimated to accommodate about 10,000 books. Provision has been made for the instalment of an elevator when the other stacks are put in.

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[1] The Journal A. M. A., July 13, 1912, p. 134.

[2] The Journal A. M. A., March 9, 1912, p. 701.

ILLINOIS

Personal.—Dr. C. C. Ellis, a member of the staff of the Peoria State Hospital, has been transferred to the Chicago State Hospital, Dunning.——Dr. William Major has been elected physician of Peoria County, vice Dr. E. E. Nystrom, both of Peoria.

New Officers.—Will County Medical Society at Joliet, December 16: president, Dr. A. J. Lennon; secretary-treasurer, Dr. Marion K. Bowles.——Champaign County Medical Society at Champaign, December 12: president, Dr. Clyde D. Gulick, Urbana; secretary, Dr. Jennie Lyons, Champaign.

Humanities at State University.—The University of Illinois will open Lincoln Hall, February 12, with formal exercises. The hall is dedicated to the study of the humanities and the chief addresses will deal with the importance to the commonwealth, of adequate provision to the study of humanities. Language and literature will be considered by Prof. Bliss Perry of Harvard University; philosophy by Dr. Fred J. E. Woodridge of Columbia University, and the social sciences by Dr. Albert Shaw, editor of *The Review of Reviews*. After luncheon, the memorial address will be delivered by Dr. Hugh Black on "How Lincoln Appeared to Scotchmen." Addresses will then be given by the governor of Illinois, the president of the board of trustees of the university, the state architect, and the president of the university, after which Bishop William F. McDowell of Chicago will dedicate the building to the study of humanities in memory of Abraham Lincoln and in the name of the people of Illinois. At the conclusion of the dedicatory exercises a reception will be tendered to the guests of the university in Lincoln Hall.

INDIANA

Certificates of Merit for Food Dealers.—Dr. H. E. Barnard, state food and drug commissioner, has begun a campaign of education among health boards in the state seeking to provide for the installation of a system of certificates to be granted for excellence to owners of food-handling establishments.

New Officers.—Seventh Councilor District Medical Society at Martinsville Sanatorium, December 12: president, Dr. H. C. Robinson, Martinsville; secretary, Dr. Daniel W. Layman, Indianapolis.——Delaware County Medical Society at Muncie, December 6: president, Dr. W. W. Wadsworth, Muncie; secretary, Dr. H. D. Fair (reelected).——Allen County Medical Society at Fort Wayne, December 3: president, Dr. W. O. Gross; secretary, Dr. Garrette Van Sweringen, both of Fort Wayne.——Elkhart County Medical Society at Elkhart, December 5: president, Dr. B. F. Kuhn, Elkhart; secretary-treasurer, Dr. James A. Work, Jr.——St. Joseph County Medical Society at South Bend, December 3: president, Dr. B. C. Schanklin; secretary-treasurer, Dr. C. E. Varier.——Huntington County Medical Society at Huntington, December 4: president, Dr. Claude S. Black, Warren; secretary-treasurer, Dr. F. B. Morgan, Huntington.

IOWA

Board Report Dedicated to Secretary's Wife.—At the meeting of the State Board of Health it was unanimously agreed that the next biennial report of the board be dedicated to the late Mrs. Isabelle Sumner, wife of the secretary of the board, and formerly an assistant in the department.

New Hospitals.—The new Lansing Hospital is completely equipped and ready for occupancy. Dr. John Saam is in charge.——The construction work of the Franciscan Sisters Hospital, Seraphic Heights, near Waterloo, has been completed and the institution will be ready for patients this month. In addition to the wards, the hospital can accommodate eighty private patients.

New Officers.—Fort Dodge Medical Society, December 3: president, Dr. J. F. Studebaker; secretary, Dr. G. B. Palmer.——Fort Madison Medical Society, December 2: president, Dr. A. F. Philpott; secretary-treasurer, Dr. E. D. Price.——Southeastern Iowa Medical Association, thirty-seventh annual meeting at Fairfield, November 21: president, Dr. S. K. Davis, Libertyville; secretary, Dr. Edward F. Force, Burlington.——Ringgold County Medical Society at Mount Ayr, November 21: president, Dr. J. H. Goad, Ellston; secretary-treasurer, Dr. Samuel Bailey, Mount Ayr.——Chickasaw County Medical Society at New Hampton, November 7: president, Dr. H. D. Fallows; secretary, Dr. Paul E. Gardner, both of New Hampton.——Washington County Medical Society at Washington: president, Dr. J. C. Boice; secretary, Dr. C. A. Boice, both of Washington.——Mower County Medical Association: president, Dr. Torgnson; secretary, Dr. Rebman.——Wayne County Medical Association at Corydon, November 7: president, Dr. H. T. Smith, Humeston; secretary-treasurer, Dr. W. G. Walker, Corydon.——Osceola County Medical Association at Sibley, December 11: president, Dr. Frank S. Hough; secretary-treasurer, Dr. Frank P. Winkler, Bryant, S. D.

KANSAS

Work of Bell Memorial Hospital.—During the fiscal year ended October 23, 1,500 patients received treatment at the Bell Memorial Hospital, Rosedale, which is conducted by the University of Kansas.

Medical College to Close.—It is reported that the faculty of the Kansas Medical College, Topeka, at a meeting held recently voted to discontinue the college at the close of the present session after the graduation of the class of 1913.

Wichita Hospital.—Wichita is making an earnest effort to secure $100,000 for a new and modern hospital and in the first two days of the campaign more than $13,000 was raised. An anonymous donor presented the entire equipment for the delivery room of the obstetric department.

Personal.—Dr. H. L. Aldrich, Caney, president of the state board of health, has been elected coroner of Montgomery County.——Dr. C. A. Forsyth, Mildred, who has been ill for several weeks is convalescent and has resumed practice.——Dr. E. A. Bodenhamer and wife, Wichita, returned after an eight months' trip in the mountains of Colorado and New Mexico.——Dr. Mark Beach, Clinton, was seriously injured by the overturning of his automobile near that city, recently.

New Officers.—Lyon County Medical Society at Emporia, December 3: president, Dr. A. F. Higgins; secretary-treasurer, Dr. C. C. Harvey, both of Emporia.——Crawford County Medical Society at Pittsburg, December 3: president, Dr. A. O. Blair; secretary-treasurer, Dr. C. Martin Montee, both of Pittsburg.——Shawnee County Medical Society at Topeka, December 2: president, Dr. J. A. Crabb; secretary, Dr. C. L. Williams, both of Topeka.——Montgomery County Medical Society, sixth annual meeting at Independence, December 13: president, Dr. J. H. Johnson, Coffeyville; secretary-treasurer, Dr. J. Pinkston, Independence.

Examination of Drinking-Water on Trains.—As the result of an examination of water supplied to the public for drinking purposes by the railroads passing through Kansas, which disclosed that a considerable proportion of the water supplied was unsuitable for drinking purposes on account of pollution by icing, the board has ordered that on an after July 1, 1913, no railroad company and no officer or employee of railroad companies or any other person shall cause or allow any ice to be placed in or come in contact with any water which is served for drinking purposes on railroad trains or any passenger stations, and furthermore, that all drinking-water receptacles and coolers in passenger trains be thoroughly cleansed by said railroad companies and persons in charge of the cars containing the said water receptacles and coolers at all terminal stations or whenever or wherever such cars are cleaned.

MARYLAND

Personal.—Dr. R. C. Massenburg, Towson, is said to be seriously ill.——Dr. Thomas B. Johnson, Frederick, was badly beaten by a creditor to whom he had presented a bill for professional services.

Baltimore

Personal.—Dr. John S. Pennington has recovered from the injuries received in a fall from a street car some weeks ago.——Dr. O. P. Penning, who has been ill in Johns Hopkins Hospital for several weeks, has returned home.

Small-Pox Vaccination.—In view of the outbreak of small-pox, all negroes living in the Fifteenth, Sixteenth and Seventeenth wards, and all men employed in the building of the new dam in the valley of the Gunpowder to the north, have been vaccinated by the city health department.

Action to Curb Advertising.—A circular has been issued by the honor committee of the Baltimore City Medical Society calling attention to the violations of the rules regarding advertising by physicians in the newspapers, and asking that all such instances be reported. The circular is signed by Drs. J. Whitridge Williams, Nathan R. Gorter, H. O. Reik, Harry Friedenwald and Emil Novak.

Honor to Physician.—As a testimonial of appreciation of Dr. Thayer's declination of the call to Harvard University some time ago, a number of his friends have had two large bronze portrait medallions made of him by J. Maxwell Miller, the Baltimore sculptor. One of the castings has been presented to Mrs. Thayer and the other will go to Johns Hopkins University. About 100 small medallions have also been made for distribution among the contributors to the fund.

NEW YORK

Tuberculosis Notes.—Dr. Montgomery E. Leary, Rochester, superintendent of the Iola Sanatorium, has asked the supervisors to erect a building as a nurses' home for the institution.——The winter camp of the Dunkirk Committee for the Prevention of Tuberculosis was officially opened, November 25. The camp will accommodate fifteen patients.

Advises Vaccination of Railroad Employees.—State Health Commissioner Eugene H. Porter urges the vaccination of all railroad employees in order to prevent them from spreading small-pox. This movement has been inaugurated because of the prevalence of small-pox in certain parts of the state and because a recent epidemic in Cadosia is believed by the health authorities to have been spread by the railroads. The department of health has been notified by the New York, Ontario and Western Railroad that it has instructed its employees to be vaccinated.

New York City

Harvey Society Lecture.—The sixth Harvey Society lecture will be given January 18 at the New York Academy of Medicine. Major Russell, of the United States Army, will lecture on "The Prevention of Typhoid."

Small-Pox on Liner.—A case of small-pox was found aboard the steamship *Eugenia*, which arrived recently from Triest and another case has been reported in a young Austrian woman who arrived in this country a few days before becoming ill as a steerage passenger on the Hamburg-American line.

Cancer Home Opened.—St. Rose's Free Home for Incurable Cancer at Corlears Park and East River was dedicated on December 15, by Cardinal Farley. It has accommodations for 100 inmates and both men and women will be received. The institution is supported through private charity.

Guild House for Deaf Mutes.—The Gallaudet Memorial Guild House, which owes its existence to the efforts of the late Rev. Dr. Thomas Gallaudet, was dedicated December 8. The building is designed as a center of instruction and social life for deaf mutes and is the only institution of the kind in this country.

Health Exhibit for Colored People.—The New York Child Welfare Association, the National Association for the Advancement of Colored People, the National League on Urban Conditions among Negroes, and the clergymen, teachers, physicians and business men interested in the settlement work of San Juan Hill neighborhood opened a health exhibit at the Henrietta School on West Sixty-Third Street. Nurses and doctors gave instructions in the care of children, preparation of milk, selection of food, proper clothing, the care of the teeth and kindred subjects.

Physicians Incorporate a New Organization.—The American Society of Medical Economics has recently been incorporated and Dr. E. Eliot Harris, chairman of the committee on legislation of the Medical Society of the County of New York, has been elected president. All licensed practitioners are eligible to membership in this organization no matter to what school of medicine they may belong. The object of the society is to take up economical work that the scientific medical profession cannot handle; its main object is to foster a spirit of loyalty to the medical profession and to the public. Among the purposes of the society are the exposition and suppression of all forms of quackery or dishonorable practice of medicine, rendering assistance to constituted authorities in the enforcement of all medical laws relating to the sale of pure and standard food and drugs and the accurate compounding and dispensing of medicine. It will aid in legislation which shall provide for the revocation of the license to practice medicine or any license issued by the board of regents for causes such as fraudulent advertising or advertising in a way intended to impose on ignorant or unsuspecting persons. It will investigate and take action in regard to the practice of all licensed physicians, whether they be members of this society or not, in so far as the same reflects unfavorably on the profession or the public. The society will cooperate with other societies in establishing certified pharmacies and will oppose encroachments on the practice of medicine, such as the extension of the Board of Health along the lines of clinics and curative medicine instead of extension along the lines of preventive medicine.

Circular on Venereal Disease.—The Commissioner of Health has sent a circular letter to all physicians in New York City requesting information as to the number of cases of syphilis, chancroid and gonorrhea seen by each, and furthermore requesting all physicians to report promptly all cases of venereal disease coming under their observation, omitting the name and address but stating sex and age of patient, stage and duration of the infection and date and source of contraction of the infection if obtainable. Report cards for this purpose will be forwarded to physicians on request. The superintendents of all public institutions have been required to report such cases since May 1, 1912, and it is desired to obtain the same information with regard to private patients. The department of health is prepared to give assistance in the diagnosis of these cases by making the Wassermann tests and bacteriologic examinations of discharges free of charge.

The Otisville Tuberculosis Sanitarium.—The November bulletin of the department of health is given up to a description of this institution in which tuberculosis patients are cared for under the supervision of the department. The institution differs in many important particulars from any other existing institution and in the opinion of those competent to judge comes nearer the solution of the problem of the institutional care of the tuberculous poor than has been found elsewhere. The characteristic feature of the administration of the Otisville Sanitarium is its insistence on practically continuous outdoor treatment. This is carried so far that out of 500 patients now in the institution not more than twenty-five can, under any possible conditions, be placed within four walls. Patients taken from the hot stuffy tenements in the middle of the winter and made to live out of doors night and day show only good results. Since the institution has been open there has never been a death from any acute disease nor has there ever been a case of contagious disease in the institution. It is the belief of the department that eventually at least 1,500 persons will be provided for at this place. It was intended originally to care only for incipient cases but it has been found that the larger proportion of cases among the poor are no longer incipient when recognized. There are not now enough recognized incipient cases in New York City to fill a large institution. The cases in the second stage often do quite as well as the incipient cases. Many advanced cases frequently show surprising improvement after a few months in the sanatorium. A carefully supervised "work cure" instead of a "rest cure" has given most satisfactory results and has been an economic factor of no small moment in the management of the institution.

NORTH CAROLINA

New Officers.—Buncombe County Medical Society, seventeenth annual meeting, at Asheville, December 17: president, Dr. A. W. Calloway; secretary-treasurer, Dr. G. S. Tennent, both of Asheville.

Personal.—Dr. Ralph B. Seem, Wilmington, recently appointed assistant superintendent of the general dispensary of Johns Hopkins University, has gone north to study the systems employed in the dispensaries, especially in Boston and New York.——Dr. William J. Lumsden, Elizabeth City, who has been ill for nearly a year on account of injuries received in a fall on the ice, is reported to be improving.

OHIO

Physicians' Building.—A seven- or eight-story building for the exclusive use of physicians and dentists is to be erected at Huron and Adams Streets, Toledo, at a cost of $350,000 to $400,000.

Medical Staff Reappointed.—The trustees of the Miami Valley Hospital, Dayton, have reappointed Drs. Webster S. Smith chief of staff; Dr. C. W. King, C. H. Breindenbach and George Goodhue physicians on the medical staff; Drs. F. Dale Barker and William E. Ewing on the surgical staff; Drs. A. H. Dunham, F. Dale and W. E. Ellman, obstetricians; Drs. H. B. Harris and H. D. Rinehart, oculists and aurists, and Drs. W. J. Conklin and J. A. Davison, members of the consulting staff.

Antituberculosis Items.—The Belmont County Antituberculosis Society was organized in Bellaire, recently, Dr. J. S. McClellan, Bellaire, being elected a member of the executive committee.——The Hancock County Society for the Prevention of Tuberculosis was organized November 7. Dr. Cornelia B. Kennedy, Findlay, was elected president, and Dr. J. C. Tritch, vice-president.——In the case of the tuberculosis sanatorium for the district composed of Darke and Miami Counties, the litigation has resulted in the following rulings: that the purchase of the hospital site in Miami County was valid; that the trustees of the hospitals had authority to appropriate plans and specifications and to construct and equip a hospital; that the act of the trustees appointing a superintendent, nurses and employees and fixing salaries was unconstitutional and that the means for the maintenance of the institution must be determined jointly by the county commissioners and the counties involved.——The supreme court sustained the lower court in allowing a Stark County taxpayer a mandamus compelling the county commissioners, auditor and treasurer, to carry out their part of the contract with Columbiana, Mahoning, Portage and Summit Counties, jointly to construct a tuberculosis sanatorium at an expense of $100,000.

PENNSYLVANIA

Anniversary of Academy.—The Harrisburg Academy of Medicine celebrated its seventeenth anniversary, November 29. The address of the evening was delivered by Dr. John B. Deaver, Philadelphia.

Hospital News.—The new Cresson State Hospital for Tuberculosis opened December 26. It will accommodate 360 patients.——Mercy Hospital, Altoona, has asked the legislature for $10,000 for maintenance during the coming biennium and $15,000 for an annex.——The first patient was committed to the State Hospital for the Criminal Insane, Fairview, December 14; later, sixty patients were transferred from the Norristown State Hospital.

New Officers.—Jefferson Medical College Alumni Association of Northeastern Pennsylvania, annual meeting in Wilkes-Barre, December 19: Dr. S. M. Wolfe, Wilkes-Barre, president; Dr. J. Norman White, Scranton, secretary.——Mifflin County Medical Society: President, Dr. C. H. Brisbin; secretary, Dr. J. A. C. Clarkson, both of Lewiston.——Cambria County Medical Association at Johnstown, December 12: president, Dr. W. O. Lubken; secrtary, Dr. Henry Cartin, both of Johnstown.

Small-Pox.—December 16, two cases of small-pox were discovered in the Italian settlement in Chester and all the inmates of twenty-four houses in that district were vaccinated and the Lincoln Public School attended by children from this district was fumigated. December 21, four new cases of small-pox were reported from the locality of Front and Parker streets, and Dr. W. Knowles Evans, president of the Board of Health, conducted a wholesale vaccine crusade on this street.——The State Department of Health, which has been in charge of the health affairs of Carbondale during the recent outbreak of small-pox, has returned the management to the health officials of that city.

Personal.—Dr. John W. Luther is the first burgess of the new borough of Palmerton.——Dr. L. R. Ranck, Milton, has been elected vice-president of the University of Pennsylvania Alumni Association for the counties of Northumberland, Union, Snyder, Montour and Columbia.——Dr. H. C. Chisolm, Huntingdon, underwent an operation for necrosis of the jaw, in a hospital in Philadelphia.——Dr. John A. Darrow, Erie, has recovered from the recent accident to his hand and has resumed practice.——Dr. Edwin B. Miller, Altoona, who has been under treatment in Philadelphia for several weeks, has returned home, recovered.——Dr. Jerome L. Pyle, Gradyville, is under treatment at the Chester Hospital on account of an injury to an eye.

Philadelphia

Hospital News.—To raise $100,000 for the Abington General Hospital, a bazaar was held at Jenkintown, December 5.

New Officers.—Philadelphia Medical Examiners Association, December 10: president, Dr. A. W. Hammer, Philadelphia; secretary, Dr. J. L. Eisenberg, Norristown.

Personal.—Dr. L. Davis Frescoln has resigned as chief resident of the Episcopal Hospital in order to devote his time to private practice.——Dr. Lawrence F. Flick was elected president of the American Catholic Historical Society at its twenty-eighth annual meeting, December 16.

War Against Unsanitary Housing Conditions.—The Philadelphia Academy of Medicine and Allied Sciences, composed of colored physicians, dentists and pharmacists, held a meeting December 16, at which a campaign against the unsanitary condition of houses occupied by people of their race was planned.

Plans to Prevent Blindness.—The Commission for the Conservation of Vision, which was appointed at the last convention of the Pennsylvania State Medical Society, held a meeting recently, at which plans to reduce the number of cases of blindness were discussed, and a campaign throughout the state against the roller-towel and the use of wood alcohol in many cheap products, such as varnish, was outlined.

Red Cross Seal Profits.—The Pennsylvania Society for the Prevention of Tuberculosis decided to share the proceeds of the Red Cross seal sale in Philadelphia as follows: Twenty-eight per cent. to the White Haven Sanitarium; 38 per cent. to the Kensington Dispensary and 8 per cent. to the Day Camp for Tuberculosis on the Bainbridge Street Pier, the remainder of the money to be used by the society to push its campaign.

Decrease in Contagious and Infectious Diseases.—During the week ending December 21, there was a decided falling off in the number of "reportable" diseases, 674 new cases of infectious and contagious disease being recorded as compared with 829 for the preceding week. Fourteen cases of typhoid were reported as compared with twenty-two the week previous; ninety-four cases of scarlet fever compared with 120; 145 cases of chicken-pox as compared with 171, and sixty-six cases of diphtheria as compared with sixty-eight last week.

New Public Charity Society.—A Public Charities Association of this city was organized at a conference held in the Hotel Walton, December 5. There were present representatives of charitable organizations throughout the state, and George Vaux, Jr., was made president and William B. Buck, secretary, of the new society. One of the main objects of the association is to bring about the segregation of all the feeble-minded persons in the state by 1920. Other objects include the adoption of a sound state policy in making charitable appropriations, the development of an adequate system of state institutions, the removal of children from almshouses, proper state or county provision for tuberculosis, the establishment of a state reformatory for women and the adoption of more modern and scientific methods of dealing with inebriety and vagrancy.

GENERAL

Railway Surgeons Meet.—At the sixth annual meeting of the Surgical Association of the Chicago and Northwestern Railway held at Chicago, December 19, Dr. A. L. Wright, Carroll, Ia., was elected president, and Dr. John E. Owens, Chicago, chairman of the executive board.

Meeting of Western Surgeons.—The Western Surgical Association at its annual meeting in Cincinnati, December 21, elected Dr. Jabez N. Jackson, Kansas City, Mo., president; Drs. J. Rilus Eastman, Indianapolis, and Major G. Seelig, St. Louis, vice-presidents; Dr. Arthur Mann, Minneapolis, secretary-treasurer, and Dr. Lewis L. McArthur, Chicago, a member of the executive council. St. Louis was selected as the meeting place for 1913.

FOREIGN

Tropical Veterinary Bulletin.—This new publication is issued under the direction of the Tropical Diseases Bureau, London, and contains full abstracts of papers of particular interest on veterinary tropical diseases appearing in the literature, together with an index of articles relating to these and allied subjects not treated in more extended abstracts. In view of the great interest which all insect-borne and other tropical animal diseases have at the present time, and their close relation, in many instances, with the diseases of man, the collection of this literature in the *Bulletin* makes a very interesting and valuable publication. It is sold by Baillière, Tindall & Cox, 8 Henrietta Street, Covent Garden, W. C., London.

From the Seat of War.—A letter in the *Medizinische Klinik*, December 1, states that bacteriologists and serologists form a group at the seat of war as large and important as the group of surgeons. Dr. Sondermeyer, surgeon-in-chief of the Servian army, has inaugurated a series of conferences of physicians, to meet at Belgrade. At the first, a number of recent experiences were related, among the speakers being Professor Jedlicka of Prague who reported 700 clinical cases at the seat of war. Of his twenty-five gunshot wounds of the skull, twelve proved soon fatal and in ten more the patients succumbed notwithstanding the operation. In the others the bullet passed through the skull without any symptoms on the part of the brain or any paralysis. Four patients with circumscribed peritonitis were given operative treatment the fifth day and all are convalescing. One soldier was shot in the stomach and lay on the battle-field for three days before he was carried to the hospital. The man is now convalescing fast, eight days after the abdomen was opened. The letter confirms the newspaper statements that by November 24 there were 25,000 sick with cholera at Constantinople and that 5,000 were installed in the great mosque. Among the serologists on the spot are a group of four from Vienna in charge of Prof. R. Kraus; Dr. Kaunitz from the Berlin institute is with them. The sixth party sent out by the German Red Cross is headed by Prof. A. Hildebrand of Berlin and the seventh is in charge of Dreyer of Breslau and Geisler of Stettin. The latter party has started for Scutari on the southern shore of the Bosphorus. Both are equipped with a complete bacteriologic laboratory. The serologists brought large quantities of cholera vaccine with them and also vaccine and serum to combat plague.

LONDON LETTER

(From Our Regular Correspondent)

London, Dec. 14, 1912.

The National Insurance Act

I stated in my last letter that in issuing a memorandum to the divisions of the British Medical Association on the final terms offered by the government the council did not send any covering letter advising whether to accept or reject. It appears that at the meeting of the council a strong effort was made to induce that body to adopt a hostile attitude toward the act and that it was only by a very small majority that it was decided not to do so. Many meetings of the divisions have been held, to which non-members of the association residing in the area have been invited, and a great majority of both members and non-members have voted against working the act. Thus the first metropolitan division to vote was the Kensington. Here 200 members and forty-five non-members voted against working the act while fourteen members and four non-members voted for the act. At the Shropshire and Mid-Wales division, eighty-one members and eleven non-members voted for refusing to serve and only one member and two non-members were in favor of accepting. On the other hand, in Glasgow it was decided by a large majority to work the act. It seems a foregone conclusion that the association will refuse by a large majority to work the act. This momentous question will be decided at a special representative meeting to be held in London on December 21 to receive the reports of the result of the votes of the profession at the divisional meetings. In the meantime energetic efforts are being made by circulars issued to the members of the profession, urging acceptance as well as rejection, to influence their decision. The refusal of the association to work the act will by no means end the struggle. The government, having gone so far as to collect contributions from both employers and workmen, under the promise of medical service, cannot now withdraw, nor is it likely to make any more concessions. Moreover, associations of physicians are springing up in various places for the purpose of working the act. One which has arisen in London was described in my last letter. From Birmingham an appeal has been made by a body of twenty-six physicians to the whole profession asking their fellow practitioners to work the act. They point out that if the government terms are now rejected no more offers can be expected. As soon as possible whole-time service of physicians will be formed, in selected towns first. "In this city, at any rate, the general practitioner will be out in the cold. Under the act the physicians here would have an average of 1,000 persons, yielding $1,750 per annum. This is for workers; a physician need not take more than he wants, but it is well known that a considerably larger number can be attended efficiently in addition to a large private practice." It is pointed out that the guarantee fund established by the British Medical Association to compensate for the loss of income sustained by the resignation of contract practice would in the case of Birmingham yield the 200 club physicians only $75 each, while they have resigned incomes ranging from $250 to $2,000.

A SERIOUS REVOLT

The inaugural meeting of the National Insurance Practitioners' Association (described in my last letter) has been well attended and the association is receiving support from two prominent members of the council of the British Medical Association—Dr. Maclean, formerly chairman of the representative body, who has taken a prominent part in the negotiations with the government, and Dr. Lauriston Shaw, physician to Guy's Hospital. The latter gave an address in which he emphasized the necessity of a clear expression of opinion by those who desired to form panels under the act, lest in ignorance of the true position an unwise decision should be reached on December 21 by the British Medical Association. He considered the terms now offered far more remunerative than any that had ever been obtained before from practice among the insured classes and that the conditions were honorable, such as need give no cause for anxiety to any physician desiring to give faithful service to his patients. Speaking with a full sense of his responsibility as a member of the council of the British Medical Association and owning an almost passionate regard for the principles of professional union, he felt it his duty to say that if the association decided to call on all members of the profession to refuse to work the act the moment will have arrived when large numbers of physicians will feel compelled to consider whether it is possible for them to sacrifice that which they conceive to be the wide interests of the community to the narrow and selfish interests of the profession. Dr. Addison, M.P., an eminent anatomist and formerly lecturer on anatomy at St. Bartholomew's Hospital, who has now given up teaching for politics and is a prominent supporter of the government, said that if the profession attempted to boycott the act the government would use the whole of its power in one of two directions: either the friendly societies would be encouraged to engage physicians themselves or the government would engage physicians to do the work. He had no doubt the government would ge them, and if so, they would not be displaced afterward to make room for any other form of service. Thus, before the poll which the British Medical Association is taking of the profession is decided organized efforts are being made and supported by some of the leaders of the association to work the act whatever the decision may be. It seems clear that the decision will be to refuse service by a large majority, but it seems probable that a stampede may occur after the decision. The remarkable union of the profession brought about by the association for the purpose of resisting the act will then disappear and bitter antagonism will arise between the two sections of the profession. The situation illustrates a fundamental law of all strikes and combinations: by union better terms can be obtained up to a certain point, but if the demands are pushed beyond that point the resistance becomes too great and the union is broken with disastrous consequences. As I stated in a previous letter, the great increase in the terms offered by the government would necessarily strengthen those in favor of working the act. The British Medical Association has done good service to the profession in obtaining those terms. But its members may now be confronted with the spectacle of the fruits of those efforts being reaped by those who are termed—in the language of the trade-unions—"blacklegs."

Testimonial to Sir Patrick Manson

A fund for a testimonial to Sir Patrick Manson on the occasion of his retirement is being raised in recognition of his epoch-making work in tropical medicine. The testimonial will take two forms—national and international. The national testimonial will consist of a portrait painted by a well-known artist and also, it is hoped, a scholarship for the advancement of tropical medicine in some one of its branches. The international tribute is in the form of a medallion of gold, bearing an impression of Sir Patrick Manson's features. A committee consisting of every one who is eminent in tropical medicine in this country has been formed for the purpose of raising contributions.

Successful Inoculation Against Typhoid in India

According to Col. R. H. Firth, professor in the Army Medical Staff College, the practice of inoculation in India has produced a steady diminution in the number of cases of typhoid fever among the European troops in 1911. Among an inoculated rank and file population of 60,635 there were 106 cases of fever and six deaths, while a non-inoculated similar population of 8,477 furnished sixty-four cases with eleven deaths. Paratyphoid has only been positively distinguished from typhoid since 1910 and is responsible for a large amount of the case incidence, although for not more than 2 per cent. of the mortality. It appears to be mainly diffused by human intercourse, and to produce a larger proportion of subsequent "carriers" of infection than enteric, so much so that it has been found necessary to examine carefully all convalescents before they are permitted to return to duty.

PARIS LETTER

(From Our Regular Correspondent)

Paris, Dec. 13, 1912.

Syphilitic Origin of Chorea

The Société médicale des hôpitaux de Paris devoted its recent meetings to a discussion of Dr. Milian's theory that chorea is of syphilitic origin. Milian has made an investigation into the antecedents of a number of chorea patients taken care of in various children's hospitals. Eleven out of fifteen gave a positive Wassermann. Two other patients showed some of the dystrophic stigmata commonly attributed to hereditary syphilis. In the last two cases the syphilitic origin of the chorea was doubtful. From these results Milian believes that syphilis, hereditary or acquired, may be regarded as the most important etiologic factor of chorea. He has been able to demonstrate the syphilitic nature of chorea by quickly curing three cases by mercurial treatment. He also pointed to the fact that the treatment for chorea empirically sanctioned is arsenic in large doses. In the treatment of chorea Trousseau used with success calomel and antimony; all these are specifics for syphilis. Finally the progress of chorea, which is nearly apyretic, running a subacute course with remissions and relapses, together with the complications (aphasia, hemiplegia, mental disorders) can only establish the syphilitic nature of the disease.

Numerous objections were raised to this theory. Dr. Comby said that in order to change the view of pediatrists as to the origin of chorea it would be necessary to present statistics not of fifteen cases but of hundreds or thousands. Without doubt arsenic is a good treatment for chorea, and according to Milian salvarsan would be the best treatment of syphilis; but that the arsenical compounds are equally efficacious in the two diseases is no ground for concluding that they have a common origin. Dr. Guillain agreed with Dr. Comby and from the point of view of a neurologist said that in the spinal fluid of patients with chorea only a slight meningeal reaction is ever observed, and that it is variable at best. In these patients there is no lymphocytosis, excess of albumin or Argyll Robertson sign. At autopsies which he has been able to make he has never found the customary lesions of hereditary syphilis in the nervous centers or in the spinal cord. As to antecedents, Guillain said that when he was chief of the clinic at the Salpêtrière he had never found syphilis among patients with chorea. Dr. Nobécourt declared that although he had searched systematically in infants for signs of hereditary syphilis, he had not been able to discover one among the numerous patients with chorea who had passed through his hands. Moreover, in the service of Professor Hutinel, Dr. Tixier had obtained a negative Wassermann as a rule in patients with chorea. To Nobécourt chorea, by reason of the frequency of rheumatic heart disease which complicates it, seems to be of infectious origin. Nobécourt has tried salvarsan not in subcutaneous injections but in enemas in a dosage of 0.1 gm. according to the method recommended by Weill, Morel and Mouriquand (of Lyons). In seven out of ten cases the results have been failures. In three cases he observed a slight improvement. Nobécourt thinks then that arsenic does not have a constant effect in the treatment of chorea.

Dr. Claude expressed the belief that in certain conditions it is possible that syphilis determines chorea, but that this does not imply a syphilitic origin of this affection. Claude had two patients who died of chorea; neither clinically nor by necropsy did he find specific lesions. Dr. Triboulet in four hundred cases of chorea found only four which had been accompanied with signs of hereditary syphilis. The specificity of chorea did not appear defensible to him, for in the great majority of cases this affection when left to itself ends spontaneously without recourse to any treatment, arsenical or otherwise, being necessary. On the other hand, Dr. Babonneix, without coming to the same conclusion as Milian on the syphilitic nature of chorea, said that in 145 cases of this disease which he had observed there were thirty-six in which hereditary syphilis might be said to exist. Although these findings do not establish the syphilitic origin of chorea, they permit the conclusion that in the etiology of chorea hereditary syphilis sometimes may be a predisposing and determining cause.

Dr. Milian's reply was that if all cases of chorea are not of syphilitic origin the great frequency of hereditary syphilis among patients cannot be considered a negligible feature. It is on conclusions of this kind that the syphilitic origin of tabes depends. Rheumatism, which has actually been considered a factor in chorea, is less frequent than syphilis. It is not a mere coincidence that the specific remedies of syphilis (mercury, arsenic and antimony) have been administered with equal success in chorea. As to the negative results of Nobécourt, who employed an untrustworthy method of treatment (enemas of salvarsan) Milian offered the good results obtained by von Bókay, Pawlow and others in the treatment of chorea by salvarsan. As to the objections that the Argyll Robertson sign is not found among these patients, Milian said that the abolition of the patellar reflex is found less frequently, which in the absence of paraplegia is valuable as a sign of syphilis.

At the meeting of the Académie de médecine of December 10, Prof. Pierre Marie said that he had treated by intravenous injections of salvarsan twenty-five children or young persons who had chorea of greater or lesser intensity. These injections had been repeated, on an average, four times a week. The doses had varied from 0.2 to 0.3 gm. and even to 0.35 gm. among the older children. Never had he observed the slightest symptom from the second or third injection. There was quite a diminution as a rule in the choreic movements. Cure generally followed the third or fourth injections, so that the duration of the disease was reduced to three or four weeks. Though these results might justify the supposition that chorea is an affection of syphilitic origin, such is not the opinion of Pierre Marie. In fact, among eight of his patients he obtained a negative Wassermann in the spinal fluid. He is of the opinion that salvarsan acts in chorea by virtue of its being an arsenical compound with an antiparasitic effect on the pathogenic agent of chorea. In connection with this paper Professor Chauffard said that the various arsenical compounds which had been introduced recently into the treatment of several affections, often with success, ought to be considered not as specific for syphilis but rather as agents of a more general application.

Prohibition of Absinthe in the Colonies

In view of the distressing results from the admission of alcohol into our African possessions, the governor of the Ivory Coast has taken the radical measure of absolutely prohibiting the entrance of absinthe into the territory under his jurisdiction. The colonial minister also is considering this question for the purpose of drawing up a measure to be enforced in all our colonial possessions. Prohibition would certainly do more good than the increase in the tax on alcohol recently adopted (The Journal, Sept. 14, 1912, p. 891).

BERLIN LETTER

(From Our Regular Correspondent)

Berlin, Dec. 6, 1912.

Personal

Professor Schultze of Greifswald has received a call to Göttingen as director of the clinic for nervous diseases, succeeding Professor Cramer, who died recently. Professor Schultze's position is to be filled by Professor Schröder, assistant of Professor Bonhöffer of Berlin.

Professor Merkel has been promoted to the chair of legal medicine and pathologic anatomy at Erlangen.

In addition to many other "salvarsan orders," Professor Ehrlich of Frankfort has just received also the Bavarian Maximilian order, which is the highest Bavarian decoration for scientific services.

Congress Themes

The next German Congress for Internal Medicine will be held, as usual, in the latter part of April at Wiesbaden. The most important theme to be discussed is "Nature and Treatment of Fever." The speakers are Profs. von Krehl of Heidelberg, and Hans Horst Meyer of Vienna. Professor Schittenhelm of Königsberg has promised, at the request of the committee, to speak on the "Relation between Anaphylaxis and Fever."

Regulation of the Manufacture and Sale of Carbonated Beverages

The Bundesrath (federal council) has just published a regulation of the manufacture and trade in carbonated beverages, which will be effective in the various German states. The regulations apply to all establishments (with the exception of champagne, and effervescent wines of fruit) in which beverages are prepared for commercial use by the addition of carbon dioxid, as well as to the trade in such beverages. For the manufacture of such beverages distilled water from the public water-supply must be used and this water must be kept until used in clean, closed vessels. The proper authorities may permit the use of undistilled water from other sources if the manufacturer can show by local inspection of the source and a chemical and bacteriologic examination of the water by suitable experts that the water is unobjectionable. The production of such evidence can be required by the proper authorities at certain intervals and also at any time when a suspicion of contamination exists. The carbon dioxid to be used must be free from insanitary mixtures. The salts, acids, etc., to be used as additions to the beverages must be pure, and, if included in the German Pharmacopeia, must come up to that standard. In beverages put on the market as fruit and effervescing lemonades, in addition to water, carbon dioxid and cane-sugar or beet-sugar, and, in the case of citrus fruit drinks, flavoring from the rind, only natural fruit juice or pure fruit syrup (prepared from natural fruit juice and sugar) may be used. Beverages containing any other ingredients than those named must be labeled as artificial. If the carbon dioxid is prepared by the mineral water establishment in apparatus for deriving it from carbonated mineral waters, it must be suitably purified before use. The acids used must be free from arsenic. Those parts of the apparatus which serve for the preparation and delivery of the beverages and which come in contact with the water containing carbon dioxid must be permanently resistant to dilute acids, and, in particular, copper or its alloys must not be used unless they are heavily tinned. The rooms in which beverages are prepared must be light, well aired and clean; the apparatus must be so placed that it can be inspected from all sides. The rooms must not be used for purposes which might unfavorably influence the manufacture of the drinks named in these regulations. The bottles in which carbonated beverages are delivered must be thoroughly cleansed before filling. The use of bottles with damaged mouths or damaged rubber rings is forbidden. The safety of employees is provided for by a number of regulations requiring the use of goggles, wristlets and other protective appliances, and prohibiting the use of dangerous or unreliable apparatus. Apparatus of insufficient resisting power must not be retained in the establishment.

Diplomas in Germany

Among the antiquated customs of the universities, which have their origin in the middle ages, belongs the regulation that diplomas of doctors shall be written in the Latin language. To the University of Marburg, I believe, belongs the credit of being the first to abrogate this custom, inasmuch as it has been determined that in that institution diplomas of doctors hereafter shall be written in the German language.

VIENNA LETTER

(From Our Regular Correspondent)

Vienna, Dec. 9, 1912.

Professor von Noorden's Impression of American Conditions

Professor von Noorden returned a few days ago from his tour through America, and in newspaper interviews and in a talk before a medical society has given the details of the journey. He had been delegated by the Austrian government as official representative to the International Congress on Hygiene and Demography, held at Washington, and he spoke highly of the standard attained by American medicine in this special branch. It struck him that the problems of disposal of sewage, of drainage and the water-supply for all the rapidly growing towns of America, are much more complicated and also much more looked after than in the average town of Europe. He strongly emphasized that the results obtained in the Navy by compulsory antityphoid inoculation (a reduction from five or six hundred to two or three yearly cases) should be followed up by similar experiments in typhoid districts in Europe. Von Noorden found that diseases of the gastro-intestinal tract, including disturbances of metabolism and feeding, are much more frequent in the United States. The pure food law struck him as a useful and sensible measure, resulting in much good for the health and a saving in money of the general public, although the patent medicine business tries to evade it. He would never have believed that it was possible to set up such frauds on suffering mankind as some of the American "cures" and that these fakes would find people foolish enough to buy and use them. In scientific standards some of the American hospitals and medical schools have no rivals, and the professor acknowledges that metabolism, for instance, is studied there better than anywhere else in the world, perhaps even including Germany. He was astonished, however, to find that so few sanatoriums are in existence for other diseases than tuberculosis, so that patients who wish to avail themselves of the opportunities offered in certain bathing places or spas have to stay in hotels. Especially in California, which boasts of such a splendid climate that he would call it a pearl of the world, this lack is a serious drawback; otherwise it would be the Mecca of people suffering from arteriosclerosis, nephritis, respiratory troubles and disturbances of the hematopoietic organs. He believes that the standard of medical education is much higher now than it was seven years ago, and he admits that American surgeons rank among the first in the world. As regards the hospitals, von Noorden says that as a rule they are not so good as the modern European hospitals, but some of them in the large cities are really absolutely first class, and could serve as a model for Europe, while the older European hospitals are not so good as the older American ones, the latter offering more personal comfort to the patient.

Opening of New Medical Institutes

A few days ago the Mariehilfer Ambulatorium opened an up-to-date hospital which is intended to accommodate forty patients. The institute, which is frequented by more than 40,000 outpatients yearly, is a most useful addition to our teaching institutes, and its otologic, rhinologic, urologic and ophthalmologic classes are well known among the American physicians staying in Vienna. Furthermore the institute for physics has been opened recently and thus one of the oldest grievances of the students is done away with. The conditions in the old institute were really abominable. The new institute is intimately connected with the radium institute. On the same grounds with these two buildings a large modern chemical institute is being erected just now so that in a year's time it will open its doors to the students of medical chemistry.

Marriages

Harry Jackson Warner, M.D., U. S. P. H. Service, to Miss Edmonia Gertrude Francisco of Cincinnati, December 21.

Oscar La Borde, M.D., Columbia, S. C., to Miss Ellen Brooks Dunovant of Edgefield, S. C., December 5.

William F. M. Sowers, M.D., Washington, D. C., to Miss Mabel Dick of Lake Forest, Ill., January 1.

David Kirk Pollock, M.D., Atlantic, Ia., to Miss Dorothy Winkelman of Jefferson, Ia., December 18.

Herbert L. Smith, M.D., to Miss Minnie Julia Huffstater, both of Watertown, N. Y., December 16.

Ortus F. Adams, M.D., Segundo, Colo., to Miss Marion Easton of Valdez, Colo., December 13.

Sidney A. Quinn, M.D., Altoona, Pa., to Miss Mary G. Doyle of Hazleton, Pa., December 26.

William Norman Ferguson, M.D., to Miss Mary E. Powell, both of Philadelphia, October 16.

Howard T. Karsner, M.D., to Miss Audrey Whicher Stanwood, both of Boston, December 12.

Francis Leo Quigley, M.D., to Miss Viola L. Savage, both of Wallace, Ida., December 16.

William E. Risinger, M.D., to Miss Blanche C. Linton, both of Dayton, O., December 4.

Isaac Moore, M.D., Alton, Ill., to Miss Lila Luckey of St. Louis, December 9.

Deaths

James Monroe Torrence, M.D. Jefferson Medical College, Philadelphia, 1873; a charter member, and for several years president, of the Indiana County (Pa.) Medical Society; served in Company K of the One Hundred and Fifth Pennsylvania Volunteer Infantry during the Civil War; for forty years a practitioner of Indiana, Pa.; die at his home in that city, December 16, following an operation for appendicitis, aged 67.

John William Sorrick, M.D. Medical College of Ohio, Cincinnati, 1875; a member of the Ohio State Medical Association; formerly a practitioner of Pleasant Valley and Krumroy, O.; a member of the One Hundred and Ninety-first Ohio Volunteer Infantry during the Civil War; died at his home in Kenmore, O.; December 15, aged 64.

Herbert Walter Morehouse, M.D. Rush Medical College, 1870; a member of the American Medical Association; chief surgeon and physician of the Wabash Employees Railway Hospital Association for more than twenty years; died at his home in Danville, Ill., December 19, from cancer of the esophagus, aged 68.

James Hanks, M.D. Bellevue Hospital Medical College, New York City, 1890; a member of the American Medical Association; president of the Adair County and North Missouri Medical societies; also a member of the judicial council of the Missouri State Medical Association from the sixth district; died at his home in Brashear, Mo., December 14, from apoplexy, aged 52.

William Standing, M.D. Missouri Medical College, St. Louis, 1871; for ten years a member of the faculty of the Physicians and Surgeons College and a former practitioner of Coulterville, Ill.; for twenty-seven years a practitioner in children's diseases in St. Louis; died December 15, from pneumonia, aged 66.

Rachel J. Davison, M.D. Cleveland Homeopathic Medical College, 1882; for thirty years a practitioner of Flint, Mich., and the first woman to be chosen a member of the school board in Michigan; trustee of the Union School District of Flint in 1894-5; died December 13, with dropsy, aged 62.

Douglas A. Swartz, M.D. Medical College of Ohio, Cincinnati, 1888; formerly of Canton, O.; a well-known practitioner of South Whitley, Ind.; died at the Hope Hospital in Fort Wayne, December 10, following an operation for the removal of a small growth of the nose, aged about 53.

Robert Hugh Moss, M.D. University of Louisville Medical College, 1891; Bellevue Hospital Medical College, New York City, 1894; a member of the American Medical Association; formerly of Niagara, Ky.; died December 15, aged 42.

Max Keiser, M.D. Niagara University Medical Department, 1895; a member of the Medical Society of the State of New York, and of the Buffalo Medical Society; died at his home in Buffalo and was buried, December 12, aged 49.

Albert Henry Winter, M.D. University of Southern California, College of Medicine, Los Angeles, 1906; a member of the Medical Society of the State of California; died at his home in Los Angeles, November 2, aged 34.

Lucius Cincinnattus Ward (license, Alabama, 1882); of Daviston, Ala.; a practitioner of Alabama for over thirty-five years; died at the home of his daughter in Anniston, Ala.; December 12, with heart failure.

Ernest Byron Smith, M.D. Cleveland Homeopathic Medical College, 1882; a member of the Erie County (Pa.) Medical Society; died at the Buffalo Central Hospital, December 11, from cancer, aged 52.

James J. Egan, M.D. College of Physicians and Surgeons, Chicago, 1906; an ambulance physician of the police department; died at the Cook County Hospital, December 22, from pneumonia, aged 31.

William O. Smith, M.D. Medical College of Ohio, Cincinnati, 1873; of Kinmundy, Ill.; a veteran of the Civil War; died at the Soldiers' Home, Quincy, Ill., December 20, from senile dementia, aged 75.

Grennville A. Emory, M.D. Albany Medical College, N. Y., 1867; a well-known physician of Orange County, N. Y.; died at his home in Middleton, N. Y., December 12, from locomotor ataxia, aged 74.

Eliza J. Beach, M.D. Homeopathic Hospital College, Cleveland, 1877; of Pasadena, Cal.; one of the first women in this country to enter the medical profession; died December 12, aged 77.

Eli Peck Miller, M.D. Bellevue Hospital Medical College, New York, 1864; one of the oldest physicians in New York; died at his home, December 19, from pneumonia, aged 84.

John H. Yeagley, M.D. Hahnemann Medical College and Hospital, Philadelphia, 1878; died at his home in York, Pa., December 17, from pneumonia, aged 60.

Michael J. Gately, M.D. Georgetown University School of Medicine, Washington, D. C., 1872; died at his home in Baltimore, December 16, from apoplexy.

Jacob A. Hasemeier, M.D. Medical College of Ohio, Cincinnati, 1878; formerly of Louisville, Neb.; died at his home in Los Angeles, October 20, aged 63.

Vernon Justin Willey, M.D. University of Michigan, Ann Arbor, 1909; of Kalamazoo, Mich.; died at a hospital in Kalamazoo, December 7, aged 39.

Oscar O. Wolcott, M.D. Physio-Medical College of Medicine and Surgery, Chicago, 1896; died at his home in Bradner, O., October 13, aged 61.

Gerard Bailey, M.D. Medical College of Ohio, Cincinnati, 1868; of Rockford, O.; died suddenly at his home, December 9, aged 71.

Association News

ORTHOPEDIC SURGERY SECTION

Announcement of the New Section and Plans for the Minneapolis Session

The officers of the new Section on Orthopedic Surgery desire the cooperation of all members of the Association who are interested in this branch of surgery to the end that its first program which is to be presented at the Minneapolis session shall be an attractive and a practical one. The program is now being arranged and members who have ideas to advance or original methods of treatment to announce should address Dr. John Ridlon, 7 W. Madison St., Chicago, secretary of the Section, before April 1, 1913, and request a place on the program. All requests should be accompanied with the title of the paper proffered and an abstract of the paper not less than thirty or more than one hundred and fifty words in length, and an estimate of the time required to read the paper. Wherever it is possible to do so, applicants for a place on the program should submit the paper in full as well as this abstract to the officers of the Section so that the time at the disposal of the Section may be most advantageously allotted.

Newton M. Shaffer, Chairman,
31 East Forty-Ninth Street, New York.

The Propaganda for Reform

In This Department Appear Reports of the Council on Pharmacy and Chemistry and of the Association Laboratory, Together with Other Matter Tending to Aid Intelligent Prescribing and to Oppose Medical Fraud on the Public and on the Profession

MICAJAH'S UTERINE WAFERS

A Chicago physician sends us a batch of advertising matter and a sample package of Micajah's Medicated Uterine Wafers. He writes:

"Another secret formula that performs the great wonders usual to the 'unknown.' I do not find this wonderful 'combination of several well-known, approved and time-tried antiseptic, astringent and alterative medicaments,' mentioned in New and Nonofficial Remedies. The only mention of some of the ingredients in the enclosed is found on page 2 of their advertising leaflet, 'Non-Surgical Gynecology'—'borate of sodium and alumen.' They quote fifteen doctors and two editorials to prove that secrecy, and their statements as to results, do great work."

As our correspondent says, there is no reference to this product in New and Nonofficial Remedies. He will find, however, several pages devoted to the nostrum in the Propaganda for Reform booklet. Micajah's Wafers were analyzed in the Association's laboratory and found to consist essentially of burnt alum, boric acid and borax in approximately the following proportions:

Alum, dried	59.86 per cent.
Borax, dried	15.62 per cent.
Boric acid	5.67 per cent.
Water of hydration	18.85 per cent.

These are the "well-known, approved and time-tried antiseptic, astringent and alterative medicaments" for which Micajah & Co., together with several testimonial-writers, claim so much. To quote from previous comments made by The Journal on this product:

"That a mixture of borax and alum may be of value in some of the simple ailments of the female genital tract can easily be granted. That relief might follow the use of suppositories made of these ingredients—especially when supplemented by an increased attention to simple cleanliness—can also be admitted. To say, however, that such medicaments will quickly and permanently cure gonorrhea, urethritis, endometritis, etc., is foolish, false and vicious."

In spite of the fact that the medical profession has been apprised of the fraud and deceit connected with its exploitation, this preparation is still advertised in several medical journals. Some of these are:

Medical Record
Therapeutic Gazette
Medical Times
New York Medical Journal
American Journal of Surgery
Interstate Medical Journal

RHEUMATICIDE

Inquiries have been received regarding the so-called Wallace treatment for rheumatism marketed by the Rheumaticide Company, New York City. It is advertised in the newspapers, and those who write for information are sent a booklet entitled "Rheumatism Cured" together with a circular containing testimonials. The Rheumaticide Company is said to have for its president one George E. Burroughs, while Dr. Thomas A. Wallace is referred to in the company's advertising matter as its "consultant," and a Dr. James C. von Spiegel, it is claimed, administers the nostrum in New York City.

Some of the claims made for this nostrum are:

> "It is the only treatment that cures."
>
> "Gout, Lumbago, and Sciatica promptly and permanently cured by our treatment."
>
> "The only bona-fide cure for rheumatism."
>
> "No treatment can permanently arrest and cure Rheumatoid Arthritis, Arthritis Deformans or chronic Gouty Arthritis, except our treatment."
>
> "The Wallace Treatment neutralizes the toxins and kills the germs, thus effecting a permanent cure."
>
> "The Wallace Treatment . . . is absolutely up-to-date."
>
> "No specific treatment for rheumatism, worthy of the name, had ever existed until the introduction of our remedy."

Many other statements equally false appear in the Rheumaticide booklet. The booklet of testimonials carefully avoids giving the name and address of the individuals supposed to have been cured.

Contrary to the common run of "patent medicines," Rheumaticide is for hypodermic use and is supposed to be administered by a physician. The stuff comes in sealed tubes, each tube containing enough of the preparation for one "treatment" and costing $2.50. The Association's chemists examined Rheumaticide and reported as follows:

> A sealed tube containing a preparation called Rheumaticide was received. The tube contained about 1 gm. (15 grains) of a dark brownish-red, viscid liquid, which had an odor like iodin and somewhat like phenol (carbolic acid). The quantity of material was so small as to preclude anything more than a cursory examination, but a titration with tenth-normal sodium thiosulphate indicated the presence of about 9 per cent. of free iodin; a determination of the total iodin indicated the presence of about 40 per cent. From this it was concluded that the essential constituents of Rheumaticide are uncombined iodin and iodin-phenol with traces of hydriodic acid. A preparation obtained by mixing the following was found, after standing twenty-four hours, to have properties quite similar to those of Rheumaticide:
>
> | | |
> |---|---|
> | Carbolic acid .... | 2 parts |
> | Glycerin .... | 4 parts |
> | Iodin .... | 4 parts |

And yet the exploiters of Rheumaticide call their nostrum a "serum" and inveigh against the use of drugs in this disease! For example:

> "Drugs—confessedly useless even by those who prescribe them."
>
> "It relieves the pain rapidly, but the relief thus obtained, unlike that from drugs, is permanent. . . ."
>
> "Introduces no substances foreign to the economy."

In short, the exploitation of Rheumaticide is merely an impudent attempt to foist a nostrum on the public with the aid of such physicians as are willing to become partners to such a scheme. The annual report of the counsel to the Medical Society of the County of New York for 1911 stated that the Rheumaticide Company was found guilty of practicing medicine and that a fine of $250 was imposed.

KOSINE

"What," asked a correspondent, "is Kosine, made by the Kosine Company of Washington, D. C., and sold as a cure for epilepsy?" No examination of "Kosine" has been made in the Association laboratory. According to an analysis by the New Hampshire State Board of Health (*New Hampshire San. Bull.*, October, 1909, p. 138) Kosine contains antipyrin 0.64 per cent., ammonium bromid 4.97 per cent., and sodium bromid 2.4 per cent. From this it appears that "Kosine" is similar in composition to many other "epilepsy remedies" on the market.

Correspondence

American Society for Physicians' Study Travels

To the Editor:—The German Central Committee for Physicians' Study Travels, an organization that recently visited a number of the leading medical centers of the United States in connection with its attendance on the Congress on Hygiene and Demography at Washington, D. C., in September, 1912, was organized with the avowed object of visiting institutions in foreign countries by making a trip to but one of these countries annually. The committee does not confine its studies and observations to medical universities and colleges, but also aims to obtain information regarding purely scientific, hygienic and municipal institutions, as well as historic places of leading interest, model department stores and manufactories. On the basis that only one country is visited each year and that everything in the way of entertainment and scientific and practical demonstrations is arranged for in advance, it is found that much valuable information is gained, not to speak of the pleasure that is afforded by such a tour.

In view of the fact that a large number of American physicians make an annual pilgrimage to foreign shores in quest of medical and scientific knowledge, the newer methods of dealing with sanitary problems and a more intimate acquaintance with the leading health resorts, it has been deemed timely to organize an American Society for Physicians' Study Travels on the plan of that described above, which has been in existence for a period of fourteen years abroad. To this end, a local committee composed of nine Philadelphia physicians has been formed, as you mentioned in The Journal, Dec. 21, 1912, page 2268. This committee proposes to invite the assistance and cooperation of well-known members of the medical profession throughout the United States and Canada, especially those holding college and university professorships, and representatives of the medical service of the United States Army, Navy and Marine Hospital Service, as well as heads of state and municipal health departments, believing that the only feasible plan by which the movement can be made truly successful is to have every part of the country, every medical center, and all the chief professional interests of America, represented in the membership of the organization. In this way the local committee shall endeavor as a preliminary step to form a general committee of arrangements not to exceed 200 members, from which an executive body composed of a number to be determined will later be chosen. No physician shall be eligible to membership who is not a member of a county medical society.

Having been assured by the president and secretary of the German Central Committee for Physicians' Study Travels that a body of American physicians similarly organized would be accorded a warm welcome in Germany and other foreign countries, it would seem to me that neglect of so great opportunities for combining the acquisition of practical knowledge and health-giving recreation would be unwise.

This is not the time to state either the aims or advantages of such an organization in an ambitious form. With regard to the question of the benefits conferred by the proposed society, however, it is not saying too much to express the hope that in addition to increasing our positive knowledge of medicine, surgery and the specialties, such visits might lead to the formation of new and truer conceptions of medical education, to fundamental changes in the conduct of health departments, both municipal and state, and to clearer ideas regarding the sphere of usefulness of leading foreign health resorts. It is also confidently believed that not only will the advantages offered be greater, but, if properly conducted, the cost per capita will be much less than if a single individual were to make a similar tour.

The organization would, therefore, work to the decided advantage of the individual members of the profession. Full information will be sent to The Journal just as soon as the committee on organization shall have completed its task.

J. M. Anders, M.D., Chairman,
1605 Walnut Street, Philadelphia.

The Safety-Razor Blade as a Scalpel

To the Editor:—As I have been using safety-razor blades in surgery for three years, I was interested in the article in The Journal, Dec. 14, 1912, p. 2127. The handle portrayed is an improvement over mine. The use of these blades was suggested to me by Dr. J. T. McDonald of Honolulu. When he was bacteriologist to the territory of Honolulu, he used blades to secure "snips" from those suspected of having leprosy. It came about in this way: Certain people contended that the physicians of the department of health were transmitting the disease by "snipping" different persons with the same knife. Of course, the knife had always been sterilized, but this did not satisfy the objectors. To do away with this prejudice, the law was made that every knife should be destroyed after a "snip" had been made with it. Dr. McDonald then hit on the idea of using the safety-razor blade and found it cheap and ideal for the work.

J. C. O'Day, M.D., Portland, Ore.

[Comment.—Subsequent to the article referred to by our correspondent, another communication on the same subject appeared (December 28, p. 2325). In this Dr. Falker showed that no additional or specially devised handle or holder was necessary in order to use safety-razor blades as scalpels. In this connection it may be of interest to remark that nurses and interns use safety razors to shave patients whom they are preparing for operation, for childbirth, etc. They find it convenient to use a blade once and then throw it away.—Ed.]

The Prevalence and Mortality of Cancer

To the Editor:—In examination of the subject of the prevalence and mortality of cancer two points seem of interest to me which I have not seen treated in the literature of the subject.

First, it will be noted that since the disease is to a great degree confined to ages beyond 40 and since this is the age at which women commonly cease to bear children, it must follow, I think, that the prevalence of the disease will be to a very slight extent influenced by the process of natural selection.

While this is true of women it is not to so great a degree true of men, and examination of age incidence and relative frequency of the disease in the two sexes, by those better equipped for the work than I, may cast light on the degree to which characteristics transmit along lines of sexes rather than more broadly.

Finally, is not this an explanation of the fact that a disease which has up to the present been of so high a mortality has been unable to eliminate itself, no matter how strong the factor of heredity may be?

Henry Power, M.D., Spokane, Wash.

Grave of Jane Crawford, the First Subject of Ovariotomy

To the Editor:—The Kentucky Medical Society has been trying to find the grave of Jane Crawford, on whom Dr. McDowell performed his first operation for ovariotomy.

I am glad to say that I have found the grave in the Johnson Cemetery ten miles northwest of this city. It is marked by a small marble slab.

Jane Crawford, I believe, was the widow of Thomas Crawford, and came to this county with her son, the Rev. James Crawford, a Presbyterian minister, who owned a farm at that time just across the road from the cemetery. His wife, who died April 4, 1852, is buried near his mother.

I remember the Rev. James Crawford, for he was a frequent visitor in my father's home—the late Dr. John J. Thompson of this city—and I think he died at Sunrise, Iowa. His son Alexander was in Sullivan and visited my father some time in the eighties.

The secretary of our county medical society, Dr. J. B. Maple, is preparing a history of the medical profession of the county and has collected some very interesting facts as far back as 1817; but I consider this one of the most interesting that we have discovered.

W. N. Thompson, Sullivan, Ind.

[Comment.—After the preceding letter was in type, a letter was received from Dr. J. R. Hinkle, Sullivan, Ind., reporting a visit to the cemetery and enclosing a photograph of the gravestone. In addition Dr. Hinkle says: "None of the descendants is living in this locality at this time. There are relatives living in Iowa who are old enough to remember their grandmother. I have not their address at this time, but can procure it if you desire."—Ed.]

Grave of Jane Crawford, the subject of McDowell's first ovariotomy. The inscription on the tombstone is as follows:

Jane Crawford
Died
Mar. 30, 1842
Aged 78 Years
Blessed are the dead who die in the Lord

Defense of Friedmann's Treatment for Tuberculosis

To the Editor:—It is only with the greatest hesitancy and decidedly against my own preference that I am addressing you in regard to two editorial comments in The Journal of Dec. 14, 1912 ("Friedmann's Inoculation Against Tuberculosis," p. 2158, and "Responsibility of the Newspaper," p. 2159). But as I am the brother of Frederick Franz Friedmann of Berlin, whose ethics you assail in the above mentioned issue, and as I have been a member of the American Medical Association for many years, I believe it to be my privilege, and my duty at the same time, to come to the rescue of one who is too busy and too far away to defend himself.

As to the "secrecy" of the process by which virulent live bacilli are made avirulent without losing their vitality, and which "secrecy" you call not in accord with the ethical standard of scientific medicine: can you only see unethical motives in such withholding? Without knowing much about it, I can easily conceive of the possible dangers from an early publication of the methods employed. I can also quote one of the greatest authorities in Germany, Professor Orth, who as president of the Berliner medizinische Gesellschaft declared that any possible blame for incompleteness of my brother's publication ought to be charged to him (Orth), because he had to cut short Dr. Friedmann's paper on account of its being read ahead of previously announced ones.

A question I should like to ask is, What else could my brother have done in order to satisfy your ideal of ethics? He worked painstakingly for over ten years on a treatment and, finally believing that he had found it, reported it at the meeting of the most ethical body of physicians of his country, laying before them the results of his investigations, corroborated by a number of unassailable professional men who had cooperated with him and had observed his results, describing to the society the instances of success and failure along the different lines of tuberculosis, condensed as the limited time required.

The failure to immunize guinea-pigs successfully was fully stated; the point was made by Orth that the animals lived three times as long as those not treated, but finally succumbed to tuberculosis. Discussing this feature with some of the most eminent investigators of tuberculosis, I found that our views coincided, namely, that we find not infrequently a great variance of results in animal and man, and that we should not make too hasty conclusions from analogy.

It is true that we have no definite proof that injections will prevent tuberculosis in children. Question: What would you call proof of such prevention? We have, however, an instance in which injection was made in one of von Pirquet-positive twins; the one inoculated is living to-day and the other one died of tuberculosis.

It is hard to understand how you can state to your readers that the remarks in the discussion proved that no better results were obtained from Friedmann's injections than from tuberculin, when we read in the *Berliner medizinische Wochenschrift* that one physician, Dr. Karfunkel, stated that from his observations on hundreds of patients so treated, "he would no longer consider any other treatment of pulmonary tuberculosis than Friedmann's." And in another place in the same journal, we read that in over two hundred cases of pulmonary tuberculosis the discussing physician did not see a single one that did not react in a most favorable way on this treatment.

The possible reversion to virulence is certainly a danger to be considered; but do you not think that its approach would have been symptomatically noticeable in that number of cases in the length of time elapsed since the first injection? And do not forget that in the discussion of November 17 the point was brought out clearly that this particular strain of tubercle bacilli never was virulent at any time.

Instead of an attitude of critical neutrality and judicious skepticism which you advise, I should suggest one of expectancy for further details as to methods and results—theoretical and clinical—in the hope that the new treatment may prove to be a step forward in combating a hitherto almost unconquerable disease.

Concerning your second article, I remark:

No one can possibly detest and abhor the sensationalism of the lay press more than I do. In this particular instance I am the victim of it myself. Interviews with me are printed everywhere in the country, though they are entirely without substance or foundation of truth; but what would happen if I stated so in print? Could I not be accused with much more justification of advertising myself? This letter to you is the only one which I ever wrote to a publication of any sort in regard to my brother's treatment, and I hope that it will remain the only one. Every day I receive many letters and telegrams—a consequence of involuntarily getting my name in the paper in connection with my brother—and in many cases politeness and sympathy for sufferers demand an answer. My usual reply is that the treatment is not yet obtainable in the United States. I trust that such answer is permissible from an ethical point of view. [Note added on reading the proof: I wish to state that since writing this letter I published a few remarks in the *Colorado Springs Gazette* of December 22.]

I do not think that it is justifiable for you to say that there is "no scientific evidence for heralding this so-called consumption cure." A lot of indisputable scientific evidence in proof of good results has been offered, and as far as the "so-called consumption cure" is concerned, I have not heard or read of any scientific man branding it thus except yourself.

Arthur C. H. Friedmann, M.D.,
Colorado Springs, Colo.

[Comment.—So far as our correspondent makes an argument for secrecy in scientific communications, we leave it to our readers to judge whether he has presented sufficient reason for violating the well-established ethics of scientific men. Secrecy here always raises the suspicion of commercialism; one cannot read F. F. Friedmann's paper (*Berl. klin. Wchnschr.*, Nov. 18, 1912, p. 2214) and the discussion following it, as published in the German medical journals (*Berl. klin. Wchnschr.*, Nov. 18, 1912, p. 2214; also *München. med. Wchnschr.*, Nov. 19, 1912, p. 2595), without having that suspicion strengthened. From one statement in Friedmann's paper the impression is gained that still other secret preparations are in reserve. Friedmann says: "Moreover, it is possible by intermittent treatment with certain specific bacillary *products prepared by me* [italics ours] to overcome definitely the specific hypersusceptibility by a purely subcutaneous method" (Uebrigens gelingt es auch, die specifische Ueberempfindlichkeit auf rein subcutanen Weg, nämlich durch intermittierende Behandlung mit gewissen specifischen, von mir hergestellten Bacillenprodukten, definitiv zu brechen).

Whatever may be the reason, the process of Friedmann was not disclosed at the meeting of the Berlin Medical Society, and it still remains a secret.

Two classes of physicians took part in the discussions. Those of one class were extremely enthusiastic for the remedy—and experience has shown that the overenthusiastic findings of the advocates of a new remedy or method must always be taken at a discount—those of the other class were decidedly conservative. Among the former was Karfunkel. Shall we look to him for a true estimate of the value of this remedy, or shall we look to such a conservative man as Blaschko? The latter said he observed little result from Friedmann's method in tuberculosis of the skin, while he saw favorable temporary results from tuberculin. Schwenk was unable to confirm Friedmann's claims in tuberculosis of the bladder, and Katzenstein stated that he had seen quite as good results in surgical tuberculosis from tuberculin as Friedmann had described.

Our statement that the results do not seem better than those obtained by tuberculin is warranted by the opinions and facts disclosed by the discussion and, until more convincing evidence is produced, we see no reason for retracting our statement. Meanwhile the proper attitude toward this new form of an old method, which has received such great publicity, is one of healthy skepticism. Wait and see!

So far as our editorial, entitled "Responsibility of the Newspaper," (The Journal, Dec. 14, 1912, p. 2159) is concerned, we said nothing to indicate that we believed Friedmann responsible for this newspaper sensationalism, although we are of the opinion that most physicians who read Shepherd's letter gained the impression that he must have been in close touch with either Friedmann or his assistants.—Ed.]

Wiley for His Old Position

To the Editor:—Now that the druggists are remonstrating against Dr. Wiley being chosen for the position of secretary of agriculture, and that the present administration has appointed a successor as chemist, would it not be the proper thing for the American Medical Association as a body to use its influence to have him restored to his former position when the new administration comes into power?

W. A. Wiseman, M.D., Camargo, Ill.

Queries and Minor Notes

ANONYMOUS COMMUNICATIONS will not be noticed. Every letter must contain the writer's name and address, but these will be omitted, on request.

DIONIN IN CATARACT

To the Editor:—1. Please give me the consensus of opinion as to the use of dionin in absorption in the incipient stage of cataract. When and by whom was it first used? 2. Dionin has been prescribed for a patient of mine by a prominent oculist and the result of its use has been most painful. She was told that it would cause her eyes to smart and burn for a while after using it, but that this would wear off shortly. This, however, has not been the case—on the contrary, the use of it has caused the most decided pain and inconvenience. During the week prescribed by the oculist for the use of the drops in the eyes she was not able to use her eyes at all, and the pain is just as severe now as when she first used the dionin in the eyes—five months ago. Can you tell me whether this is unusual or not? B. L. D.

ANSWER.—1. The use of dionin in the early stage of senile cataract of the ordinary type dates from its first introduction by Wolfberg, under the name "peronin," which he described in the third volume (1889) of the *Wochenschrift für Therapie des Auges*. Later, when Merck introduced ethyl-morphin hydrochlorid under the trade-name of dionin, displacing the benzylmorphin hydrochlorid, or peronin, Wolfberg and others experimented with the new remedy in almost every disease to which the human eye is heir. Solutions (5 per cent. to saturation), as well as the powder, were applied to the conjunctival sac for the dispersion of lenticular opacities. Darier ("Thérapeutique Oculaire") early employed this remedy and believed that it was valuable, at least as an adjunct to other cataract absorbents. Casey A. Wood in his "System of Ophthalmic Therapeutics" (p. 759) expresses the belief that the most effective method of employment is by subconjunctival injection, but that it is extremely doubtful whether this remedy or any other has much effect in delaying the progress of the usual forms of senile cataract. Dionin is generally regarded as one of the most valuable analgesic remedies we possess for the relief and curative treatment of corneal ulcer, acute glaucoma, iritis, scleritis and other inflammatory disease of the uveal tract. The relief given to the pain in most cases is prompt and complete. It may be used hypodermically (as an adjunct to atropin) but is commonly employed as a collyrium in 5 or 10 per cent. solution, or as a powder applied to the conjunctival sac. The greater the edema of the conjunctiva set up in this way the more decided is the analgesic action of the agent.

2. There are few recorded ill effects from its local use, even when the conjunctivae and lids are much swollen, or when the saturated solution or the powdered drug has been employed at intervals for a long period. Any departure from this result may be regarded as an idiosyncrasy on the part of the patient or from the use of the drug in improper cases—although any serious therapeutic complication is rare. In other words, there is little or no danger from its use even in large doses.

ASPIDOSPERMIN

To the Editor:—Please describe "Aspidospermin" and its use in the treatment of asthma, as suggested in a discussion in THE JOURNAL, Sept. 28, 1912, p. 1165.

CHARLES L. WILLIAMS, M.D., McMinnville, Ore.

ANSWER.—Aspidospermin is one of a number of alkaloids found in *Aspidosperma quebracho*. Others are aspidospermatin, aspidosamin, hypoquebrachin, quebrachin and quebrachamin. Evidence concerning the action of these individual alkaloids is somewhat conflicting. In general they are said to produce nausea, salivation, increased secretion of mucus in the respiratory tract, depression and alternately rapid and slow pulse. Large doses often cause symptoms of central nervous stimulation, tonic contractions and convulsions. The failure of the respiration is the cause of death in mammals, the heart continuing to contract for some time longer. None of these alkaloids is very poisonous. Commercial "aspidospermin" is a variable mixture of all the alkaloids of quebracho along with other bodies. It is sometimes prescribed in doses of 1 to 2 mg. (1/60 to 1/30 grain). Quebracho and also the alkaloidal mixture, aspidospermin, have been recommended for dyspnea from pulmonary disease, especially in emphysema and asthma. It is still mentioned frequently along with lobelia and similar drugs, but to judge from the standard works discussing asthma it does not seem to be highly regarded. The evidence that quebracho is of value is meager. Quebracho (aspidosperma) was at one time contained in the United States Pharmacopeia, but it was dropped from the eighth revision.

IRRITATION OF EYES BY PETROLEUM FUMES

To the Editor:—I have had a number of cases of irritation of the conjunctiva caused by exposure to the gas or vapor arising from crude oil, in men working in the Standard Oil Company's refinery here. The symptoms are intense burning, lacrimation and photophobia, with congestion of the conjunctiva.

1. Is there any specific for such cases? What treatment would you advise?

2. Is there any value in picric acid for such cases? What strength should be employed in the eyes? I have read that it is good in burns of the conjunctiva by lime, etc.

3. I have been using 4 per cent. cocain to relieve the burning, and have been washing with boric acid and applying hot compresses. Is there anything better that could be used?

HOWARD A. GALLUP, M.D., El Segundo, Cal.

ANSWER.—1. It is difficult to advise any effective treatment of eyes whose (irritative) symptoms are due to a constant exposure to the fumes of crude petroleum. The best plan would be to have the men wear closely fitting goggles, and to have them foment their closed eyes with very cold water, followed by the instillation of a saturated solution of boric acid. These applications should be made three or four times a day, or oftener if needed.

2. Picric acid would not be of much avail; it is generally used in cases of actual burns on the eyeball or lids.

3. It is not proper to use cocain in these cases; it is only temporary in its action, and in the long run is pretty certain to damage the cornea and to make the patient worse.

LITERATURE ON SEA-WATER TREATMENT

To the Editor:—Please give dates of issues of THE JOURNAL containing articles relative to treatment by use of deep-sea plasma or sea-water. S. L. KISTLER, M.D., Los Angeles, Cal.

ANSWER.—Some articles on treatment with sea-water were published as follows:

Le Boutillier, T.: Sea-Water Treatment Given by Subcutaneous Injection with Results Obtained in Children, *Arch. Pediat.*, May, 1909; abstr., THE JOURNAL, April 17, 1909, p. 1277, with discussion.
White, C. J.: Injections of Sea-Water in Skin Diseases, *Boston Med. and Surg. Jour.*, July 29, 1909; abstr., THE JOURNAL, Aug. 14, 1909, p. 589.
Le Boutillier, T.: Sea-Water Treatment Given by Injections, THE JOURNAL, Jan. 1, 1910, p. 26.
Maclean, J. C., and Harsten, L.: Toxemia of Uncertain Origin and Its Treatment by Sea-Water Injection, *Lancet*, London, Aug. 5, 1911; abstr. THE JOURNAL, Sept. 2, 1911, p. 849.

The following articles, not abstracted in THE JOURNAL, may be referred to:

Carpenter, J. W.: The Hypodermic Sea-Water Treatment of Disease, *Woman's Med. Jour.*, June, 1910.
Merrick, R. M.: Therapeutic Use of Sea-Water in Infants, *Arch. Pediat.*, August, 1910.

SALVARSAN IN VINCENT'S ANGINA

To the Editor:—Recently I saw a foreign abstract in THE JOURNAL which stated that salvarsan used locally for Vincent's angina, Riggs' disease, noma and ptyalism gave excellent results, but the author failed to state how and in what strength he used it. Please give details of the treatment. W. D. BLACK, M.D., St. Louis.

ANSWER.—The authors, Charles Achard and M. G. Desbouis, treated the case of Vincent's angina which they report with a preparation of 0.2 gm. of salvarsan in from 6 to 8 c.c. of glycerin, applying it to the ulcerations three times a day. It is not quite clear from the statement whether or not the whole of this amount was applied at each treatment. They say further that the application of salvarsan in powder is harmless as well as simple. They advise in applying the powder to saturate the cotton which is used to make the application with glycerin previously to dipping it in the powder. They state that these applications can be repeated several times a day.

Zilz (*München. med. Wchnschr.*, Jan. 2, 1912, p. 20) applied the remedy in a 10 per cent. water or glycerin solution, or suspended in a fixed oil (oil of sweet almonds, sesame oil, olive oil or liquid petrolatum).

ECHINACEA

To the Editor:—What is the present therapeutic standing of echinacea? I frequently receive literature from proprietary manufacturers who ascribe great value to their echinacea preparations.

S. H. B.

ANSWER.—Echinacea was considered by the Council on Pharmacy and Chemistry, and was rejected on the ground of insufficient evidence for its therapeutic efficiency. The report appeared in THE JOURNAL, Nov. 27, 1909, and was subsequently published in the Reports of the Council on Pharmacy and Chemistry for 1909, page 144. It also appears in "The Propaganda for Reform," seventh edition, p. 38. The concluding paragraph of this report is: "In view of the lack of any scientific scrutiny of the claims made for it, echinaeca is deemed unworthy of further consideration until more reliable evidence is presented in its favor." So far as we can learn, no reliable evidence for the claims made for the drug has been presented since this report was made by the Council.

INJECTION TREATMENT FOR HEMORRHOIDS

To the Editor:—Where can I get information on the injection treatment for hemorrhoids? What is the preparation of ergot used by some specialists in the injection treatment for hemorrhoids? They seem to be very successful, and if possible, I should like to learn how to treat (by above method) a case or two of hemorrhoids in patients who are not fit subjects for an anesthetic and the radical operation. I have used the phenol (carbolic acid) injection and do not like it. John P. Beeson, M.D., Southwest City, Mo.

Answer.—The injection treatment of hemorrhoids is described in the various works on diseases of the rectum and anus; a list of standard works was given in The Journal, Oct. 9, 1909, p. 1205. Phenol is the agent usually employed. The only reference we find to the use of ergot is the statement that in the Rorick system the formula for the injection fluid is:

Phenol	4 parts
Glycerin	8 parts
Fluidextract of ergot	4 parts
Water	8 parts

THE NORMAL STOMACH

To the Editor:—Kindly answer the following questions for me:

1. What is the capacity of the average normal stomach?
2. How would this capacity and size be determined post mortem?
3. Please give method of preserving the stomach so that it will retain its size and shape. C. E. P.

Answer.—1. Average from one to two quarts (one to two liters).

2. By tying the orifices and filling with water or other liquid.

3. Inflate with air and dry. The shape of the stomach varies with its degree of fulness and the tone of its musculature. A strong stomach partly filled with food presents the so-called cow-horn shape. An atonic stomach when full is more or less distended like a bag. Moderate degrees of atony give the fish-hook form. It is doubtful whether an inflated and dried dead stomach can correctly represent the form of the living stomach in the body.

MAGNESIA MIXTURES

To the Editor:—I have been unable to find the formula for Tyson's alkaline solution, used in tests for phosphates in urine. Please supply the formula or tell me where the solution can be obtained. My druggist cannot find it in the local market.

A. Bursell, M.D., Eugene, Ore.

Answer.—Probably the solution referred to is the magnesia mixture used in the precipitation of alkaline phosphates. This mixture is given in Tyson's work on urinalysis as follows:

Magnesium sulphate and ammonium chlorid, of each	1 part
Distilled water	8 parts
Pure liquor ammoniae	1 part

The official magnesia mixture given in the U. S. Pharmacopeia is made by dissolving 10 gm. of magnesium sulphate and 20 gm. of ammonium chlorid in 80 c.c. of water and adding 42 c.c. of ammonia water.

SARCOMA SERUM

To the Editor:—What is the serum used for sarcoma and where can it be obtained?

A. J. Benedict, Newburg, N. Y.

Answer.—The serum referred to by our correspondent is probably erysipelas and prodigiosus toxins (Coley), prepared by Parke, Davis & Co., Detroit. See New and Nonofficial Remedies, 1912, p. 221.

MUNICIPALITY LIABLE FOR TYPHOID IN WATER

Charles H. Higgins, Ottawa, Canada: The Supreme Court decision, affirming the liability of a municipality for damages because of typhoid in the drinking-water furnished by that municipality, was abstracted at length in The Journal, Jan. 7, 1911, page 65.

THE FRIEDMANN TREATMENT FOR TUBERCULOSIS

Dr. H. A. Schirrmann, Portsmouth, Ohio: See The Journal, Dec. 7, 1912, page 2081; December 14, page 2158, 2159 and 2192; and also the Correspondence department of this issue.

Medical Economics

This Department Embodies the Subjects of Post-graduate Work, Contract Practice, Legislation, Medical Defense, and Other Medicolegal and Economic Questions of Interest to Physicians

SCHOOL INSPECTION IN RURAL COMMUNITIES

Dawson, Minnesota, is a little town of 1,318 people. The Dawson *Sentinel*, the only paper published in the town, has a weekly circulation of 1,200. Not a very large town or a very important publication, if viewed simply from the point of view of size. In these days of cities of millions of people and of great dailies whose circulations run far into the hundred thousands, Dawson and the Dawson *Sentinel* would not loom very large to the casual observer. Yet it is of just such towns that our rural population is composed, and it is by such papers that a large share of the public sentiment in our country is molded. The editor of the *Sentinel*, in addressing his 1,200 subscribers, has a marked advantage over the editorial writer for the great city daily. He probably knows personally nearly every person to whom his paper will go. And they know him, and his views have a personal value that can never be attained by the impersonal utterances of the editorial writer on the great metropolitan publications.

In a recent issue the Dawson *Sentinel* tells its readers why, for their own sakes and their children's sakes, they should favor medical inspection of schools. The editor is not addressing an impersonal or abstract audience. He is speaking to his friends and neighbors about his children and their children, most of whom he probably knows by name. He wants to see sickness kept out of his own home and the homes of his friends. He tells his readers in plain, forceful words how this can be done. And this, in part, is what he says to them:

"It is one of the anomalies of civilized society that it extends greater protection to pigs than to babies. The government, state and national, spends money to investigate hog cholera, but refuses to provide means for detecting and checking maladies that afflict children of the human species. So accustomed have we become to estimate values in the term of dollars that we accord to pork protection which we deny to potential manhood and womanhood.

"And what is the result? We are producing splendid pigs, wretched men. . . .

"It has been scientifically established that most diseases result from childhood neglect. Children from all sorts and conditions of homes meet in the democracy of the public schools. The result is inevitable: soon 'the best is like the worst.' . . .

"By the way, do you know who occupies the seat in school in front of or behind or beside your boy? Is he clean? Is he healthy? Are you sure that no members of his family are afflicted with contagious disease? It may be that his throat is spotted with diphtheria; . . . that scarlet fever is being shed from his hands. He may be itchy, his body may be covered with foul sores, transmissible to your boy.

"*Do you know anything about it? Do you care a hang?*

"It is a fact that most diseases originate in childhood; that many of them are acquired from schoolmates; that nearly all of them can be cured if detected. Regular medical inspection would, if it became universal, stamp out disease in a few years; in schools it would prevent the spread of epidemics, stop incipient chronic ailments, encourage care of the body, and reduce childhood mortality to a negligible minimum.

"This is not written to help the doctors. In fact, the course here recommended would spoil a lot of business for the doctors. There is less money for them in prevention than in treatment.

"The agitation for medical inspection should come from the people and not from the medical profession.

"Hitherto medical inspection has been had only on the order and at the expense of local authorities. The result is that inspection has been tried in a few communities only. In order to make it general, some means of compulsion must be devised. Some law must be enacted that will make it cheaper for school districts to have physical examination of pupils than not to have it. To this task the present progressive state legislature should address itself.

"Our system of state aid makes the task comparatively easy. Already conditions are imposed on the schools receiving such aid, requiring certain standards of sanitation to be maintained. Why not add medical inspection as another condition? Surely it would be for the common interest that unhealthy children be barred from the public schools, and it is the duty of the legislature to enact such legislation as will promote the common good.

"There has been agitation for rural consolidation, for a more efficient education, for higher ethical and intellectual standards. With this agitation the *Sentinel* is in sympathy. But it is a fact, scientifically established, that the physical is at the basis of the ethical and the intellectual, and that there is little hope of advancing morally a race handicapped by physical degeneracy.

"Medical inspection in the public schools would reduce child mortality and increase manhood vitality. It would in a score of years all but stamp out disease; and with disease it would banish crime and poverty. It would usher in an era of well-being. The physical foundation of the nation would be strengthened. Man would more nearly approximate the divine ideal of a being made in the image of his Creator!"

Society Proceedings

SOUTHERN SURGICAL AND GYNECOLOGICAL ASSOCIATION

Twenty-Fifth Annual Meeting, held at Old Point Comfort, Va., Dec. 17-19, 1912

The President, DR. J. M. T. FINNEY, Baltimore, in the Chair

Intestinal Obstruction, with a Clinical Study of One Hundred and Eighty-One Cases

DR. ALEXIUS MCGLANNAN, Baltimore: The form of operation required in any given case must depend on the nature of the obstruction and on the presence or absence of complications. Thus we group the operations performed into three classes, namely, relief of the obstruction, excision of intestine, and enterostomy. In order to judge the efficiency of any of these operations it is necessary that the procedures be compared with regard to the stage of the disease at which the operation is performed. This is the only logical basis for study of the treatment of obstruction, and avoids the confusion of many classes as to causation, differences in position of the obstruction, and variations in the completeness of the occlusion. Each of these factors alters the rapidity of development and the duration of the three stages of the disease; consequently a study of intestinal obstruction from the point of view of the symptomatology and treatment of these stages balances the relation of the various factors and makes the comparison of operative statistics possible.

Thirty-four patients were treated in the first stage; all recovered. Of these 12 were relieved of their symptoms by enemas and purgatives. The other 22 were operated on; in 15 the obstruction was relieved; resection was performed in 3 cases; enterostomy with short-circuiting and enterostomy with relief of obstruction once each. Simple enterostomy was done twice. Relief of the obstruction, therefore, is the best operative procedure in cases treated during the first stage. When provision has been made for a delayed enterostomy, this is the best procedure in postoperative obstruction, probably because opening the previously brought-up loop gives no operative shock. Sixty-five patients were operated on in the second stage; 55 recovered; 11 of these died as a result of a second operation or some complication developing later than one week after the original operation. The operations performed were as follows: relief of obstruction, 44, 6 fatal; short-circuiting, 2; excision, 14; enterostomy, 4; enterostomy with other operations, 15. One patient was relieved by an enema. Gangrene was present in 10 cases; 2 patients were treated by anastomosis and excision; 8 patients recovered; 6 were resected. Relief of the obstruction seems the best operation in the second stage, provided gangrene has not developed. In the presence of gangrene resection is the best operation, provided the constitutional symptoms are not pronounced. In the latter event, enterostomy should be added to the resection, or if the condition of the patient is grave, the loops may be brought out of the abdomen and packed off with gauze, with an enterostomy above the obstruction.

Eighty-two patients were operated on in the third stage; 52 died. Relief of the obstruction was done in 22 per cent. of the cured and 34 per cent. of the fatal cases; enterostomy and relief in 22 per cent. of the cured, 8.5 per cent of the fatal; simple enterostomy in 45 per cent. of the cured, 32 per cent. of the fatal, and enterostomy with other operations in the remaining cases, 3 cured and 9 fatal. Resection was done in one fatal case, and extrusion in two others. One patient was relieved by an enema and 5 died without operation. Gangrene was present in 15 cases, 2 cured and 13 fatal. In both the cured cases enterostomy and excision were done.

In the third stage, enterostomy should be done, either alone or in connection with the other procedures. In the non-gangrenous cases enterostomy was done in 77 per cent. of the cured and in but 41 per cent. of the fatal cases.

DISCUSSION

DR. JOSEPH C. BLOODGOOD, Baltimore: The essayist is the first to publish a large number of cases showing the importance of the effect of washing out the stomach and of giving enemas to aid in the early diagnosis of intestinal obstruction, a thing always neglected outside of the hospital, and often neglected in the hospital, namely, the importance of the stomach-tube and enema in the differential diagnosis. In going over my cases years ago I was surprised at the difference between the mortality of cases of intestinal obstruction taking place in the hospital and those outside of the hospital. Those in the hospital have been subjected to operation, and, therefore, are not considered good operative risks, yet the mortality from postoperative obstruction is much less than it is outside, owing to the early recognition of the obstruction, and in the majority of cases early diagnosis has been made by the use of the stomach-tube and enema.

DR. HENRY T. BYFORD, Chicago: One point in the treatment which it is necessary to consider, and one which involves the early diagnosis, is whether the obstructed intestine is going to result in gangrene or some permanent injury, or whether the patient can be carried along for a while without any resulting injury. In postoperative cases in which there is a kink in the intestine or adhesions sufficient to cause paralysis, and we are in doubt as to whether there is really an obstruction or adhesions sufficient to cause paralysis, if we can introduce two or three quarts of fluid into the system, we may be able to carry the patient over a week or more, so that there will not be any gangrene, as in a case of volvulus, intussusception or hernia; this explains why patients get along better in a hospital than outside of such an institution.

DR. JOHN YOUNG BROWN, St. Louis: The importance of draining the distended loop of bowel above the obstruction cannot be too strongly accentuated. A number of years ago, in a paper before the Mississippi Valley Medical Association, I reported a series of cases in which I resected the gangrenous intestine, and described a method of draining the loop of intestine above the obstruction. I cut across the bowel, introduced a tube into the bowel, and while an assistant was handling the bowel above, the resection was made without losing any time. The use of the stomach-tube and rectal-tube, both before and after operation, is of exceeding importance.

DR. ERNST JONAS, St. Louis: Early operation in cases of intestinal obstruction by a poor operator is preferable to a late operation by the most experienced surgeon. The physician should be warned about giving cathartics by mouth if there is any doubt as to intestinal obstruction. Cathartics in these cases aggravate the condition. If enema and lavage do not relieve the patient, preparations for operation should be made.

DR. I. S. STONE, Washington, D. C.: Purgatives not only do harm, but they are rarely indicated. With the use of physostigmin (eserin) and enemas, properly given, I have never seen a purgative necessary. Since we have been using that combination I have never found a secondary operation necessary, when that simple method of treatment has been properly tried, when the conditions were not most formidable.

Dr. James E. Moore, Minneapolis: I wish to emphasize the axiom laid down long ago by Greig Smith, that the distended bowel should be relieved by making an opening into it.

Dr. Samuel J. Mixter, Boston: Looking back on the fatal cases of intestinal obstruction, it will be found that death occurred in those cases in which the intestine had not been emptied, or when an anastomosis had been done immediately and the septic contents of the occluded intestine had been poured into the lower intestine. Abbe pointed out that the intestine below is starved and ready to take up the material poured down from above, and in that way a rapid and fatal sepsis ensues.

Dr. Charles H. Mayo, Rochester, Minn.: In the past year, in cases of intestinal obstruction, we have in four cases through the appendicostomy incision been able by drainage to overcome the immediate obstruction.

Dr. Joseph Ransohoff, Cincinnati: I would call attention to the use of the *x*-ray in locating the obstruction in acute cases. Outside of hospitals that is out of the question, but when a patient is brought into the hospital it takes but a short time to obtain an *x*-ray picture, and in three recent cases the obstruction was located by this means.

Dr. Robert T. Morris, New York: For a year or more I have been using injections by rectum of bismuth solution, also using it by the stomach as far as possible, and then employing the fluoroscope, in this way determining definitely the seat of the obstruction.

Dr. William D. Haggard, Nashville, Tenn.: I would call attention to enterostomy as a temporary measure in saving the patient's life. I did four enterostomies last year, in three of which the patients required no secondary operation. They were all saved.

Dr. H. A. Royster, Raleigh, N. C.: If we have retention of scybalous masses, and the bowel is gripped on something and cannot release itself, if the intestine is much distended and the patient is vomiting, with little or no pain, we can give a few doses of physostigmin, say 1/40 grain of the salicylate, every two or three hours, until two or three doses are given, to be followed by an alum enema. If the patient is in great pain, we can give 1/100 grain of hyoscin, to be followed two hours later by an enema. With this treatment we have found that some patients did not need operation at that time, and operation could be safely done later, while other patients did not need operation.

Dr. J. M. T. Finney, Baltimore: I have used appendicostomy after the method mentioned by Dr. Mayo in eight or ten cases of intestinal obstruction; in my experience it does all that Dr. Mayo says it does, and it is a valuable aid in those cases in which the obstruction is low down. The indiscriminate use of physostigmin is followed by disastrous results. My attention has been called to the fact by Dr. Abel of the pharmacologic department of Johns Hopkins that eserin under ordinary circumstances has a marked depressing effect. In one case it apparently had a very alarming effect. In one or two others it was followed by marked symptoms of depression, but its withdrawal was followed by decided improvement.

Dr. Rufus B. Hall, Cincinnati: I should like to emphasize the point made by Dr. Brown in reference to draining the intestine above the seat of obstruction in those cases in which it is thought best at the time of the operation to resect the intestine. I have used the method advocated by Dr. Brown in a number of cases with satisfactory results. I have seen a number of cases in which there was depression following the administration of physostigmin, and I usually give it in no larger doses than 1/40 grain.

Dr. Randolph Winslow, Baltimore: Neither physostigmin nor any other agent is going to relieve a patient when the intestine is mechanically obstructed, and there is nothing to do but to operate. Physostigmin can do good only in cases in which the bowel is not mechanically obstructed.

Dr. Henry O. Marcy, Boston: The earlier we operate in cases of intestinal obstruction the better. The lives of many patients are lost by delay. When the diagnosis is made, it is not only important to determine to operate, but how soon to do so.

Dr. J. Wesley Bovée, Washington, D. C.: I have been using physostigmin as a routine in all cases after operation ever since Dr. Craig of Boston brought it to the attention of the profession. It never fails to produce a bowel movement in a case in which there is no intestinal obstruction.

Dr. W. W. Crawford, Hattiesburg, Miss.: I have personal knowledge of a patient who was given 1/50 grain of physostigmin by mistake, and who was greatly prostrated by it, so that for two or three hours death seemed imminent; nevertheless, the patient did not die. Another patient, a clergyman to whom I administered 1/40 grain of physostigmin on the second or third day after the operation, told me that he felt as if a stick of dynamite had exploded within him.

Dr. Gordon K. Dickinson, Jersey City: The diagnosis of intestinal obstruction is so uncertain in many instances, that to wait until it is made definitely would be to wait until it may be too late to do any good. It is better to go in and tap the intestine, and if necessary, give saline solution subcutaneously, and resort to such other measures as may be demanded.

Dr. Robert Milne, London, England: It was very fashionable in the London Hospital to give physostigmin, but now it is only the extreme cases of distention that respond to the use of the drug. We give not more than 1/100 grain at a dose, and not more than three such doses. I cannot say that in any of our cases we have noticed any particular collapse from the use of the drug.

Dr. O. L. Elbrecht, St. Louis, related some experiments with physostigmin on normal individuals. He found that small doses had absolutely no effect in many instances, whereas larger doses gave prompt action of the bowels. He found that it was usually twenty minutes to half an hour before it acted.

Increase of Newer Abdominal Surgery Due to Increase in Toxic Disturbances

Dr. Robert T. Morris, New York: Cobweb adhesions in the attic of the abdomen belong to the toxic group of manifestations, and we are learning a great deal concerning how these toxic impressions lead to the formation of adhesions in cases without an acute inflammatory onset. In some instances bacteria penetrate the wall of the bowel. The endothelium is shed as a result of their presence and the lymph which exudes becomes disorganized and forms permanent adhesions that are common in the region of the cecum, largely in the region of the sigmoid, and largely in the region of the pylorus and the bile tract. Why are we having more abdominal surgery relating to Lane's kink, to Jackson's membrane and to cobwebs in the attic of the abdomen, than we ever had before? For answer, let us turn to the statistics which are being collected by the Equitable Assurance Association of New York. This company finds a rapid increase in insanity, and a rapid increase in the number of cases of arteriosclerosis. It finds a rapid increase in the number of cases which belong to the stage of decadence. When we have arrested development as a result of the decadent change that is now taking place in all the civilized nations in our present cultural period, we find physical defects or stigmata classified by psychiatrists increasingly in evidence.

What are we going to do about it? Surgery has a place in a number of this group of cases and can afford much help, but the other part of the question relates to a better development of individuals in the race. It is a question which is not under the control of the surgeon, but belongs to the physiologist and eugenist; surgery, I believe, is very important in that it will require an increasingly higher degree of skill on the part of the surgeon decade after decade, and will require him to be more alert and better able to analyze cases than he has been able to do before. There will be more Jackson membranes, more Lane's kinks, and more adhesions than before, owing to the increasing toxic conditions which belong to the decadent stage of our cultural period.

Fractures Into and About Joints

Dr. Charles E. Caldwell, Cincinnati: The subject of fractures is too perfunctorily taught. A clearer understanding of their nature and complications would bring about better results and obviate many lawsuits. Fractures into and about joints require more discriminating diagnosis and treatment than the average fracture of the shafts of long bones. Crepitus is valuable, and its absence significant. Perfect apposition of fragments is of more consequence in proximity to joints.

DISCUSSION

Dr. Randolph Winslow, Baltimore: I have had a number of cases of fracture of the surgical neck of the humerus, and have found it impossible in some cases to effect reduction until the arm was drawn into a position of extension and the bones held together by means of screws; I have had some good results by that method.

Dr. A. A. Law, Minneapolis: In the University of Minnesota we have a different procedure and our results have been different from those related by Dr. Winslow. We resort to the treatment suggested by Maxwell and Ruth in old persons rather than let them be up and about, with the prospect of a deformed joint and a lack of function of the joint. One woman, aged 87, and another 92, have functionating joints and union by following the Maxwell-Ruth method. This method in the old is attended with uniformly good results.

Dr. Robert T. Morris, New York: In cases in which an open operation is not advisable, in selected cases, a simple operation may often be done. The limb is put behind the fluoroscope, a narrow-bladed knife run down near the fracture, a cannula put in, a drill run through the cannula and both fragments transfixed and a silver pin is run in and left there, everything else being taken out. A whole lot of fractures can be pinned behind the fluoroscope with the patients under the influence of cocain. The patients need not be kept in bed after operation. This method does away with the disadvantage of keeping these patients in bed. In many cases of fractures in joints you can put in a pin and do a simple operation.

Experimental Anatomic and Physiologic Observations Bearing on the Total Extirpation of the Colon

Dr. August Schachner, Louisville, Ky.: When we consider the arrangement by which twenty or more feet of small intestine are being supported through a peritoneal attachment measuring 5 inches, the weakness of the abdominal wall in the inguinal region and the hernias that result from the gravitation of abdominal contents against this lowest and weakest point, we realize the disadvantages of the upright position. These become all the more apparent if we compare the darkened lungs of the human subject with the clean pink lungs of the quadruped living under the same condition, as a proof of how unequal the cilia are in their efforts to lift the dirt and bacteria-laden mucus against gravity, and when we watch the pathetic efforts of the tuberculous subject to raise his expectoration against gravity.

Arbuthnot Lane and Elie Metchnikoff deserve credit for calling the attention of the world to the injurious effects of intestinal stasis.

While the end-to-end anastomosis is functionally the most natural, the end-to-side has the advantage of more security and practically the same advantages that apply to end-to-end. Our experimental work justifies us in believing that when an ileorectostomy, or ileosigmoidostomy is made by the lateral method, the intestinal contents do not pass through this opening as a rule, but continue the natural course through the colon, provided no obstruction exists. In other words, it is a repetition of what occurs in the stomach after a gastroenterostomy with a patulous pylorus.

Few of us perhaps realize that the retroperitoneal position of the kidney, when making excursions, enables it to dissect loose through attrition the peritoneal attachment that serves to anchor the viscera to the vertical column.

I wish to emphasize that the problem is comprehensive enough to accept all the assistance it can through gymnastics, bandages, regulation of diet and habits, and still furnish an abundant percentage of human wreckage, as Mr. Lane expresses it, for the surgeon to attempt to reclaim.

Complete Physiologic Rest of the Large Bowel in Ulcerative and Obstructive Lesions

Dr. John Young Brown, St. Louis: Complete physiologic rest of the entire large bowel is valuable in the treatment of certain diseases of this organ which have heretofore been treated by some of the surgical methods; later the bowel can be put back into commission in a manner both safe and satisfactory.

Through a right rectus incision sufficiently long for general exploratory purposes, the abdomen is opened. The cecum is at once sought and the large bowel is carefully examined from cecum to sigmoid. All pericolic adhesions are then severed, the appendix removed and the stump buried. The ileum is next severed between two clamps, close to the ileocecal valve. The distal ileum is tied off and buried as was the appendix. At a suitable part of the cecum, a purse-string suture of linen is placed and the cecum is next incised. Through this incision a large rubber catheter is inserted, after which the purse-string is tightly tied. A second purse-string of No. 1 chromic catgut is next placed. Under the loops of this purse-string, three long catgut fixation sutures are placed. A stab-wound is next made at McBurney's point through which a forceps is inserted. The catheter and fixation sutures are grasped in the bite of this forceps and pulled through the stab-wound. The peritoneal surfaces of the cecum surrounding the catheter are next scarified and the catheter is pulled through the stab-wound, carrying with it the three fixation sutures. The catheter is now slipped through the button and the fixation sutures are threaded through the eyes in the button and tightly tied, thus closely approximating the serous surfaces of the cecum to the parietal peritoneum. A stiff rubber drainage-tube is next inserted into the proximal ileum and fixed with a double purse-string suture. The ileum is now brought out at the lower angle of the rectus incision. The parietal peritoneum is made to hug it snugly by a few catgut sutures, and the abdominal wound is closed in the usual way. The indications for restoring the continuity of the large bowel are improvement of the patient's general condition and the return to normal of the discharge from the excluded large bowel, as shown after repeated chemical, microscopic or cultured growth examination of irrigation fluids passed through it. This restoration should not be made too early, particularly in the ulcerative lesions of the colon. When the surgeon deems that the large bowel has sufficiently healed and desires to put this organ back into commission, this restoration is readily done by simply cutting out the anus at the lower angle of the rectus incision, closing its end with a purse-string suture, and making a lateral anastomosis of ileum to ascending colon or by switching the ileum into the sigmoid. We have never found any difficulty in restoring intestinal continuity. On the contrary, the operation is simple and easy.

This paper is based on the experience we have gained from ten cases in which this operation has been performed. Two were cases of chronic intestinal stasis, with obstructions due to pericolic bands and flexures. Both patients have greatly improved and are now comparatively well. Three operations were done for the relief of amebic dysentery. All patients were cured. One was a case of ulcerative colitis with extensive involvement of the sigmoid and rectum. Patient is now in good health. One was a case of extensive obstructive tuberculous colitis. This patient received great relief from the operation and lived in comfort for two months. Three were for late and inoperable malignancies of the rectum. One lived six months, one five months, and the third patient is still living, nine months after operation, is comfortable and in reasonably good health; so there was no mortality in the series.

Dr. Joseph C. Bloodgood, Baltimore, discussed the surgery of the colon, with special relation to the methods of resection and suture.

(To be continued)

PHILADELPHIA PEDIATRIC SOCIETY

Joint Meeting with New England Pediatric Society, Section on Pediatrics of New York Academy of Medicine and New Jersey Pediatric Society, held at Philadelphia, Nov. 12, 1912

The President, Dr. Theodore Le Boutillier, in the Chair

Treatment of Hemorrhagic Disease of the New-Born

Dr. Beth Vincent, Boston: The recent use of serotherapy in this condition has marked a distinct advance in the treatment. A new method of treatment has been applied in the form of blood transfusion and by the subcutaneous injection of animal serum, human serum and whole human blood. The results show such a high percentage of recoveries as to justify the assumption that the use of the blood or its derivatives by these various methods is of therapeutic value in this disease. In every one of eleven cases treated the immediate effect was to check the bleeding and correct the anemia. The only exception to the rule of easy convalescence was in a case with extensive hemorrhage under the scalp. Eight of the eleven patients were cured; four died, one of a diffuse peritonitis, undoubtedly present and undetected at the time of the operation; another of syphilitic infection one month after the operation; a third was moribund at the time the transfusion was done. Four additional patients not treated by transfusion were given injections of whole human blood. In two of these the bleeding took the form of intracranial hemorrhage and in two of melena neonatorum. The fatal results could not fairly be taken as evidence that this method was ineffectual, since three of the patients were moribund at the time of the injections. Several patients in this series received animal serum subcutaneously without apparent result and were subsequently cured by transfusion.

Without justifying the statement that animal serum is wholly ineffective, this confirms the opinion that human blood or its derivatives is more valuable in these cases. The good results which have been obtained from the use of human blood is sufficient evidence that these measures are efficacious in checking the bleeding in this condition. Transfusion seems the ideal method because it restores directly to the infant's circulation all the elements needed for coagulation. Transfusion also possesses the advantage of correcting the anemia by replacing the cellular elements which have been lost by hemorrhage. Hence this is the only method from which good results can be expected in the severe types of the disease in which the patients have been exsanguinated by continuous profuse bleeding. The best line of treatment to pursue in these cases is a rational combination of all three methods. In cases beginning with a trivial hemorrhage and seen early, the easier and more simple methods of blood or serum injection are in order. It may be advisable to make the first injection of whole blood to save delay and at the same time to collect enough blood to furnish serum for further treatment. Cases which do not follow so favorable a course or in which the patients are exsanguinated in the beginning are better treated by transfusion. When transfusion is performed one may leave the case with the assurance that the infant is in no immediate danger. There are two forms of this disease which are not affected by transfusion. The first includes those cases in which the underlying cause of the bleeding, as bacterial infection, syphilis and ulcers of the stomach or duodenum, is such as to be fatal in itself, and the second class comprises cases of hemorrhage of the brain, adrenals, kidneys and liver in which the location and extent of the bleeding is the vital factor. With these exceptions the human blood or its derivatives is capable of checking the bleeding, and by a proper application of one or a combination of these methods, a large percentage of patients in this hitherto fatal disease may be cured.

Pyloric Obstruction with a Comparative Study of the Normal Stomach of Infants

Dr. Godfrey R. Pisek, New York: There are certain cases which exhibit the classical group of symptoms, projectile vomiting, steady wasting, constipation and excessive stomach peristalsis, in addition to palpable nodular tumor in the pyloric region. Cases are reported without the presence of any palpable tumor, and it is these that offer the greatest difficulty in determining the method of procedure and in how far they may be surgical. By the use of the Roentgen ray one may determine whether there shall or shall not be operation in a given case. Comparative studies are made on normal infants, breast-fed and artificially fed. It is evident that the accepted conception of the shape and activity of the infant stomach needs revision. The normal stomach begins to empty itself within a minute or two after the intake of food. This fact is used to differentiate cases of pyloric obstruction in which the food, in cases of true stenosis, escapes very slowly and through an extremely narrow lumen, while in cases of pylorospasm it takes from twenty minutes to half an hour before the bismuth passes into the duodenum.

DISCUSSION

Dr. Edwin E. Graham, Philadelphia: I should like to know whether a sufficient number of cases have been examined to make it possible to decide definitely whether a small portion of the stomach contents passes into the duodenum within one or two minutes after the bismuth has been introduced into the stomach. Is it possible that the amount of fluid introduced into these stomachs was excessive? If this is true, the portion leaving the stomach can hardly be affected by the gastric secretion.

Dr. Fritz B. Talbot, Boston: In some cases it is impossible to obtain skiagrams of these babies. In these cases I give the baby subnitrate of bismuth by mouth. This agent is crystallizable and can be readily observed microscopically in the stools. Absence of typical bismuth crystals from the stools means that no food is passing through the pylorus.

Dr. Harry Lowenberg, Philadelphia: I saw one case of pyloric obstruction in which the bismuth shadow did not show beyond the spinal column. A tumor was palpable. The diagnostic value of the administration of charcoal should be emphasized. If this substance passes through, the prognosis is hopeful, whether the condition is a hypertrophy, a spasm or a mixed condition. Another case sent to me as pyloric obstruction was found by *x*-ray methods to be a case of twist in the sigmoid, and the vomiting was probably reflex. There are certain dangers connected with the use of the stomach-tube in these cases. In one case the tube could be palpated in the right iliac fossa and a skiagram with the tube *in situ* showed that the lower border of the stomach had been pushed down.

Dr. Henry L. Coit, Newark, N. J.: The abuse of a saturated solution of borax, so generally used in washing out infants' mouths, is sometimes, if not often, to blame for the occurrence of pyloric spasm, stenosis and even gastric ulcer.

Dr. J. Finley Bell, Englewood, N. J.: The point should be emphasized that the absence of tumor at the pyloric region does not necessarily indicate that there is no obstruction present.

Dr. Walter Lester Carr, New York: There are certain cases of pouched stomachs in which the peristaltic wave appears to the left of the median line. Many of these cases are in infants fed artificially and cannot be classified as cases of pyloric spasm or pyloric obstruction, although showing a reversed peristaltic wave.

Dr. Godfrey R. Pisek, New York: In the normal stomach the contents invariably begin to pass through within a few minutes of their ingestion. In cases of pyloric tumor or pyloric spasm the meal remains in the stomach for some time, and this fact is a helpful point in diagnosis. In cases of pyloric obstruction in which there is no tumor palpable, it might be that no bismuth is extruded for half an hour, and then, in cases of pyloric spasm, it will gush through. This is an aid in making a prognosis in these cases. In artificially fed babies the stomach contents appear to pass readily through the pylorus. The point which Dr. Talbot made regarding the use of bismuth subnitrate is a good one. It might be used when no skiagrams are available, but it would only show that something could pass through the pylorus.

Book Notices

Heredity and Eugenics. A Course of Lectures Summarizing Recent Advances in Knowledge in Variation, Heredity and Evolution, and Its Relation to Plant, Animal and Human Improvement and Welfare. By William Ernest Castle, John Merle Coulter, Charles Benedict Davenport, Edward Murray East and William Lawrence Tower. Cloth. Price, $2.50 net. Pp. 315. Chicago: University of Chicago Press, 1912.

This is a reproduction of a course of lectures delivered at the University of Chicago under the auspices of the biologic departments. The first two chapters, by Professor Coulter, give a clear and readable statement, mainly from the point of view of a botanist, of current conceptions concerning the principal evolutionary theories and the physical basis of heredity. The next four chapters, on the "Method of Evolution" and "Heredity and Sex," by Professor Castle, and on "Inheritance in the Higher Plants" and the "Application of Biologic Principles," by Professor East, are largely devoted to the application of Mendel's laws to experimental facts. Mendel's laws, though somewhat differently stated by various writers, are simple enough but they seem to require a large amount of exposition which has developed a voluminous literature and a rather extensive and somewhat confusing nomenclature. Of course the inheritance of acquired characters arises in the discussion of the mendelian heredity, and both authors deny such a possibility. There are some biologists of eminence who still hold to the possibility of such transmission, and at least some pathologic facts are most easily accounted for by it. Racial immunity to certain diseases is such a one; if it exists, it is acquired and must also be inherited, but whether through antibodies or hormones in the blood or through modification of the germ-plasm itself, makes no material difference. There may be some other explanation for such facts, but if there is it does not naturally suggest itself. Professor Tower, in a chapter on the "Modification of Germinal Constitution of Organisms," takes up this subject of somatic and other influences on the germ-plasm, and while not so positive in his statements he also inclines to question the possibility of acquired characters. The conditions, however, which he lays down for the satisfactory settlement of the question, have certainly not been met by any experiments as yet reported. In his closing remarks he says that "there is little reason to expect that present biochemical methods can give a solution." and that it is not improbable that we shall have to wait till the solution of the larger question as to what life is before it will be possible to define the nature of the germinal changes. That, in spite of the assumptions of a recent much-talked-of address, is probably like Hans Breitman's party, "away in the *Ewigkeit.*" Perhaps, as Tower says, too much attention has been given to the chromosomes, and we shall have to look further back to the internal secretions, not merely of the ductless glands, but of many other if not all the organs and tissues of the body for the factors of heredity. If so, that will be the end of the present eminence of the germ-plasm in biologic speculations.

The last two chapters of the work, by Dr. Davenport, on the "Inheritance of Physical and Mental Traits," will be the most interesting to the average reader. They deal strikingly with the problems of practical human eugenics. The argument is, of course, to some extent *ex parte*; environment has also to be taken into account in any judicial estimate of mental and moral eugenics. The brief catalogue of the eminent descendants of Elizabeth Tuttle does not include Aaron Burr, and doubtless many black sheep can be found in any family line. The man who said he would rather be the son of a healthy burglar than of a consumptive bishop, if he could have a good bringing up, was not strong in his pride of ancestry, but he was not altogether wrong, though he took only a one-sided view of the eugenics problem.

A general impression left with one who cannot claim to be a biologic expert, from the perusal of this work, is that the problems of heredity are exceedingly numerous and complex, notwithstanding all the work that has been directed toward their solution. The practical problems of human eugenics, however, are coming more and more to the fore and the medical profession will have to take its part in meeting them. This book will be found useful in giving as full and clear a statement of views commonly held now on the general subject of genetics, as is likely to be obtained elsewhere without the reading of a large amount of non-medical scientific literature.

Diseases of the Genito-Urinary Organs and the Kidney. By Robert Holmes Greene, A.M., M.D., Professor of Genito-Urinary Surgery, Fordham University, and Harlow Brooks, M.D., Assistant Professor of Clinical Medicine, University and Bellevue Hospital Medical School. Third Edition. Cloth. Price, $5 net. Pp. 639, with 339 illustrations. Philadelphia: W. B. Saunders Company, 1912.

As in many other text-books of recent issue, the authors "have attempted to devote the greatest amount of space and the fullest description to those methods and conditions which have appeared to them to be of the greatest importance." While a book on such a plan cannot fail to prove of value, it can hardly be said to be satisfactory to the student or student-practitioner who wishes to inform himself fully on the subject. The association of an internist and a surgeon in the authorship is a good one because the text thus represents every subject from the two points of view. The practical experiences of the authors and the conclusions drawn from them are well detailed. Descriptions of methods are supplemented by illustrations, as in the case of cystoscopy, for instance. Only four lines of text supplemented by seven illustrations, are devoted to tumors of the bladder. The same is true of stone in the bladder. Only fifteen pages are devoted to the collection and chemical and microscopic examination of the urine. It would be better to refer the reader to some good book on that subject and use the space thus gained to give a more detailed description of cystoscopy. So, too, one might criticize the amount of space given to anatomy and embryology. On the other hand, the treatment of diseases of the prostate, especially by massage and operation, is excellently presented, the principles of all operative procedures being discussed clearly and well. Other subjects are similarly well treated. In fact, little criticism can be made of the surgical side of the work. Evidently the medical side has suffered because not enough space was available for the full discussion of every subject.

The illustrations are especially to be commended. Most of them are line drawings, and therefore they are simple, clear and easily understood, without the possibility of misinterpretation. They really illustrate.

Pleurisy, Including Empyema and Bronchiectatic Conditions. By A. James, M.D., F.R.C.P.E., Consulting Physician to the Edinburgh Royal Infirmary. Cloth. Price, $2.25. Pp. 243, with illustrations. New York: William Wood & Co., 1911.

As the result of thirty years' experience in hospital and private practice, the author here sets forth his views on the subject of pleurisy. The book is made up of a series of pictures of the disease in its various forms, numerous case histories being used by way of illustration. There is little of the historic included and comparatively little of pathology, the emphasis being laid on the clinical manifestations of the disease and the treatment, and particularly the author's and not others' views on the subject. As etiologic factors the germs themselves are not so much regarded as their virulence and the susceptibility of their human host. Bacteria, in fact, are perhaps rather too briefly considered in this connection. The clinical features are clearly set forth and one must in general agree with what is described. One statement, however, appears rather odd and as not in accord with general experience. On page 65, referring to pain in pleurisy, the author says: "As regards degree, it is specially marked in purulent pleurisies, and indeed it may be said that if the pain of a pleurisy or pleuropneumonia is so intense as to require the ice-bag or morphin hypodermically, the process is fairly certain to be a purulent one." Surely many non-purulent pleurisies are seen that are extremely painful. Perhaps the most valuable part of the book for the practitioner—and the book is not well adapted to the needs of the undergraduate—is the author's experience with some of the rarer types of pleurisy, such as pulsating empyema.

Association Tests. Being a Part of the Report of the Committee of the American Psychological Association on the Standardizing of Procedure in Experimental Tests. By R. S. Woodworth, Columbia University, and Frederic Lyman Wells. Psychological Monographs, Volume 13, No. 5. Paper. Price, $0.75. Pp. 85. Baltimore: Psychological Review Company.

The tests presented in this monograph are designed for practical application, without the employment of the usual laboratory instruments of precision. The whole report is divided into three parts, the first of which discusses the scope of the work, the second analyzes the mode of procedure for securing best results in association tests, while the third presents descriptions and illustrations of the tests in detail. The tests are the more or less familiar ones used by experimenters on children and adults, here collected and presented in something like a serial gradation. The first is the cancellation test, or following of instruction to cancel by a single downright stroke some symbol distributed in a group of dissimilars. The second series of tests centers about the associative control which is involved in simple addition tests. The third series involves the associative responses which appear in the reading of colors and arbitrarily chosen forms or designs. The fourth group, in turn, introduces the substitution tests, and the sixth investigates nine logical relations.

In general, this monograph represents a piece of work for which there existed a felt need, and while it was worked out with reference to college students, who ought to have greater facility in language associations than persons taken at random, and certainly more understanding than children, nevertheless some at least of these tests can be successfully applied in examining the associative powers of subjects of any grade of ordinary intelligence. From a purely academic interest it is desirable that they be expanded and standardized with larger representative groups of normal adults, and even as presented, they furnish an immediate practical service in assisting in the diagnosis of mental diseases which fall under the general name of psychoneuroses or functional disturbances of the mind that appear in the various forms of hysteria and neurasthenia.

Practice of Osteopathy. Its Practical Application to the Various Diseases of the Human Body. By Charles H. Murray, A.B., B.D., D.O. Third Edition. Cloth. Price, $3.50. Pp. 422, with 121 illustrations. Elgin, Ill.: The Murray Publishers, 1912.

This is the third edition of a book which was criticized in The Journal several years ago (July 23, 1910, p. 335). In the previous review the scientific portion of the book, if it can be said to have any scientific part, was criticized, and the efforts on the part of the author to provide any adequate osteopathic treatment for various diseases were condemned. A few general statements were made regarding the arrangement of the contents. The publishers have taken these sentences and have used them so as to convey the impression of a recommendation of the book on the part of The Journal, following the well-known example of theatrical and other press agents. In order to prevent a repetition of such an occurrence, no comments will be made on the third edition. The reader is referred to the previous review for an opinion as to the scientific value of the book.

The Mechanistic Conception of Life. Biologic Essays. By Jacques Loeb, M.D., Ph.D., Sc.D., Member of the Rockefeller Institute for Medical Research. Cloth. Price, $1.50 net. Pp. 232, with 58 illustrations. University of Chicago Press, 1912.

This contains essays written in response to requests for popular presentations of the results of Loeb's investigations. The general object has been to present in a simple fashion the chief results of studies in the attempt to analyze phenomena of life from a purely physicochemical point of view. All the essays have been published previously. The topics discussed are as follows: the mechanistic conception of life; the significance of tropisms for psychology; fundamental facts and conceptions concerning the comparative physiology of the central nervous system; pattern adaptation of fishes; some facts and principles of physiologic morphology; the nature of the process of fertilization; the nature of artificial parthenogenesis; the prevention of death of the egg by fertilization; salts in the preservation of life; the influence of environment on animals. All who are interested in following the stimulating and suggestive work of this genial investigator will be thankful to have these essays in convenient form.

Children: Their Care and Management. By E. M. Brockbank, M.D., F.R.C.P., Honorary Physician, Royal Infirmary, Manchester. Cloth. Price, $1.50. Pp. 259. New York: Oxford University Press, 1912.

This little book, written for "newly qualified doctors and for mothers and nurses," is necessarily so simple and elementary that it is of little interest to the "doctor." The "mother and nurse" will find the book of interest, especially because the author has the happy faculty of expressing himself in simple and clear language. It has no advantage, however, over many other books that have appeared on this subject in the last ten years and in many instances is less abreast of the times. One is rather startled to find the author recommending in the last page of the book a "first-aid box," of his own device, naming the manufacturer and the price.

Vorlesungen über Diätbehandlung innerer Krankheiten. Gehalten vor reiferen Studierenden und Ärzten. Von Prof. Dr. H. Strauss, Direktor der inneren Abteilung des jüdischen Krankenhauses in Berlin. Mit einem Anhang "Winke für die Diätetische Küche." Von Elise Hannemann. Third Edition. Paper. Price, 8.60 marks. Pp. 479. Berlin: S. Karger, 1912.

The fact that within four years this book has passed through three editions, the last extensively revised, is evidence of its intrinsic value. It is composed, in the main, of sixteen lectures intended for advanced students and physicians, together with extensive tables on chemical composition, salt content, caloric value, etc., of the various foods. An appendix of nearly 100 pages contains hints for the diet kitchen, recipes, etc., by Elise Hannemann. The book is preeminently practical, clear and concise and the authoritative position of the author assures its theoretical soundness.

Insomnia: Its Causes and Treatment. By Sir James Sawyer, Consulting Physician to the Queen's Hospital, Birmingham. Second Edition. Cloth. Price, 2 shillings, 6 pence net. Pp. 107. Birmingham: Cornish Bros., 1912.

This little book was widely read in the first edition. It is now offered with additions and emendations. It is a sane and practical presentation of the subject. The author classifies cases of insomnia into two large groups, symptomatic and intrinsic; the former are due to pain, coughing, dyspnea and various other conditions, and the latter to psychic, toxic and senile conditions. A description of the symptomatology of these forms of insomnia is given and their causation and treatment are fully discussed. Originally the book was made from the first two chapters of the author's "Contributions to Practical Medicine," and was reprinted from it.

Industrial Diseases. Proceedings of the Second Conference on Industrial Diseases. 1912. Paper. Price, $1. Pp. 417, with illustrations. New York: American Association for Labor Legislation, 131 East Twenty-Third Street.

This pamphlet contains nineteen papers on diseases of occupation, together with the discussions, presented at the Second National Conference on Industrial Diseases held in connection with the meeting of the American Medical Association at Atlantic City in June. The book contains a number of illustrations showing various protective devices used in manufacturing processes and an extensive bibliography of works on occupational diseases. It is a valuable publication on a subject that is receiving constantly greater attention from sociologists, the medical profession and the legislatures.

The Immediate Care of the Injured. By Albert S. Morrow, A.B., M.D., Adjunct Professor of Surgery in the New York Polyclinic. Second Edition. Cloth. Price, $2.50 net. Pp. 354, with illustrations. Philadelphia: W. B. Saunders Company, 1912.

Of the first edition of this work (1906) we wrote: "Although a large amount of useful information is to be found in this book we think it hardly comes up to the ideal set forth in the preface, inasmuch as the author has failed to make clear what may be done by the intelligent layman in cases of accident or injury, and what in such cases should be undertaken only by the physician." This criticism still holds good. We note that the author in revising has very properly omitted the chapter on hypodermic injection, but still recommends that antiquated abomination, the flaxseed poultice.

Miscellany

Athletics for Girls.—That modern athletics may be indulged in with advantage by girls throughout childhood and school and college life is the net result of an inquiry made by Dr. Angenette Parry (*Am. Jour. Obst.*, September, 1912. p. 341). The inquiry was directed to obstetricians, college physicians, directors of physical training in universities or private gymnasiums, athletes, women circus riders and gymnastic performers. It included the functions of menstruation, parturition and lactation, and had reference to displacements or other pelvic injuries from athletic exercises. While there was considerable diversity of opinion, it was pretty generally agreed among those attempting to answer the inquiry that girls may indulge in athletic sports, games and pastimes to a considerable extent, but that perhaps the taking part in strenuous athletic contests, such as intercollegiate games, would be injurious or not conducive to the best interests of those participating. With some exceptions the opinions were that girls accustomed to athletics or those in good physical training might exercise without detriment during the menstrual period. In the majority of instances the menstrual flow is probably increased by such exercises on account of accelerated circulation and congestion, but in one instance of a circus gymnastic performer the menstrual flow was stopped during the period of exercise. None of these professional performers desisted from their exercises during this period, and in the case of horseback riders during pregnancy their work was kept up in some instances to the eighth month or beyond. In no instance was miscarriage the result of such exercises except in the case of a fall. As to the effect on parturition, among forty answers from physicians the general opinion was that the condition of athletic patients was much better. More than one-half believed that athletic exercise favors easy labor, though excessive exercise hinders it. Still others believed that among their athletic patients there were as many easy as difficult labors. One-fourth were decided in their opinions as to the increased dystocia due to athletic training. A few called attention to the rigidity of the perineum. Most observers agreed that convalescence after parturition was better in the athletic women, while as to the matter of lactation the observations were of little value. In regard to displacements, five out of twenty gynecologists believed that displacements can be caused by violent exercise, especially during the menstrual period; but the consensus of opinion was that athletic exercise did not produce displacements and it was recommended by some as a prophylactic against such a condition. Parry believes that girls should lead the same outdoor lives as their brothers, climbing, swimming, running and ball-playing, etc., without distinction as to sex, until puberty, and they will arrive in that first great epoch in their reproductive lives well prepared for the changes which then take place. Though the results of athletic exercises in all individuals will not result in producing hearts, lungs and muscles of the same caliber, yet physical exercise tends toward nervous stability and poise, and one of its great excellences is the training of the judgment and self-control of the individual, which leads to recognition by the young athlete of her powers and limitations, and ensures not only good physical endurance, but makes intellectual work easier and adds zest to all the activities of life. It is probable that athletics indulged in by the weaker sex moderately and under proper supervision is as appropriate and beneficial as for the male sex, and it is only the immoderate, strenuous and competitive athletics that needs any condemnation for either sex.

The Annual Meeting of the A. M. A.—Primrose . . . had just returned from a meeting of the American Medical Association in Atlantic City, and was full of his experiences. There was little conversation that night. It was all monologue. Primrose *loquitur*, with feeble gasps of assent or dissent from his audience: "Of course every properly qualified doctor in America should belong to the Association. These meetings are wonderful. They're a liberal education. Outside of national politics, and Washington, there's nothing like them. I've been to your Chautauquas and Church Triennials. They're froth and nursery tales in comparison. The generation just ahead of us did us a great wrong when they belittled the meetings of the A. M. A. I remember old Dr. Grimm's once saying to me, 'Don't be fooled by all this talk; and don't mix yourself up with that crowd. They're nothing but a parcel of advertisers.' Whatever they may have been once, they're primarily nothing of the sort now; and remember that the Association was started, and was run for years, as it is now, by our most representative men. The whole thing is certainly very well done to-day, and I'm always preaching to the younger men that they should never miss these meetings. Of course I'm an old country duffer, but I confess that I'm full of excitement and interest from the moment I reach the station platform. It's stimulating to see hundreds of men all bent on the same errand as one's self; it's delightful to meet dozens of old friends, and I confess that I often rejoice to shake the hand of some much-talked-of man from Europe who has come here to tell us what he knows. I always try to reach the convention twenty-four hours early, and I spend that free day going about among the men, watching the arrivals, and visiting the House of Delegates. That first evening fills me with delight as I sit in the corridor or smoking-room. What a chance to study types and character! You two seem to lose the human side of our annual meetings. You run on for an appointed day or hour, read the paper assigned to you, and then take a night train for home. You should go as I go, and see the thing through. So you get the spirit of the affair. You should visit the different sections and see what men are doing and thinking. Physiology and medicine are as important as chemistry and surgery. It gives one a thrill sometimes to hear a really big man read a truly great paper. I've had the experience twice. Last year, when Browning made his announcement of finding and destroying the cancer parasite, the house rose to him three thousand strong, and that, too, though it was the Section on Surgery which knew that the discovery meant a serious loss of business for them."—From "A Doctor's Table Talk" by Dr. James G. Mumford; published by the Houghton Mifflin Company.

A Great Work for the Profession.—In the detection of the false and the uncovering of fraud, a great work for the profession has been accomplished by the thorough investigation into the composition of these proprietary drugs carried on under the direction of the Council on Pharmacy and Chemistry of the American Medical Association, the results of which are published from time to time in its JOURNAL. Any physician desirous of obtaining a correct knowledge of the composition of these nostrums should consult the reports of the chemical laboratory of our sister association to the south of us. The publication, New and Nonofficial Remedies, is, I believe absolutely reliable, and should be in the hands of every physician. Let me also say that I think we should appreciate highly the proposition of the members of this council to institute a critical study of many of the important questions in therapeutics, which still demand investigation. It is proposed to make a compilation of all available published information on each question, and to supply this compilation to every member of our profession who will assist with careful clinical research. Later on they promise to furnish digests and monographs, giving the final results of their investigations, which will supply the physicians with facts on which some dependence can be placed. Such an effort should have not only our good wishes but also our active cooperation.—From the Address in Medicine at the forty-fifth annual meeting, by Dr. A. D. Blackader, in the *Canadian Medical Association Journal.*

Problem of the Defective.—The multiplying of the defective classes is the largest sociologic problem before the American people which must very soon invite the attention of our government, from the cabinet officer to the township trustee. Logically they will look to this association for matured advice and suggestions for procedure, after the census bureau has compiled the figures, and public conscience has compelled attention.—Hubert Work in *Am. Jour. Insan.*

Medical Education and State Boards of Registration

COMING EXAMINATIONS

ALABAMA: Montgomery, January 14. Chairman, Dr. W. H. Sanders.

ARIZONA: Phoenix, January 6-7. Sec., Dr. John Wix Thomas.

COLORADO: State House, Denver, January 7. Sec., Dr. David A. Strickler, 612 Empire Building.

DISTRICT OF COLUMBIA: Washington, January 14. Sec., Dr. George C. Ober, 125 B Street, S.-E.

ILLINOIS: Coliseum Annex, Chicago, January 22-24. Sec., Dr. James A. Egan, Springfield.

INDIANA: Room 57, State House, Indianapolis, January 14-16. Sec., Dr. W. T. Gott, State House.

MINNESOTA: Pathological Institute, University of Minnesota, Minneapolis, January 7. Sec., Dr. Thomas S. McDavitt, Lowry Building, St. Paul.

NEW MEXICO: Santa Fé, January 13. Sec., Dr. W. E. Kaser, East Las Vegas.

NEW YORK: January 28-31. Chief of Examinations Division, Mr. Harlan H. Horner, Department of Education, Albany.

NORTH DAKOTA: Grand Forks, January 7. Sec., Dr. G. M. Williamson.

OKLAHOMA: Oklahoma City, January 14. Sec., Dr. John W. Duke, Guthrie.

OREGON: Portland, January 7. Sec., Dr. E. B. McDaniel, 702 Electric Building.

SOUTH DAKOTA: Watertown, January 8. Sec., Dr. L. G. Hill.

UTAH: Salt Lake City, January 6-7. Sec., Dr. G. F. Harding, 310 Templeton Building.

VERMONT: Montpelier, January 14-16. Sec., Dr. W. Scott Nay, Underhill.

WASHINGTON: Spokane, January 7-12. Sec., Dr. F. P. Witter, Traders' Block.

WISCONSIN: Milwaukee, January 14-16. Sec., Dr. John M. Beffel, 3200 Clybourn Street.

Oregon July Report

Dr. E. B. McDaniel, secretary of the Oregon State Board of Medical Examiners, reports the written examination held at Portland, July 1-3, 1912. The number of subjects examined in was 15; percentage required to pass, 75. The total number of candidates examined was 104, of whom 55 passed, including 9 osteopaths, and 49 failed, including 7 osteopaths. The following colleges were represented:

College	Year Grad.	Per Cent.
PASSED		
Cooper Medical College	(1912)	79
College of Physicians and Surgeons, Los Angeles	(1912)	79.1
University of California	(1911)	75
Denver and Gross College of Medicine (1903) 83.3;	(1910)	83.3
Denver Homeopathic College	(1904)	82.1
University of Colorado	(1912)	83.7
George Washington University	(1908)	76
Northwestern University Medical School (1908) 75;	(1911)	77.1
College of Phys. and Surg., Chicago (1906) 75.6;	(1909)	76.4
Rush Medical College	(1911)	80
Hahnemann Medical College and Hospital, Chicago	(1881)	*61.6; (1897) *70; (1911) 79.
Medical College of Indiana	(1879)	*50.5
College of Physicians and Surgeons, Keokuk	(1898)	*70.1
University of Kansas	(1912)	76.7
University of Louisville	(1910)	78.5
Kentucky University	(1901)	75
Harvard Medical School (1893) 75.1;	(1912)	82.5
University of Michigan, Dept. of Med. and Surg.	(1890)	70.8
St. Louis University (1910) 77.4;	(1911)	85.7, 86.3
Washington University, St. Louis	(1908)	82.4
American Medical College; St. Louis	(1903)	*70
Syracuse University	(1903)	82.9
Columbia University, College of Physicians and Surgeons	(1911)	77.4; (1912) 88.2.
Starling-Ohio Medical College	(1911)	79.3
Willamette University	(1912)	79.1
University of Oregon	(1909)	81.5; (1912) 75, 76.5, 76.5, 79.9, 81.1, 83.5.
University of Virginia	(1910)	75
London School of Medicine for Women, England	(1901)	78.9
Non-graduate		75, 77.1, 78.2
FAILED		
University of Colorado	(1906)	71.5
George Washington University	(1908)	72.3
Hering Medical College	(1912)	72.5
College of Phys. and Surg., Chicago (1894) 62.5;	(1908)	71.7
Hahnemann Medical College and Hospital, Chicago	(1904)	66.8
Keokuk Medical College, College of Phys. and Surg.	(1906)	67.6
State University of Iowa, College of Medicine	(1910)	70.4
Kentucky School of Medicine (1903) 68.1;	(1908)	64.4
University of Louisville (1907) 50.9;	(1908)	68.1
Hospital College of Medicine, Louisville	(1907)	73.4
Ensworth Medical College	(1905)	56.4
St. Louis University	(1905)	52.4
Missouri Medical College	(1886)	63.6
Medico-Chirurgical College of Kansas City	(1900)	60.3
Kansas City Homeopathic Medical College	(1891)	61.5
Creighton Medical College	(1907)	68.8
Ohio Medical University	(1906)	73.4
University of Oregon	(1905)	70.5; (1911) 66.1; (1912) 65.6, 66.5, 71.4, 73.1, 73.7, 73.7.
Willamette University	(1912)	62.3, 64.1, 66.8, 69.1, 69.8, 70.3, 71.5.
Lincoln Memorial University	(1907)	71.2.
Non-graduates		50.8, 59, 63.7, 64.6, 65.3, 73.4.

* Five per cent. allowed for each ten years of active practice after graduation.

Mississippi October Report

Dr. W. W. Smithson, secretary of the Mississippi State Board of Health, reports the written examination held at Jackson, Oct. 22-23, 1912. The number of subjects examined in was 8; total number of questions asked, 64; percentage required to pass, 75. The total number of candidates examined was 25, of whom 13 passed and 12 failed. Two candidates were licensed through reciprocity. The following colleges were represented:

College	Year Grad.	Total No. Examined
University of Louisville	(1912)	2
Tulane University of Louisiana (1910, 2)	(1912)	3
Memphis Hospital Medical College (1901) (1909) (1911, 2) (1912, 3)		7
University of Tennessee	(1912)	1
FAILED		
Atlanta School of Medicine	(1912)	1
Maryland Medical College	(1911)	1
Meharry Medical College (1907) (1911)	(1912)	3
Memphis Hospital Medical College (1911)	(1912, 4)	5
University of Tennessee	(1912)	2

LICENSED THROUGH RECIPROCITY

College	Year Grad.	Reciprocity with
Louisville Medical College	(1871)	Missouri
University of Virginia	(1907)	Virginia

Oklahoma October Report

Dr. John W. Duke, secretary of the Oklahoma State Board of Medical Examiners, reports the written examination held at Muskogee, Oct. 7-9, 1912. The number of subjects examined in was 10; total number of questions asked, 100; percentage required to pass, 70. The total number of candidates examined was 31, of whom 23 passed and 8 failed. Two candidates were licensed through reciprocity. The following colleges were represented:

College	Year Grad.	Per Cent.
PASSED		
College of Physicians and Surgeons, Little Rock	(1911)	80
Howard University, Washington, D. C	(1904)	77
Atlanta School of Medicine	(1912)	76
Chicago College of Medicine and Surgery	(1912)	78 83
Drake University	(1912)	82
Northwestern University Medical School	(1892)	81
Flint Medical College	(1910)	74
Washington University, St. Louis	(1910)	79
St. Louis College of Physicians and Surgeons	(1912)	75
University of Oklahoma	(1912)	79
Jefferson Medical College (1873) 74;	(1906)	81
Vanderbilt University	(1912)	81
University of West Tennessee (1907) 70;	(1912)	71, 77
Meharry Medical College (1903) 73;	(1912)	79, 79, 80, 82
Fort Worth School of Medicine	(1912)	73
FAILED		
University of Arkansas	(1912)	67, 68
College of Physicians and Surgeons, Little Rock	(1910)	55
Rush Medical College	(1896)	68
Barnes Medical College	(1905)	71
Memphis Hospital Medical College (1911) 61;	(1912)	66
Meharry Medical College	(1909)	63

LICENSED THROUGH RECIPROCITY

College	Year Grad.	Reciprocity with
Reliance Medical College	(1909)	Kentucky
University of Tennessee	(1892)	Tennessee

Connecticut November Report

Dr. Charles A. Tuttle, secretary of the Connecticut Medical Examining Board, reports the written, oral and practical examination held at New Haven, Nov. 12-13, 1912. The number of subjects examined in was 7; total number of questions asked, 70; percentage required to pass, 75. The total number of candidates examined was 26, of whom 20 passed, 5 failed, and one withdrew. The following colleges were represented:

College	Year Grad.	Per Cent.
PASSED		
Yale Medical School (1906) 83.5;	(1912)	77.5, 78, 85.5, 86.2
Johns Hopkins University	(1912)	83.6
Baltimore Medical College	(1912)	76.6
College of Phys. and Surg., Baltimore (1911) 75;	(1912)	75.3, 76.9

Tufts College Medical School	(1911)	78
University and Bellevue Hospital Medical College	(1911)	84.9
Columbia University, College of Physicians and Surgeons	(1901) 76.9; (1905)	81.9
Woman's Medical College of Pennsylvania	(1912)	80.2
Vanderbilt University	(1900)	76.5
University of Vermont	(1911) 76.5, 77.5; (1912)	76.1
University College of Medicine, Richmond	(1912)	75.5
FAILED		
Maryland Medical College	(1910) 71.6; (1911)	63.2
College of Physicians and Surgeons, Boston	(1908)	54.5
Woman's Medical College of Pennsylvania	(1912)	72.8
University of Vermont	(1891)	61.8

Connecticut Eclectic November Report

Dr. Thomas S. Hodge, secretary of the Connecticut Eclectic Medical Examining Board, reports that at the examination held at New Haven, Nov. 12, 1912, two candidates were licensed through reciprocity. One of these was a 1912 graduate of the Eclectic Medical College of Cincinnati and was licensed through reciprocity with Pennsylvania and the other was a 1912 graduate of the Eclectic Medical College of New York and was licensed through reciprocity with New York. Another candidate, a 1911 graduate of the Eclectic Medical College of New York, appeared for examination but did not complete it.

Connecticut Homeopathic November Report

Dr. Edwin C. M. Hall, secretary of the Connecticut Homeopathic Medical Examining Board, reports the written examination held at New Haven, Nov. 12, 1912. The number of subjects examined in was 7; total number of questions asked, 70; percentage required to pass, 75. Three candidates were examined, all of whom passed. The following colleges were represented:

PASSED College	Year Grad.	Per Cent.
Boston University	(1910)	85
New York Homeopathic Med. College and Hospital	(1912)	81
Hahnemann Med. College and Hosp., Philadelphia	(1911)	93

Florida November Report

Dr. J. D. Fernandez, secretary of the Regular Board of Medical Examiners of the State of Florida, reports the written examination held at Jacksonville, Nov. 11-12, 1912. The number of subjects examined in was 7; total number of questions asked, 70; percentage required to pass, 75. The total number of candidates examined was 79, of whom 60 passed and 19 failed. The following colleges were represented:

PASSED College	Year Grad.	Per Cent.
University of Alabama	(1912)	80, 87, 88, 89
Birmingham Medical College	(1912)	84
University of Arkansas	(1912)	77
Howard Univ., Washington, D. C.	(1911) 75, 80; (1912)	80
Atlanta College of Phys. and Surg.	(1911) 75; (1912)	78, 86
Medical College of Georgia	(1912)	75, 77
College of Physicians and Surgeons, Chicago	(1894)	89
College of Medicine and Surgery, Chicago	(1907)	75
Chicago College of Medicine and Surgery	(1908)	89
Sioux City College of Medicine	(1896)	85
University of Louisville	(1878) 75; (1912)	75, 87
Tulane University of Louisiana	(1912)	77, 88, 93
Baltimore University	(1899)	78
Baltimore Medical College	(1910) 83; (1911)	87
College of Physicians and Surgeons, Baltimore	(1881) 75; (1909) 87; (1911) 82.	
University of Maryland	(1907) 75; (1911) 83; (1912)	85, 85
College of Physicians and Surgeons, Boston	(1912)	77
University of Michigan, Department of Medicine and Surgery	(1870) 75; (1912) 85.	
Mississippi Medical College	(1912)	79
Dartmouth Medical School	(1910)	91
Columbia University, College of Phys. and Surg.	(1894)	80
Leonard School of Medicine	(1912)	75, 81, 82, 89
North Carolina Medical College	(1903)	78
Jefferson Medical College	(1902)	91
Medical College of the State of South Carolina	(1905) 75; (1912) 80, 83.	
University of Tennessee	(1909) 75; (1910) 79; (1911) 75; (1912) 89.	
Vanderbilt University	(1912)	82, 82, 86
Memphis Hospital Medical College	(1905) 81; (1912)	76, 77
Victoria University, Medical Dept., Ontario	(1881)	75
FAILED		
University of Alabama	(1910) 69; (1912)	69
Medical College of Georgia	(1911) 67; (1912)	68, 69
Atlanta Medical College	(1888)	63
Southern College of Medicine and Surgery	(1912)	66
Louisville National Medical College	(1910)	46
College of Physicians and Surgeons, Boston	(1910)	69
St. Louis College of Phys. and Surg.	(1905) 60; (1911)	53
University of Buffalo	(1901)	68
Leonard School of Medicine	(1911)	69
Jefferson Medical College	(1899) 68; (1909)	66
Medical College of the State of South Carolina	(1912)	61
Memphis Hospital Medical College	(1912)	59
Vanderbilt University	(1894)	31
University of West Tennessee	(1911)	62

Medicolegal

Valid Ordinance of Board of Health

(Schwarz Bros. Co. vs. Board of Health (N. J.), 83 Atl. R. 762)

The Supreme Court of New Jersey says that an ordinance passed by the board of health of Jersey City provides in effect that it shall be the duty of every owner of any animal which shall die from accident or disease, or be killed for any purpose other than consumption for food, within the limits of Jersey City, to give notice of such death to the office of the board of health within a specified time after death. It shall be unlawful for any person or persons, except the health officer or the board or the contractor for the removal of dead animals, to transport any such animal, from the place where it died, to any place within or without the limits of Jersey City, without having first obtained permission in writing from the board or health officer, and that no permit shall be granted unless there be a written application signed by the owner. If, in the judgment of the health officer or the board, such dead animal is a nuisance or offensive and likely to be dangerous to the public health, or if the owner shall fail to apply for a permit or to remove the animal within the time mentioned in the permit, or within such time as in the judgment of such health officer or board may be necessary to prevent it from becoming a nuisance or offensive and likely to be dangerous to the public health, then it shall be lawful for such officer or board to cause its removal by the contractor, etc.

The court holds (1) that the ordinance is not unreasonable; (2) that it is not discriminatory, and does not deny to citizens the equal protection of the laws in violation of the state or federal constitution; (3) that it is within the power of the board of health; and (4) that, in the absence of proof of fraud, the motives of the board of health in passing it will not be inquired into.

Where an ordinance is within the power of the board which passed it, the presumption is that it is reasonable, and the judicial power to declare it void can be exercised only when, from the inherent character of the ordinance or from evidence showing its operation, it is demonstrated to be unreasonable, and the burden of proof is on the person asserting the unreasonableness, where the ordinance is not inherently unreasonable. This ordinance was passed under the authority granted to boards of health to pass ordinances relating to the public health. It surely is not unreasonable in providing for the notice of death of such animals. This seems reasonable in order that there may be an investigation and suitable precautions taken to prevent infection or epidemic if need be. Nor is it unreasonable in providing for the removal of a dead animal if the owner fails to apply for a permit or to remove it within such time as in the judgment of the health officer or the board may be necessary to prevent it becoming a nuisance. So, too, it is not unreasonable to prohibit the transportation of such a dead animal through the streets without a permit from the board or health officer, to be obtained on the written application of the owner. This empowers the board to make necessary regulations for each specific case.

Admissibility of Evidence to Prove Criminal Abortion

(Meno vs. State (Md.), 83 Atl. R. 759)

The Court of Appeals of Maryland holds admissible in evidence the dying declaration of the girl, who uttered no word, but gave her statement by affirmative or negative nods to questions put to her by a detective through her father in a hospital, she having been told by the physician in attendance that she was going to die, which she indicated by a nod that she realized. The question of the amount of credence to be placed in the dying declaration was for the jury. Nor was it inadmissible on the ground that, if an abortion was performed, the girl was an accomplice to its perpetration, and it was therefore the statement of an accomplice, on which, unless corroborated, no conviction could be properly had. That argument is not supported by the authorities. A woman on whom an abortion has been performed is regarded as a victim rather than an accomplice, and, even if she be deemed an accomplice, she is competent as a witness for the prosecution of the accused, and her evidence does not require corroboration when it establishes satisfactory proof of guilt, though in all such cases the credibility of it is to be passed on by the jury under proper caution from the court, as to the amount of credence to be placed in it.

Objection was also made to the dying declaration in this case on the ground that the girl did not possess sufficient understanding at the time when it was made to entitle it to any probative force. The evidence on this point given by the physicians was conflicting. The one who was in attendance on her stated her condition, what she did, and the manner in which she replied to questions, but did not express any opinion whatever as to her mental condition at the time. Two other physicians examined as experts, who had not attended her, differed quite radically as to her probable mental condition at the time. Under these circumstances, it was proper that the jury should pass on this, as on the other matters of fact which were involved in the trial of the case.

Evidence was not admissible to show that the girl had had improper relations with another man, or other men, to negative an inference of motive on the part of the accused for the perpetration of the abortion. The introduction of the evidence could only have tended to raise an immaterial and collateral issue, and so divert the attention of the jury from the real question involved. Nor was it admissible to show by a witness that the accused had told him that he had performed operations on or treated other girls as showing a familiarity on the part of the accused with what could be done to rid a woman of a child. There is a class of cases in which evidence may be given of other similar acts done by an accused, but this class of cases is restricted to where the several acts are connected together and form part of one entire scheme or transaction, so that one of the acts forms a basis for a reasonable and proper inference as to the purpose and intent with which the particular act was performed for which the accused was then on trial.

Current Medical Literature

AMERICAN

Titles marked with an asterisk (*) are abstracted below.

American Journal of Diseases of Children, Chicago

December, IV, No. 6, pp. 333-424

1 *Diagnosis of Enlarged Bronchial Lymph-Nodes. H. F. Stoll, Hartford, Conn.
2 Graphic Chart Method of Studying and Teaching Principles of Infant-Feeding. D. M. Cowie, Ann Arbor, Mich.
3 *Helminthiasis in Children. W. W. Murphy, Chicago.
4 *Serum Treatment of Pneumonia. R. G. Freeman, New York.
5 Long Interval Feeding of Premature Infants. J. C. Litzenberg, Minneapolis, Minn.
6 Respiratory System. B. S. Veeder, St. Louis.

1. **Diagnosis of Enlarged Bronchial Lymph-Nodes.**—A moderate enlargement of the bronchial nodes, Stoll found, often gives physical signs of sufficient distinctness to render their diagnosis possible by clinical methods alone. The signs are usually most marked in the interscapular space. Tapping percussion will elicit bronchial node dulness that is imperceptible when more force is used. Whispered bronchophony in the interscapular space is the earliest and most valuable sign of swollen bronchial nodes. It is especially significant in children and has almost, if not quite, the same importance in adults. While the spasmodic, brassy cough is quite typical of bronchial node tumor, the diagnosis must sometimes be made in the absence of the cough. An ever-present fatigue, associated with anorexia, afternoon temperature and possibly a slight loss of weight should suggest the possibility of their tuberculous nature.

3. **Helminthiasis in Children.**—Careful examination by Murphy of the stools from 102 children from 2 to 12 years of age showed that 6.86 per cent. were infected with intestinal parasites. In one case there was a double infection giving a total of eight infections. Four (3.92 per cent.) of the cases were *Trichiuris trichiura* infections; two (1.96 per cent.) were *Ascaris lumbricoides* infections; one (.98 per cent. was a *Taenia saginata,* and one (.98 per cent.) was a *Trichimonas intestinalis.* Only a small percentage of cases infected with intestinal parasites display any obvious symptoms. Eosinophilia was not constant as a symptom of helminthiasis, but when present, it accompanied the other clinical manifestations. Further, its presence bore no relation to the species of parasite harbored.

4. **Serum Treatment of Pneumonia.**—The first seven of the patients whose clinical history is reported on by Freeman were injected with a simple pneumococcus serum, a large dose, 100 c.c., being injected and in some cases repeated. The injection was done by means of a buret made for salvarsan injection, and a rubber tube with a glass section near the needle and a very large needle, this being necessary as the blood-serum will not flow freely through a small needle. The injections were all made into the anterior abdominal wall and it was found that by keeping the end of the needle in the fascia below the skin and gradually advancing this rather long needle 100 c.c. could be readily delivered with one penetration of the skin. Pressure was made in addition to that of gravity by the use of a rubber bulb attached to the buret. The first seven patients received 100 c.c. of pneumococcus serum, while the last eight cases received 50 c.c. each of pneumococcus and streptococcus serum.

The children injected varied in age from 2 months to 3¼ years, the average age being 20 months, while the controls ranged in age from 3½ months to 3½ years, with an average age of 11 months. As to the effect of the serum, there was in many cases an immediate change in the appearance of the child. Children that looked septic, were apathetic, with anorexia and a pale blotchy complexion, in several cases after the injection had a good color, were brighter, took the feedings better and seemed much improved, although the condition in the lung was usually unchanged or perhaps spreading. The effect on the temperature in some cases was marked. In seven cases there was a reduction in temperature after injection, while in eight cases there was no evident effect.

The effect on the process in the lungs was interesting for, in some cases in which there seemed to be an improvement in the general condition of the child, the lung condition either showed no improvement or spread. Where there was a marked reduction in temperature from the injection the lung signs did not spread materially and often cleared up quickly. The effect on the leukocytosis was studied in eleven cases, most of which were injections of combined pneumococcus and streptococcus serum. These showed usually a reduction in the leukocytosis, although in one case the leukocytes increased from 10,000 to 18,000 with a reduction in the polynuclear leukocytes from 70 to 44 per cent. The average of the eleven cases was a reduction in leukocytes from 25,790 to 19,333, and a reduction of polynuclear leukocytes from 67 to 63 per cent.

As to the effect of the injections on the duration of the disease it was found that the duration after injection, as shown by fever, varied from one to nine days, the average being 5⅓ days, and the total average duration of the disease in the patients who recovered being 6 7/9 days, while of the eight control cases the average duration of six was 10½ days, and in two the temperature continued for a very long period. Of the fifteen injected patients nine recovered and six died, giving a mortality of 40 per cent.; of fifteen controls eight recovered and seven died, giving a mortality of 47 per cent. Among the six patients injected with pneumococcus serum alone there were four recoveries and two deaths, while the controls showed five recoveries and one death. Of the nine patients injected with the pneumococcus and streptococcus serum five recovered and four died, while of the controls of these there were three recoveries and six deaths. Repeated injections in patients who had showed no reaction from the first injection were equally unsuccessful.

Annals of Otology, Rhinology and Laryngology, St. Louis, Mo.

September, XXI, No. 3, pp. 557-848

7 Morphologic Changes in Nose and Face Due to Development of Brain. J. M. Ingersoll, Cleveland.
8 Prevention of Deafmutism. M. Yearsley, London.
9 Epithelial Grafting as Means of Effecting Sure and Rapid Healing of Cavity Left by Complete Mastoid Operation. C. A. Ballance, London.
10 After-Treatment of Mastoid Operations. J. W. Wood, London.
11 Wassermann Reaction and Salvarsan in Diagnosis and Treatment of Syphilis in Ear, Nose and Throat Affections, with Special Reference to Auditory Nerve. J. C. Beck, Chicago.
12 What Is Best Type of Radical Frontal Sinus Operation, Viewed from Simplicity of Technic, Time of Healing and Cosmetic Results? G. E. Davis, New York.
13 Origin of Compensatory Tonus After Destruction of Labyrinth. G. E. Shambaugh, Chicago.
14 Syphilis of Inner Ear. O. Glogau, New York.
15 Pathology of Labyrinthitis. E. Ruttin, Vienna.
16 Brain Abscess, of Otitic Origin, Based on Study of Twenty-One Personal Cases. E. B. Dench, New York.
17 Eustachian Tube in Chronic Otitis Media. E. M. Holmes, Boston.
18 Middle-Ear Suppuration and Life Insurance. E. Amberg, Detroit.
19 Relief of Tinnitus by Use of Nitrate of Silver Applied Within Eustachian Tube. W. C. Braislin, Brooklyn.
20 Cholesteatoma of Ear. E. Gruening, New York.
21 Case of Paracoustic Vertigo and Nystagmus. J. R. Page, New York.
22 Primary Lateral Sinus Thrombosis Without Involvement of Mastoid Process or Tympanum. H. L. Lynah, New York.
23 Fibroma or Fibro-Angioma of Middle Ear. A. J. Brady, Sydney, Australia.
24 Case of Myxofibroma of Nasopharynx. J. H. Bryan, Washington, D. C.

Annals of Surgery, Philadelphia

December, LVI, No. 6, pp. 809-963

25 *Fatal Postoperative Embolism. L. B. Wilson, Rochester, Minn.
26 Acute Unilateral Hematogenous Infections of Kidney. J. H. Cunningham, Boston.
27 *Management of Grave Emergency Cases of Extra-Uterine Pregnancy. F. Cobb, Boston.
28 Operative Treatment of Fractures. J. B. Walker, New York.
29 *Etiology of Congenital Dislocation of Hip. E. Rixford, San Francisco.
30 Bone Plating in Irreducible Fracture of Clavicle: Report of Case. J. L. Bendell, Albany, N. Y.
31 Traumatic Separation of Lower Epiphysis of Femur. J. I. Russell, New York.
32 Case of Fracture of Odontoid Process of Axis with Intermittent Pressure Paralysis. G. R. Elliott, New York, and E. Sachs, St. Louis.
33 Mediotarsal Subluxation as Shown by Roentgenogram. E. R. Corson, Savannah, Ga.
34 *Multiple Gunshot Wounds of Intestine Without Perforation of Lumen. R. M. Thornburgh, San Francisco.
35 Displacements of Colon. C. E. Black, Jacksonville, Ill.
36 Gangrene of Ileum Complicating Appendicitis. J. Wiener, New York.
37 Appendicitis in Infant Sixteen Days Old with Appendix in an Inguinal Hernial Sac. C. M. Remsen, Atlanta, Ga.
38 Primary Sarcoma of Spleen. M. D. Council, Roanoke, Va.
39 Bevan's Operation for Undescended Testicle. J. H. Jopson, Philadelphia.
40 Traumatic Femoral Aneurysm Cured by Matas' Method of Endo-Aneurysmorrhaphy. C. S. Ford, U. S. Army.

25. Abstracted in The Journal, June 6, p. 1975.

27. **Extra-Uterine Pregnancy.**—Cobb's paper is based on a careful study of 137 cases of tubal and interstitial pregnancy at the Massachusetts General Hospital during the nine years from 1902 to 1910, including Cobb's cases. The object in undertaking this study was to obtain information in regard to the wisdom of immediate operation in the desperate cases of rupture with severe hemorrhage. He found that more than 22 per cent. of extra-uterine pregnancies occur in young women who have never before been pregnant. Salpingitis, or pelvic infection, is not an essential or frequent causative factor. Most of the cases of complete rupture with alarming hemorrhage occur in the early weeks, often in the first month; these are the cases that are rapidly fatal unless operated on. Cases that have gone two months or more are those that furnish the greatest number of non-emergency cases. Cases of sudden, severe rupture, until signs of marked intra-abdominal hemorrhage are present, often simulate other grave abdominal emergencies with abdominal tenderness and spasm, high white blood-count, fever and vomiting. In grave emergencies with signs of extreme hemorrhage, operation should be done at once without waiting for a possible reaction. In the less severe cases of tubal rupture, without signs of marked hemorrhage, a correct diagnosis is often difficult or impossible. The menstrual history cannot be depended on; many of the most alarming cases had skipped no period. The character and location of the pain may vary within wide limits. Tubal abortions are nearly as frequent as tubal ruptures. Cases of tubal abortion seldom give a history of skipping a menstrual period, but a history of continued slight flowing or dribbling since the last period. Cobb believes that immediate operation is the method of choice. Delay even for transfusion is dangerous and fatal, and especially delay with stimulation. With proper technic and use of intravenous salt solution the percentage of deaths directly due to operation will be very low. In a very small percentage of cases direct transfusion will be needed and will save the small number of cases that would be fatal otherwise. Direct transfusion should be done after operation, not before. At present, with the availability of infusion and direct transfusion, it is criminal for any operator of reasonable skill to delay.

29. **Congenital Dislocation of Hip.**—Rixford suggests that with the uterus pressing on the knees of the fetus it is evident that little movement would be possible to the legs and thighs. With any resistance to downward pulling of the thighs, a rigid uterine wall, small fibroid, legs in extension, feet caught over arms, or forehead, or shoulder, or amniotic folds, extension of the pelvis would develop a force pulling the pelvis away from the femur, that is, a force tending to stretch the capsule and displace the head of the femur upward and backward. Such a force would be a pull transmitted along the length of the femoral shaft, and therefore largely in the direction of the upward displacement. Furthermore, any theory based on such a force would not be subject to Vogel's objection to leverage motions, that if the long femur were a lever transmitting force enough to stretch the capsule, it would bend.

34. **Gunshot Wounds of Intestine Without Perforation of Lumen.**—In Thornburgh's case 35 cm. of ileum was completely denuded of its peritoneal and most of its muscular coat. Its mesentery was destroyed. There were three wounds in the descending colon and very numerous wounds of the mesentery. No perforation of the intestinal lumen could be demonstrated. No further wounds of viscera could be found. The wounds of the colon were inverted with purse strings or Lembert's, and attention was then directed to the wounded ileum. The patient was in such a condition of profound shock that resection of gut and mesentery was out of the question. The excellent proceeding, splitting the mesentery, described by Richardson was also impossible, owing to the fact that the mesentery was destroyed. Thornburgh decided to try to substitute omentum for the outer two coats of the ileum as well as for both layers of mesentery. The omentum was brought down and sutured to the superior surface of mesentery and gut by interrupted sutures. It then was carried over to the inferior surface and attached in like manner. The patient was drained in front and behind and placed in the Fowler position with the Murphy drip for the first twenty-four hours. The drip was discontinued after the first twenty-four hours and not resumed. The Fowler position was maintained for about two weeks. The convalescence was perfectly normal. There was no infection of any kind and the patient has perfectly recovered.

Archives of Pediatrics, New York

November, XXIX, No. 11, pp. 801-880

41 Etiology of Convulsions in Early Life. F. M. Crandall, New York.
42 Problems of Infant-Feeding Illustrated by Cases and Charts. P. J. Eaton, Pittsburgh.
43 Short Method of Calculating Percentage Modifications. M. Ladd, Boston.
44 Graphic Feeding Chart: Method for Calculating Milk Percentages and Caloric Values. C. H. Smith, New York.

Boston Medical and Surgical Journal

December 12, CLXVII, No. 24, pp. 827-866

45 *Alimentary Aberrations: Roentgen Rays as Factor in Their Diagnosis. (To be continued.) P. Brown, Boston.
46 *Prevention of Water-Borne Disease in Lake and River Traffic. A. J. McLaughlin, Washington, D. C.
47 Arteriosclerosis Probably Not an Important Factor in Etiology and Prognosis of Involution Psychoses. G. L. Walton, Boston.

48 *Heredity: Special Reference to Law of Gregor Johann Mendel, O.S.A. J. M. Connolly, Boston.
49 Treatment of Pulmonary Tuberculosis by Artificial Pneumothorax, According to Method of Forlanini. (To be continued.) G. M. Balboni, Boston.

December 19, CLXVII, No. 25, pp. 867-902

50 Scholarship in Medicine. F. C. Shattuck, Boston.
51 Chronic Alveolar Osteomyelitis (Pyorrhea Alveolaris); Its Causes and Treatment with Vaccines. L. S. Medalia, Boston.
52 Insanity of Feeble-Minded. W. N. Bullard, Boston.
53 *Alimentary Aberrations; Roentgen Rays as Factor in Their Diagnosis. P. Brown, Boston.
54 Treatment of Pulmonary Tuberculosis by Artificial Pneumothorax, According to Method of Forlanini. (To be continued.) G. M. Balboni, Boston.

45. **Alimentary Aberrations.**—In this, the first portion of his paper, Brown discusses in a general way, the value of roentgenoscopy in the diagnosis of many gastro-intestinal conditions. The Roentgen pathology of the alimentary tract, by which, Brown says, may be indicated those pathologic problems in this region, the diagnosis of which the Roentgen rays may help to elucidate, is composed of situations both simple and complex; the more simple diagnostic problems may relate to the determination of the size, the shape and the position of the stomach and to that of the position and arrangement of the classical divisions of the intestines. Problems which may be considered as slightly less simple are those having to do with the determination of motility, or other evidence of peristaltic activity. Those more complex in nature are problems dealing with the diagnosis of some localized influences inhibitory to normal function; to wit, kinks, pressure-points, and other hindrances due to extrinsic causes such as adhesion bands and the like. Finally, the often very complex problems which are offered by the intrinsic lesions, of a nature either destructive or cicatrizing, which are often malignant and always seriously to be considered.

46. **Prevention of Water-Borne Disease in Lake and River Traffic.**—To prevent water-borne disease in lake and river traffic, McLaughlin says it will be necessary to proceed along the following lines: 1. Popular education is necessary to prevent drinking of unpurified surface water. 2. Public water-supplies in communities engaged in interstate traffic should conform to United States standards. 3. United States standards should be based on the bacterial count and the quantitative estimation of *B. coli* and should be the minimum requirements to prevent the spread of disease, such as typhoid fever or Asiatic cholera in interstate traffic, the various states retaining the right to impose additional requirements, consistent with state laws where such laws exist. 4. United States regulation is necessary, requiring vessels engaged in interstate traffic to fill their water-tanks with distilled water or from public water-supplies certified as safe and conforming to United States standards. 5. Inspection of vessels by United States officers and by state and municipal officers duly qualified to enforce this regulation.

48. **Heredity.**—Connelly reviews the Mendelian theory in its application to medicine and summarizes his views as follows: 1. Both parents being neuropathic, all children will be neuropathic. 2. One parent being normal, but with the neuropathic taint from one parent, and the other parent being neuropathic, half the children will be neuropathic and half will be normal but capable of transmitting the neuropathic make-up to their progeny. 3. One parent being normal, and of pure normal ancestry and the other parent being neuropathic, all children will be normal but capable of transmitting the neuropathic make-up to their progeny. 4. Both parents being normal, but each with the neuropathic taint from one parent, one-fourth of the children will be normal and not capable of transmitting the neuropathic make-up to their progeny, one-half will be normal but capable of transmitting the neuropathic make-up, and the remaining one-fourth will be neuropathic. 5. Both parents being normal, one of pure normal ancestry and the other with the neuropathic taint from one parent, all the children will be normal; half of them will be capable and half incapable of transmitting the neuropathic make-up to their progeny. 6. Both parents being normal, and of pure normal ancestry, all children will be normal and not capable of transmitting the neuropathic make-up to their progeny.

53. **Alimentary Aberrations.**—Summarizing his two papers Brown says we have to-day in the alimentary application of Roentgen-rays, as dependable a method of aiding our diagnostic knowledge as has been given us for many years. Nevertheless, in this method, we have but a factor making for our diagnostic success in any given case. The practitioner of the future is in danger, through just such helpful agents as these, of becoming a clinical scientist instead of a scientific clinician. His primary mission is still entered on at the bedside, and at the beside he has little else to aid him than had his predecessors of the earlier days—his five wits. Let him, therefore, use them, and then he shall be able to stretch forth his hand toward the laboratory, not beseechingly, as one who is helpless, but with the authority born of knowledge, as becomes a master.

Bulletin of Manila Medical Society, Manila

October, IV, No. 10, pp. 161-177

55 *Spirit of Research in Medicine. W. E. Musgrave, Manila.
56 *Action of Milk of Beriberic Women on Frog's Heart. M. S. Guerrero and J. G. Gavieres, Manila.

55. **Spirit of Research in Medicine.**—The history of the spirit of research in medicine, says Musgrave, is the history of scientific medicine itself; for in the days before the spirit of investigation had blazed a path, medicine was all that is to-day called quackery. This was because of ignorance. There being no real knowledge, its place was taken by appeals to the mysterious and occult, and success in medicine depended largely on the skill with which one could manipulate these qualities so as to convince a credulous public that these were facts. To-day true knowledge is available for those who care to look for it and the popularity of many of the old cults, administered in new guises, is brought about by viciousness on the part of the healer playing on the ignorance of his clientele. The development of the research spirit, whether by government, municipality or individual, has been along parallel paths with development in other lines of science until to-day it is the all-powerful medical influence and is daily yielding immense harvests of knowledge. By its results much of medicine may now be classed more nearly as an exact science, and in other fields its influence has made possible for acceptance only such facts as are conclusively demonstrated. The best medical schools to-day are using every effort to inculcate the spirit of investigation into students; teaching them to inquire into the reasons for things, to look from cause to effect and vice versa. This type of development should not be confined to test-tube experiments in a laboratory, but should be, and is extending throughout all branches and departments of our science. Experience long since has shown that the student educated in this way makes a better physician. That much-feared tendency to overexperimentation, so much vaunted by our antivivisection friends, has not materialized. The extra knowledge brought out by the investigating mind only reveals more clearly the vast unexplored field of uncertainty and reacts to a practical conservatism in dealing with patients which makes an ideal physician. However, to get this properly balanced mind the research training must not be confined to one department of medicine and here there has been in the past a real danger, a danger now fortunately passing away.

56. **Action of Milk of Beriberic Women on Frog's Heart.**—The authors made fifty-five experiments on twenty-eight samples of milk from beriberic women who had beriberic children in order to determine the longest time of survival of the frog's heart in this kind of milk. They conclude that the milk of a beriberic woman who has a beriberic child, kills the frog's heart within less than thirty minutes in seventy-one out of 100 cases. This reaction is not, however, constant; 29 per cent. of the cases exceed thirty but not sixty minutes; only one of the cases examined reached fifty-five minutes. On the other hand, this proportion is reversed in the case of non-beriberic women with non-beriberic children because here only 36 per cent. do not exceed thirty minutes, while 64 per cent. live beyond sixty minutes. Thus, the frog's heart, exposed to the action of the milk of non-beriberic mothers who have non-beriberic children tends to survive more than thirty minutes. This average of 36 per cent. in which the duration

of cardiac contractions is from 0 to 30 minutes, is believed to be due to two causes; primarily to the age of the child and secondly, to the rhythm of the heart on its removal from the animal. When the child is less than 1 month old, the time of survival of the heart in the milk is brief as it does not even reach thirty minutes. The authors believe they are justified in concluding that in the majority of cases (71 per cent.) where the frog's heart, after several examinations, dies within thirty minutes in the milk experimented on, a toxic substance which is secreted from the mammary glands of a beriberic woman, and which produces beriberi in the child whom she nurses, is found in the milk. In doubtful diagnosis, they believe that this test is of great help.

Cleveland Medical Journal

November, XI, No. 11, pp. 763-858

57 *Clinical Study of Elimination of Phenolsulphonephthalein by Kidneys, with Report of One Hundred and Fifty Cases. H. L. Sanford, Cleveland.
58 Sanitary Condition of Cleveland Water-Supply. D. D. Jackson, New York.
59 Sanitary Survey of Lake Michigan Along Wisconsin Shore. E. J. Tully, Madison, Wis.
60 Typhoid in Cleveland in 1911. T. S. Jackson and R. G. Perkins, Cleveland.

57. **Phthalein Elimination by Kidneys.**—In view of a considerable experience in the past with other renal functional tests, Sanford considers the phenolsulphonephthalein test as the most valuable means of estimating kidney function that has yet been introduced, for the following reasons: 1. The rapid appearance of the drug in the urine after administration; in normal cases in from three to five minutes if given intravenously, and in from five to twelve minutes if given intramuscularly. 2. The complete elimination of the drug by the kidney in a short time. It is only necessary to collect the urine after the appearance of the drug for two periods of one-half hour after intravenous administration and for two periods of one hour after it is given intramuscularly. All other drugs yet introduced for estimating kidney function appear more slowly and require longer time for elimination. 3. The simplicity of technic of the test. The color of the drug is well adapted for exact colorimetric estimation. 4. The accurate indication of renal power which phthalein gives in cases of prostatic obstruction as an aid in deciding the operability of a case. By successive tests in these patients the surgeon can tell if the preliminary treatment is increasing the functional power of the kidneys and he thus can select a time when operation would promise the best results. He will equally be warned against bad results. 5. The accurate demonstration of the relative efficiency of each kidney which can be secured in surgical kidney cases by comparison of the phthalein elimination of the two sides with the aid of ureteral catheterization.

Colorado Medicine, Denver

December, IX, No. 12, pp. 361-382

61 Some Types of Thyroid Insufficiency. C. E. Edson, Denver.
62 Three Serviceable Obstetric Expedients. H. G. Wetherill, Denver.
63 Foreign Bodies in Cornea: Treatment. W. C. Bane, Denver.
64 Torticollis, Wry Neck. L. W. Ely, Denver.

Journal of Medical Association of Georgia, Augusta

December, II, No. 8, pp. 243-280

65 Intestinal Obstruction. G. W. Whiteside, Lovonia.
66 Necessity of Healthy Mouths in Treatment and Prevention of Diseases. N. G. Slaughter, Athens.
67 Malaria. J. C. Holliday, Athens.
68 Pellagra. T. J. Wills, Washington, D. C.
69 Treatment of Pneumonia. B. W. Lockhart, Lula.
70 Value of Roentgen Ray in Diagnosis of Foreign Bodies. A. B. Elkin, Atlanta.
71 Naked-Eye Pathology of Urine. A. L. Fowler, Atlanta.
72 Improved Technic of Ether Vapor and Nitrous-Oxid-Oxygen Anesthetics. T. J. Collier, Atlanta.

Medical Record, New York

December 14, LXXXII, No. 24, pp. 1063-1108

73 Sanitary Control of Local Milk Supplies Through Local Official Agencies. E. J. Lederele, New York.
74 Local Anesthesia in Operations on Rectum. C. B. Kelsey, New York.
75 *Railroad Hospital Associations. F. Allport, Chicago.
76 Additional Report on Use of Sphygmomanometer in Examinations for Life Insurance. J. W. Fisher, Milwaukee, Wis.
77 Heart Murmurs and Patients. B. Robinson, New York.
78 Case of Ureteral Calculus Successfully Treated with Oil Injections into Ureter. W. S. Reynolds, New York.
79 Safety Screw Driver and Screws for Lane Plates. A. Wood, New York.

December 21, LXXXII, No. 25, pp. 1109-1154

80 *Marginal Sounds in Diagnosis of Pulmonary Tuberculosis. G. E. Bushnell, U. S. Army.
81 Mechanism of Heart Beat, with Consideration of Some of Its Functional Disturbances. W. R. Steiner, Hartford, Conn.
82 Selection of Female Risks on Whom Hysterectomy and Ovariotomy Have Been Performed. P. H. Ingalls, Hartford, Conn.
83 Sacral Kidney Simulating Acute Appendicitis. M. S. Kakels, New York.
84 Postoperative Treatment of Laparotomy, with Complete Wound Closure. R. S. Fowler, Brooklyn.
85 Mistakes in Diagnosis of Typhoid. C. E. Nammack, New York.
86 New Gastro-Esophagoscope. J. London, New York.

75. **Railroad Hospital Associations.**—The best and most equitable manner of remunerating surgeons for services rendered railroad employees, etc., is the subject discussed by Allport. He says that a railroad medical fee bill should be established by medical associations. In doing so we should remember it is proper for obvious reasons that regularly employed railway surgeons may considerably reduce their fees to railroads for services rendered. The amount, however, should not be improperly low and should be fair and reasonable to both employer and employee. There has always been something mysterious about this subject, and it has never been a matter that has been openly understood as it should be. It is not expected that this fee bill will ever be universally used (there are always some men who prefer to work in the dark), but it would at least establish a standard and give an open expression of opinion from those who are best able to judge of what are the minimum fees which can be accepted by self-respecting railway surgeons. The method at present in vogue with most railroads, whereby surgeons either receive reasonable fees for services rendered or receive a reasonable salary, is a fairly satisfactory plan and should be continued until a distinctly better method can be demonstrated. Allport would have the medical profession discountenance any plan which seeks to reduce an already low remuneration by endeavoring to confer benefits on railroads or their employees at the cost of the medical profession. He believes that all railway insurance associations by which employees are insured against all forms of injuries or sickness are detrimental to the interests of the medical profession and should be discouraged. The diseases for which men may apply for relief should be carefully selected and definitely stated. This should relieve the doctors from caring for disgraceful diseases, most contagious diseases, and the innumerable partially or entirely imaginary diseases indulged in by poorly balanced and neurotic individuals who delight in haunting doctors' offices, especially where they can indulge in this morbid privilege without the payment of a fee.

If railroad hospital associations are formed adequate representation of both surgeons and employees should appear on their advisory boards. Only men drawing small salaries should be admitted to membership, and the remuneration to surgeons should consist in adequate salaries or in payment for actual services rendered, based on a low, but reasonable, fee bill. Employees should never be asked or required to sign personal injury releases to the company on receiving benefits from the association nor should they be required to become members of the association unless they themselves desire to effect such an alliance. Allport believes, also, that it is useless to endeavor to abolish the broad general idea underlying contract practice; it, like the locomotive and the automobile, has come to stay. Our efforts should be directed along the line of regulation instead of along the line of suppression.

80. **Marginal Sounds in Diagnosis of Lung Tuberculosis.**—Marginal sounds, Bushnell says, are best elicited in the most vigorous specimens of mankind. Therefore they are physiologic and not pathologic. In small apical lesions, whether those of initial or arrested tuberculosis, marginal sounds are produced practically to the same extent as in health. But when the disease involves any considerable portion of the upper lobe, it is found that while present on the healthy side, the marginal sounds are often heard more easily over the base of the affected lung, and, moreover, that they are generally evanescent. That lung is best capable of producing marginal sounds which can expand most freely in inspiration. Marginal sounds then are the equivalent of Williams' phenomenon in so far as the

presence of disease of the upper lobe tends to diminish the use of the lung in ordinary respiration and thus make certain that when it is called on for deep inspirations there will be no overdistention to prevent its free expansion. Excessive coughing, if it leads to a distention of the lung margins, prevents the occurrence of marginal sounds, and they are, of course, absent in the case of pleural adhesions over the lower lobe or of advanced tuberculosis of that lobe, conditions which prevent the necessary free expansion of the lung. On the other hand, the presence of marginal sounds is a proof of the absence of extensive adhesions and of advanced tuberculosis of the base.

New York Medical Journal

December 14, XCVI, No. 24, pp. 1205-1256

87 *Prevention of Epilepsy. L. P. Clark, New York.
88 *Overeating as Cause of Acute Appendicitis. E. Novak, Baltimore.
89 Labyrinthitis and Cerebellar Abscess: Differential Diagnosis. I. W. Voorhees, New York.
90 Autotherapy. C. H. Duncan, New York.
91 Defective Vision in Children. A. C. Sautter, Philadelphia.
92 Prognosis in Cholelithiasis. E. M. Stanton, Schenectady, N. Y.
93 Albumin Determination: Aid in Diagnosis of Kidney Lesions. G. W. Warren, New York.
94 Pneumonia in Open-Air Sanatoria. H. L. Barnes, Wallum Lake, R. I.
95 *Simple Perineal Enucleation of Prostate Gland. J. M. White, Meridian, Miss.

87. Abstracted in The Journal, October 19, p. 1481.

88. Abstracted in The Journal, May 18, p. 1536.

95. **Enucleation of Prostate.**—In White's method the sound being introduced into the bladder, an incision is made, beginning about one-fourth inch in front of the anus, in the median line, and extending up to near the scrotum, through skin and fascia; then the knife is thrust deeply to the prostate. It is then withdrawn and the hand of the operator is well lubricated with sterile glycerin or liquid petrolatum. His two fingers are introduced to the prostate and the wound is dilated as widely as possible by them. If need be, the tissues are incised transversely. Then the entire hand, well anointed, is introduced into the incision. Now a knife is introduced and, guided by the fingers, two incisions are made through the capsule anteroposteriorly on each side of the urethra. The knife being withdrawn, the finger first enucleates the middle lobe through these incisions, being careful to keep intact the urethra, then the lateral lobes are enucleated by the fingers.

The advantages of this operation are said to be its simplicity, as it requires no instruments to bring the prostate into reach, it needs no retractors, it is not required even to have the bladder pushed down, and, by the touch of the fingers, the urethra is kept intact.

Northwest Medicine, Seattle, Wash.

December, IV, No. 12, pp. 257-286

96 Statutory Eugenics. D. H. Calder, Provo, Utah.
97 Plea for Sterilization of Criminals, Epileptics,, Imbeciles and Insane. C. M. Clark, Cedar, Utah.
98 National League for Medical Freedom and Their Subsidized Newspapers, the Great Industrial Iconoclasts of the Century. A. S. Condon, Ogden, Utah.
99 General Anesthesia by Intravenous Injection of Ether-Salt Solution. L. W. Jenkins, Portland, Ore.
100 Extension Apparatus for Hip-Joint Disease. J. H. Snively. Seattle, Wash.

Philippine Journal of Science, Manila

June, VII, No. 3, pp. 131-270

101 Studies on Pneumonic Plague and Plague Immunization. I. Introduction. R. P. Strong, Manila.
102 *Id. II. Method of Transmission of Infection in Pneumonic Plague and Manner of Spread of Disease During Epidemic. R. P. Strong and O. Teague, Manila
103 *Id. III. Influence of Atmospheric Temperature on Spread of Pneumonic Plague. O. Teague and M. A. Barber, Manila.
104 Id. IV. Portal of Entry of Infection and Method of Development of Lesions in Pneumonic and Primary Septicemic Plague: Experimental Pathology R. P. Strong and O. Teague, Manila.
105 Id. V. Clinical Observations. R. P. Strong and O. Teague, Manila.
106 Id. VI. Bacteriology. R. P. Strong and O. Teague, Manila.
107 *Id. VII. Pathology. R. P. Strong, B. C. Crowell and O. Teague, Manila.
108 Id. VIII. Susceptibility of Animals to Pneumonic Plague. R. P. Strong and P. Teague, Manila.
109 *Id. IX. Protective Inoculation Against Pneumonic Plague. R. P. Strong and O. Teague, Manila.
110 Id. X. Immunization of Guinea-Pigs by Vaccination with Avirulent Plague Bacilli Mixed with Agar. M. A. Barber, Manila.
111 *Id. XI. Infection of Guinea-Pigs, Monkeys and Rats with Doses of Plague Bacilli, Ranging from One Bacillus Upward. M. A. Barber, Manila.
112 *Id. XII. Some Experiments to Determine Efficacy of Various Masks for Protection Against Pneumonic Plague. M. A. Barber and O. Teague, Manila.

102. **Transmission of Infection.**—It is maintained by Strong and Teague that during normal and dyspneic respiration of primary pneumonic-plague cases, plague bacilli are not usually expelled by means of the expired air. During coughing of such cases, even when sputum visible to the naked eye is not expelled, plague bacilli in large numbers may become disseminated into the air surrounding the patient. The idea that infection of doctors, nurses, attendants, etc., in plague hospitals is caused entirely by particles of sputum expectorated by the patient and visible to the naked eye they hold is erroneous. It follows from their experiments that the wearing of masks and the proper covering of any surface of the skin where fresh abrasions are present are important personal prophylactic measures against plague infection. It also follows that the eyes should be protected against this manner of conjunctival infection by proper glasses. Articles of clothing worn in the wards should be sterilized immediately after removal, since plague bacilli may be present even though no particles of sputum may be visible on them. From their experiments, also, it is evident how dangerous an infective agent a pneumonic-plague patient is. In no other disease is the individual so dangerous and in no other disease does the danger from droplet infection approach that which exists in pneumonic plague. The number of plague bacilli expelled in droplets from pneumonic-plague cases is probably far greater than the number of bacilli ever expelled by patients afflicted with tuberculosis, croupous pneumonia, diphtheria or influenza.

103. **Influence of Atmospheric Temperature on Infection.**—It is shown by Teague and Barber that when spread on glass slides and exposed to the air, plague bacilli occupy an intermediate position between the cholera vibrio and *B. prodigiosus* with regard to resistance to death from drying. Sarcina resists much longer than *B. prodigiosus.* When suspended in saline solution and sprayed into the air, the living cholera vibrio disappears with surprising rapidity. *B. prodigiosus* persists for a longer time and sarcina much longer than *B. prodigiosus.* The relative length of time that these organisms remain alive when sprayed into the air agrees strikingly with their survival on glass slides. This suggests that their disappearance from the air is also due to death from drying. This was shown to be in fact the case by spraying the same cholera suspension into a comparatively dry atmosphere and into one nearly saturated with moisture; living cholera vibrios remained in the air much longer in the latter instance. A similar experiment was performed with *B. prodigiosus* with the same result. The authors concluded from their experiments that were the plague organisms sprayed under similar conditions they would persist longer than cholera vibrios, but a shorter time than prodigiosus bacilli. Hence, it seems probable that the plague bacilli contained in fine droplets of pneumonic plague sputum would suffer death from drying in a few minutes unless they were suspended in an atmosphere, with an extremely small water deficit. Infection in pneumonic plague follows the inhalation of droplets of pneumonic sputum and obviously the longer these droplets remain suspended in the air, the greater is the danger of infection.

As has just been stated, these fine droplets disappear very quickly except when they are suspended in an atmosphere with a very small water deficit. Such an atmosphere is under ordinary circumstances of common occurrence in very cold climates, whereas it is extremely rare in warm ones. Hence, since the droplets of sputum persist longer, the plague bacilli remain alive longer in the air, and there is a greater tendency for the disease to spread, in cold climates than in warm ones. In harmony with the above ideas, they found that the only great epidemic of pneumonic plague of modern times occurred in Manchuria during the winter of 1910 and 1911, when the atmospheric temperature was many degrees below zero Centigrade. The disease spread with amazing rapidity. Furthermore, although during the past fifteen years there have been millions of plague cases in India and 2 to 5 per cent. of these have been cases of plague pneumonia, yet this form of the disease has not assumed epidemic proportions. The largest epidemic of pneumonic plague in India (1,400 deaths) occurred in Kashmir in northern India at an elevation of 1,524 meters above the sea-level during very cold weather.

107. **Pathology of Plague.**—From the authors' study of the human lesions and those produced experimentally in animals, it would appear that epidemic plague pneumonia results from inhalation, the primary point of infection being the bronchi. Along the bronchioles the infection extends by continuity directly into the infundibulum and air cells, or by contiguity through the walls of the bronchioles to the contiguous tissue of the lung and gives rise to a consecutive peribronchial inflammation in the tissues immediately surrounding the bronchioles. From these areas the infection rapidly spreads to the adjacent pulmonary tissue and visceral pleura. The bacilli rapidly multiply and produce at first pneumonic changes of the lobular type, and shortly afterward from the fusion of several rapidly spreading areas more general lobar involvement of the lung tissue. The blood becomes quickly infected and a true bacteremia results in every case. Secondary pathologic changes occur, particularly in the spleen, bronchial glands, heart, bloodvessels, kidneys and liver. The fact that the bronchial glands at the bifurcation of the trachea are always much more severely affected than any of the other lymphatic glands argues against the theory that epidemic pneumonic plague is primarily a septicemic disease, and that the lungs are infected secondarily from the blood. Moreover, in the earliest stage of the disease, the blood may be free from plague bacilli.

The conditions observed in the trachea and bronchi in epidemic pneumonic plague, together with the character of the pulmonary exudate, is pathognomonic of this condition. From the appearance of the mucous membranes of the throat, larynx and trachea, a diagnosis of pneumonic plague may sometimes be suggested. The tonsils may become secondarily infected in pneumonic plague, just as other lymphatic glands, for example, the bronchial ones, become so infected. However, in pneumonic plague, death occurs before any very marked macroscopic changes occur in the tonsils. There is no doubt also that the tonsils may become primarily infected in epidemics of pneumonic plague, just as has occurred in sporadic cases during epidemics of bubonic plague. This, however, is not the common channel of primary infection and in such cases involvement of the lymphatic glands of the neck occurs early in the course of the disease. The fact that the esophagus was found to be normal in every specimen examined and that the intestines showed only slight lesions constitutes another argument against the idea of the occurrence of primary intestinal plague infection in man, since in many of the pneumonic cases plague bacilli must have been repeatedly swallowed in the bronchial secretions and in the saliva.

109. **Protective Inoculation in Plague.**—Experiments in this direction have demonstrated that vaccination does not afford the same protection against pneumonic plague that it does against bubonic plague in experimental animals. They indicate strongly that prophylactic inoculation cannot be relied on as even a reasonable means of protection against pneumonic infection in man. It would appear that a proper mask furnishes the only reliable method of protection.

111. **Infection of Guinea-Pigs, Monkeys and Rats with Plague.**—In summary, Barber's results show conclusively that the smallest possible dose of virulent plague bacilli may infect fatally the more susceptible guinea-pigs, monkeys or rats.

112. **Efficacy of Various Masks in Plague Prevention.**—The "Mukden" mask in general use during the epidemic of pneumonic plague in Manchuria, during the winter of 1910 and 1911, Barber and Teague claim, does not prevent the passage into the mouth and nostrils of *B. prodigiosus* when contained in small droplets sprayed around the mask. This mask consists of a pad of absorbent cotton held over the mouth and nose by a many-tailed gauze bandage. A hood of heavy Canton flannel cloth, covering the entire head and tied in snugly at the neck, withstands much severer tests than does the Mukden mask. It does not, however, offer an absolute barrier to the passage of prodigiosus bacilli into the mouth and nostrils of the subject. This mask, with a window in front, is not more inconvenient nor more uncomfortable than the Mukden mask. It is shown that the inefficiency of the Mukden mask is not due solely to the fact that the mask fails to conform to the configuration of the face but that the bacteria may pass directly through the mask; for a piece of moist cotton placed in the center of the mask was found after the test to contain prodigiosus bacilli. It is believed that although masks hold back many bacteria that would otherwise pass into the mouth and nostrils, nevertheless their use during the recent epidemic of pneumonic plague in Manchuria lent a false sense of security which may have led to the taking of unnecessary risks.

Southern Medical Journal, Nashville, Tenn.

December, V, No. 11, pp. 733-806

113 Southern Medicine and Its Problems. J. M. Jackson, Miami, Fla.
114 *Thyroid and Hyperthyroidism. S. McGuire, Richmond, Va.
115 *Empiricism in Medicine. H. H. Martin, Savannah, Ga.
116 Foreign Bodies in Open Operation for Fractures. H. P. Cole, Mobile, Ala.
117 Spinal Anesthesia. D. M. Molloy, Manila, P. I.
118 Enforcement of Health Laws. F. A. Webb, Calvert, Ala.
119 Relation of Auto-Intoxication to Certain Psychoses with Brief References to Methods of Treatment. W. D. Partlow, Tuscaloosa, Ala.
120 Intestinal Auto-Intoxication. A. W. Bitzer, Tampa, Fla.
121 Disease of Social Organism. W. S. Rankin, Raleigh, N. C.
122 Diagnostic Value of Cystoscope and Its Accessories. J. M. Mason, Birmingham, Ala.
123 Ulcerative Stomatitis: Report of Six Cases. G. F. Douglas, Meridian, Miss.
124 Chronic Diseases of Stomach. W. D. Haggard, Nashville.
125 Excision of Eight Feet of Lower Ileum. G. Torrance, Birmingham, Ala.

114 and 115. Abstracted in The Journal, December 7, p. 2090.

Texas State Journal of Medicine, Fort Worth

December, VIII, No. 8, pp. 205-228

126 International Sanitary Conferences and Their Results. G. M. Guiteras, Galveston.
127 Aggressive Treatment of Tuberculosis. T. Y. Hull, San Antonio.
128 Climate as Factor in Treatment of Tuberculosis. R. B. Homan, El Paso.
129 Concentration Method for Detecting Tubercle Bacilli in Sputum. J. J. O'Reilly, Fort Worth.
130 Specific Treatment of Acute Pulmonary Infections. I. L. Van Zandt, Fort Worth.
131 Hemorrhage in Typhoid: Report of a Case. F. C. Beall, Fort Worth.

Vermont Medical Monthly, Burlington

November 15, XVIII, No. 11, pp. 261-286

132 Crime: Cause and Prevention. F. W. Sears, Burlington.
133 Home and Office Treatment of Inebriety. T. D. Crothers, Hartford, Conn.
134 Differential Diagnosis of Gastric and Duodenal Ulcer. H. G. Stetson, Greenfield, Mass.

Wisconsin Medical Journal, Milwaukee

November, XI, No. 6, pp. 169-202

135 Chronic Tubercular Infection of Kidneys. A. H. Levings, Milwaukee.
136 Ten Years' Survey of Tuberculosis in LaFayette County. S. Orton and J. M. Cooke, Darlington.
137 Obstetric Teaching and Practice, Past, Present and Future. J. P. McMahon, Milwaukee.
138 *Diagnosis and Pathology of Acute Surgical Diseases of Abdomen. D. R. Connell, Beloit.

138. Abstracted in The Journal, June 22, p. 1970.

FOREIGN

Titles marked with an asterisk (*) are abstracted below. Single case reports and trials of new drugs are usually omitted.

Australasian Medical Gazette, Sydney

October 26, XXXII, No. 17, pp. 427-454

1 Reduction and Destruction of Disease-Bearing Insects. J. J. Harris.
2 Color Sense in Relation to Emotion of Sex. G. H. Taylor.

November 2, XXXII, No. 18, pp. 455-478

3 Albuminuria in Relation to Life-Insurance. R. S. Skirving.
4 Idem. A. E. Finckh.
5 Idem. C. MacLaurin.
6 Review of Two and a Half Years' Work as Country General Surgeon L. M. McKillop.

November 9, XXXII, No. 19, pp. 479-502

7 Tuberculin Dispensaries of London. L. H. Foy.
8 Three Cases of Bilharzia Hematobia. W. H. Nelson.
9 Case of Puerperal Eclampsia. F. C. Stevenson.

November 16, XXXII, No. 20, pp. 503-524

10 Methods for Preservation of Infant Life in Use in Australia. H. Mayo.
11 Romance of Medicine: Hippocrates. J. W. Bean.
12 Fibro-Adenoma of Male Breast. P. Fiaschi.

British Medical Journal, London

November 30, II, No. 2709, pp. 1505-1588

13 *Report of Committee on Treatment of Simple Fractures.
14 Further Experiments Concerning Origin of Life. H. C. Bastian.

December 7, II, No. 2710, pp. 1589-1648

15 Present Position of Treatment of Fractures. R. Jones.
16 Biology of Tumors. C. M. Moullin.
17 Functional Nature of Cecum and Appendix. A. Keith.
18 Recent Progress in Syphilis. D. Power.
19 Sequel to Novocain Injection. S. Gooding and F. L. Etheridge.

13. **Treatment of Simple Fractures.**—The following are the main conclusions deduced from an analysis and full consideration by the committee of the British Medical Association of the material collected by the committee's investigators: I. The statistics relative to the non-operative treatment of fractures of the shafts of the long bones in children (under the age of 15 years), with the exception of fractures of both bones of the forearm, show as a rule a high percentage of good results. These are unlikely to be improved on materially by any other method of treatment. Operative results in children, expressed in percentages, are approximately the same as the non-operative. The relative figures are: non-operative cases (1,017) 90.5 per cent. good functional results; operative cases (64) 93.6 per cent. good functional results. II. It is possible either by non-operative or by operative treatment to obtain a high percentage of good results in children. III. In comparison with the non-operative results in children, the aggregate results of non-operative treatment in those past childhood (i. e., over the age of 15 years) are not satisfactory. IV. From the analysis of the age groups it is clear that there is a progressive depreciation of the functional result of non-operative treatment as age advances; that is to say, the older the patient the worse the result. V. In cases treated by immediate operation, the deleterious influence of age on the functional result is less marked. VI. In nearly all age groups, operative cases show a higher percentage of good results than non-operative cases. VII. Although the functional result may be good with an indifferent anatomic result, the most certain way to obtain a good functional result is to secure a good anatomic result. VIII. No method, whether non-operative or operative, which does not definitely promise a good anatomic result, should be accepted as the method of choice. For this reason mobilization and massage by themselves have not been found to secure a high percentage of good results. They are, however, valuable supplementary methods of treatment. Similarly, of operative methods, those which secure reposition and absolute fixation of the fragments yield better results than methods which fall short of this; imperfect fixation of the fragments by wire or other suture has been found to be an unsatisfactory procedure in the treatment of fractures of the long bones, with the exception of the olecranon process of the ulna. IX. Operative treatment should not be regarded as a method to be employed in consequence of the failure of non-operative measures, as the results of secondary operations compare very unfavorably with those of immediate operations. In order to secure the most satisfactory results from operative treatment, it should be resorted to as soon after the accident as practicable. X. It is necessary to insist that the operative treatment of fractures requires special skill and experience and such facilities and surroundings as will ensure asepsis. It is, therefore, not a method to be undertaken except by those who have constant practice and experience in such surgical procedures. XI. A considerable proportion of the failures of operative treatment are due to infection of the wound, a possibility which may occur even with the best technic. XII. The mortality directly due to the operative treatment of simple fractures of the long bones has been found to be so small that it cannot be urged as a sufficient reason against operative treatment. XIII. For surgeons and practitioners who are unable to avail themselves of the operative method, the non-operative procedures are likely to remain for some time yet the more safe and serviceable.

Clinical Journal, London

November 6, XLI, No. 5, pp. 65-80

20 Treatment of Hemoptysis. O. Grünbaum.
21 Diseases of Pleura. C. Wall.
22 Syphilis of Nervous System in Infancy, Childhood and Early Adult Life. S. A. Owen.

November 13, XLI, No. 6, pp. 81-96

23 Methods of Investigating Stomach Diseases. W. L. Brown.
24 Methods of Examination in Eye Cases. M. L. Hepburn.

November 20, XLI, No. 7, pp. 97-112

25 Significance and Treatment of Sugar in Urine During Pregnancy. H. Williamson.
26 Relief of Sick and Wounded in War. F. M. Sandwith.

November 27, XLI, No. 8, pp. 113-128

27 Ano-Rectal Surgery. A. Baldwin.
28 Relief of Sick and Wounded in War. F. M. Sandwith.

December 4, XLI, No. 9, pp. 129-144

29 Cranio-Cerebral Surgery. L. B. Rawling.
30 Relief of Sick and Wounded in War. F. M. Sandwith.

Lancet, London

November 30, II, No. 4657, pp. 1485-1566

31 Relations of Pleurisy to Tubercle. T. C. Allbutt.
32 Drunkenness and Physiologic Effect of Alcohol. C. Mercier.
33 Cysts of Vermiform Appendix. T. Wilson.
34 Pseudomyxoma of Peritoneum Arising from Perforation of Gelatinous Ovarian Cyst and Associated with Similar Cystic Disease of Vermiform Appendix. T. W. Eden.
35 Colon Bacillus in Blood. P. N. Panton and H. L. Tidy.
36 Obstructive Jaundice Relieved by Operation. K. H. Jones.
37 Value of Roentgen Rays in Diagnosis of Tuberculosis in Children. A. G. L. Reade and F. G. Caley.
38 Transmission of Poliomyelitis by Means of Stable-Fly ((Stomoxys-Calcitrans). J. F. Anderson and W. H. Frost.

December 7, II, No. 4658, pp. 1567-1632

39 Biology of Tumors. C. M. Moullin.
40 *Some Cases of Pyrexia. R. V. Solly.
41 *Suppression of Convulsion in Eclampsia. A. J. Wallace.
42 Eight Cases of Osteomyelitis of Spine. G. R. Strong.
43 *Epithelial Proliferation Induced by Injection of Gas-Works Tar. H. Bayon.
44 Acute Inversion of Uterus. J. H. Aytoun.
45 Extensive Fibro-Angioma Treated by Radium. F. H. Jacob.
46 *New Form of Tuberculin (T. F.); Its Diagnostic and Therapeutic Value. W. C. Lyons.
47 Case of Arrested Tuberculosis. C. Gayford.

40. **Pyrexia.**—Solly reports cases illustrating many different conditions causing pyrexia. Pyrexia due to enteric and paratyphoid fever, to the pneumococcus and to syphilis; pyemic and septicemic cases, including malignant endocarditis; pyrexia due to subdiaphragmatic abscess, portal pyemia and to nematoid worms; urinary cases and rat-bite fever.

41. **Suppression of Convulsion in Eclampsia.**—In two cases Wallace tried the treatment advanced by Murray. The 25 per cent. solution of magnesium sulphate was employed after sterilization. The dose was regulated by the body-weight of the individual patient, 1 c.c. being allowed for every 25 pounds of body-weight. A rough estimation of weight had to be made from height and bulk. The needle was introduced in the middle line between the third and fourth lumbar spines. In each case after injection an interval of freedom from convulsions ensued. In one case seven fits occurred during the seven and a half hours preceding injection, none during the subsequent seven hours. In the second case, six fits preceded the injection (three of them were severe), while none occurred during the following four hours. Case 1 was an ordinary one of eclampsia; the patient would probably have recovered in any case and the child might have been born alive. On the other hand Case 2 was a severe one and the outcome was doubtful. Wallace feels assured that but for the two intervals of four and four and a half hours, respectively, a dead child would have been born.

43. **Epithelial Proliferation Induced by Gasworks Tar.**—Watery extracts of blast-furnace and gasworks tar were mixed by Bayon and emulsified by shaking, in proportion of 1 in 4, with lanolin, which he had previously sterilized by heating for three days at 60 C. The watery extracts had also been sterilized in an identical fashion. Half a cubic centimeter of this mixture was injected, with aseptic precautions, into the subcutis of the ear of a young rabbit. Controls with lanolin alone were injected into the corresponding ear of each animal. The rabbits were killed after four weeks, and the nodules caused by the injection were fixed in 4 per cent. formaldehyd and imbedded in the usual way in paraffin. A microscopic examination of the specimens showed the following features:

In the blast-furnace tar sections a clear space in the center of the field of view was filled by a homogeneous colloid or plasmatic liquid without any cellular admixture. There was no definite wall or connective tissue envelope such as generally would be found in a cyst, but the fluid seemed to be contained in an epithelial lining, which in parts was exceedingly thin, so as to consist of two or three layers of cells only. In places a slight proliferation had taken place, with the result that the epithelium was somewhat thicker, and they presented a ragged appearance due to a slight protrusion of epithelial plugs or knobs into the lumen of the cavity. In other places a slight congregation of small round cells with a deeply staining nucleus was visible on the margin of the epithelial ledge. But the amount of tissue reaction was in every case very minimal. A few and very small horny cell-nests were present, such as are produced by the incasing of epithelial cells of low vitality by the rapidly proliferating epithelium. These cell-nests were rare and small, and on the whole no marked difference could be detected when compared with the corresponding controls where lanolin alone had been injected.

On the other hand, the gasworks tar specimens presented quite another appearance. The cavity caused by the liquid lanolin injected was filled by cellular debris, several of which were unrecognizable, but others could be made out to be cast-off epithelial cells and leukocytes. The epithelium round the lanolin injected had abundantly proliferated so as to form a thick wall all around, from which epithelial plugs and protrusions took their origin. This was accompanied by a certain amount of round-celled infiltration. Epithelial cell-nests were both numerous and of considerable size, and presented the stratified appearance which is so distinctive in some cases of squamous-celled carcinoma of the body surface.

46. **New Form of Tuberculin (T.F.).**—In investigating this subject it was thought by Lyons that old tuberculin might contain some substance which produced a positive reaction, perhaps by irritation, on apparently healthy individuals, whose skin is not sensitized by the products of the tubercle bacillus, and if that substance were removed a positive reaction would more definitely indicate the presence of tuberculous disease. On adding to 10 c.c. of old tuberculin 60 c.c. of absolute alcohol a cloudiness appears in the solution, which on standing for twenty-four hours settles as a precipitate which clings to the sides of the vessel. The supernatant liquid is again precipitated with absolute alcohol and filtered. The precipitate from both precipitations is dissolved in 10 c.c. of distilled water. This solution is again precipitated and filtered; the filtrate obtained from this is added to the first filtrate, and the whole evaporated to its original bulk (10 c.c.) at a temperature of 56 C. The combined precipitates are dissolved in 10 c.c. of distilled water. The resulting solution contains the same amount of precipitate as the original 10 c.c. of old tuberculin.

The solution of the precipitate is diluted with distilled water to form a 10 per cent. solution. If now 1 minim of this 10 per cent. solution of the precipitate is injected under the horny layer of the skin, in three or four hours a small, raised, inflammatory area about half an inch in diameter appears around the site of injection in about 92 per cent. of all cases, both in tuberculous and apparently healthy individuals. This reaction, therefore, proves of no particular value in diagnosis. The filtrate which has been evaporated to its original bulk is now taken and diluted with distilled water to form a 10 per cent. solution. If 1 minim of this solution be injected under the horny layer of the skin, a raised inflammatory area appears round the site of injection in from twelve to eighteen hours in known tuberculous individuals; no postive reaction has been noted in persons apparently free from tuberculous disease, such individuals being likewise free, according to their clinical histories, from any suspicion of tuberculous affections.

In applying the 10 per cent. solution of the filtrate for diagnostic purposes the procedure is as follows: A small area of the skin of the forearm is cleaned with soap spirit and rendered tense, as one does when vaccinating; the point of a hypodermic needle is then inserted obliquely between the horny and Malpighian layers, the aperture of the needle being turned toward the surface. One minim of the solution is then injected; a control of distilled water is injected in the same way. On withdrawing the needle some of the injected fluid escapes and is removed on a piece of cotton-wool. No dressing is required.

A positive reaction is seen to be as follows: Around the site of injection a raised area of inflammation and induration appears in from twelve to eighteen hours. The inflammatory area in early cases of tuberculosis is usually nearly an inch in diameter, the edges gradually fading to normal skin. The area of induration is noted in the immediate vicinity of the needle prick. In more advanced cases the inflammatory area is smaller; usually about half an inch in diameter, the edges being more sharply defined. In these, too, the area of induration is well defined around the needle prick. In still more advanced cases the area of inflammation and induration is less well defined but recognizable, while in very advanced cases a reaction, if at all present, is only very slight. In early cases the reaction persists for three or four days, while in advanced cases it passes off in from twenty-four to forty-eight hours.

The test as described has up to the present been applied to 270 persons. Of these 191 were known to be suffering from tuberculous disease in various forms. Of these 191 tuberculous cases the reaction was positive in 186; the five tuberculous cases yielding a completely negative reaction were in the last stages of pulmonary tuberculosis and died within two weeks of the date of application of the test. In the remaining seventy-nine negative cases no reaction whatever was noted, and in these great care was taken to exclude the possibility of a tuberculous infection past or present. The reaction given by the filtrate has up to the present been found to have great value in assisting in the diagnosis of medical and surgical cases of tuberculosis, and especially so in cases of incipient phthisis otherwise in doubt.

A number of patients have been treated with the filtrate (for convenience termed T. F.), and so far the results have been very encouraging. The initial dose found to be most convenient is 0.001 c.c. This is increased every other day by from 0.0002 c.c. to 0.001 c.c. according to the reaction produced. It is easily borne and does not produce the untoward results so frequently given by other forms of tuberculin. The reactions by the patients are, as a rule, slight. There may be two hours after injection a slight rise of temperature, seldom more than 0.6 F., and this usually becomes normal in ten hours. In some cases for about two or three hours a slight headache or feeling of malaise or pain near the site of injection is complained of, and this usually completely disappears in a few hours. The remedy seems to have a beneficial effect on the temperature, which in about one-third of the patients treated was swinging and "hectic," became normal in a week, and remained so during the course of treatment. As a rule, over the site of the injection there appears a small swelling which passes off within twenty-four hours.

Medical Press and Circular, London

November 6, XCIV, No. 3825, pp. 477-504

48 Jaundice. W. L. Brown.
49 Injuries At or Near Ankle. J. J. Clarke.
50 Treatment of Psoriasis. Brocq and Simon.
51 Modern Combat Against Tuberculosis Among Children. Nietner.

November 13, XCIV, No. 3826, pp. 505-532

52 Early Symptoms of Tuberculous Meningitis. Hutinel.
53 Injuries At or Near Ankle. J. J. Clarke.
54 Hedonal as Anesthetic. H. de L. Crawford.
55 *Artificial Production of Pneumothorax in Phthisis by Injection of Nitrogen. H. Chitty.

November 20, XCIV, No. 3837, pp. 533-558

56 Neurology of Visual System. H. Campbell.
57 *Surgical Treatment of Sarcoma of Long Bones. F. Eve.
58 Perforated Duodenal Ulcer. J. W. Struthers.
59 Shock. F. G. Crookshank.

November 27, XCIV, No. 3838, pp. 559-588

60 Fever; Its Causes and Treatment. E. C. Hort.
61 Radium in Gynecologic Conditions. W. H. B. Aikins and F. C. Harrison.
62 Sketch of Development of Therapeutic Immunization. W. Boxwell.
63 Neurology of Visual System. H. Campbell.

December 4, XCIV, No. 3829, pp. 589-618

64 Some Therapeutic Points. H. French.
65 Neurology of Visual System. H. Campbell
66 "Vitalism" in Practice of Medicine. J. O'Carroll.

55. **Artificial Production of Pneumothorax in Phthisis.**—The cases which Chitty considers as specially suitable for this treatment are: 1. Those in whom the disease is advanced on one side, while the opposite lung is unaffected, slightly affected, or quiescent. 2. Those in whom the temperature remains high in spite of the usual methods of treatment, and who show signs of auto-inoculation whenever they take any exercise. 3. Cases which are going downhill in spite of the usual methods of treatment. 4. Early unilateral cases for whom sanatorium treatment is not available. Especially does this apply to the bread-winner of the family. 5. Cases of severe recurrent hemoptysis. One is often in doubt as to which side is giving rise to the bleeding, but in these cases it would be quite justifiable to compress the worse lung, and, if this had no effect, then to aspirate the gas and repeat the operation on the other side. 6. Although most of the recorded cases have been patients suffering from chronic tuberculosis, yet this has not been by any means invariably so, and some cases of acute phthisis have been successfully dealth with.

57. **Treatment of Sarcoma of Long Bones.**—After detailing Coley's results and views as regarding the treatment of sarcoma of the long bones with his fluid, Eve quotes the results obtained at the London Hospital. In no instance had any improvement occurred in periosteal sarcoma of the long bones. As regards the prevention of recurrence by Coley's fluid, he states that of three of his own cases in which a striking diminution of the tumor had occurred under the toxins, and subsequently local removal had been performed; in two cases local recurrence took place, and in one metastasis. His present attitude is unfavorable to the employment of Coley's fluid in any case of operable sarcoma and even as a prophylactic against recurrence.

Practitioner, London

December, LXXXIX, No. 6, pp. 745-896

67 Sleepiness. F. Taylor.
68 Teaching of Operative Surgery. G. E. Herman.
69 Relation of Epilepsy to Insanity and Its Treatment. R. Jones.
70 Bacilluria and Pyuria. W. Wingrave.
71 Treatment and Pathology of Venereal Diseases as Seen To-Day. J. E. R. McDonagh.
72 Cases of Eye-Strain Simulating Grave Organic Disease of Central Nervous System. S. Stephenson.
73 Recent Advances in Dermatology. J. M. H. Macleod.
74 *Rest-Cures in Theory and Practice. H. C. Miller.
75 *Action of Iodin, and Also New Methods for Using. D. Curle.
76 *Common Cause of Cough. P. Hicks.
77 Case Illustrating Extreme Malignancy of Chondrosarcoma. H. J. Clarke.
78 Sub-Tertian Malarial Fever Complicating Pregnancy. J. C. Ryan.
79 Paratyphoid Infection. W. B. Russell and F. L. Wood.

74. **Rest-Cures in Theory and Practice.**—If an hysterical patient is treated as a neurasthenic, Miller says the results will be entirely transitory. If a neurasthenic is treated as a hysteric, there will probably be no results at all. If a patient with neurasthenia due to eye-strain goes through the orthodox Weir-Mitchell cure, he will improve rapidly at first, slowly toward the end, and instantly relapse when he resumes work; all because the basic factor of uncorrected astigmatism was ignored. All cases of toxic neurasthenia, Miller says, tend to improve on account chiefly of the massage.

75. **Iodin.**—In taking up the study of iodin, Curle's attention has chiefly been occupied with its use by means of ionization in the treatment of tuberculosis. In reviewing the results of this treatment, he says, the disappearance of pyrexin and delirium is remarkable, as also of pleural effusion, for in the pleuropneumonia cases potassium iodid with digitalis did no good. The improvement in the sputum is also remarkable. He does not feel inclined in every case of pleurisy or pneumonia to adopt the treatment unless ordinary treatment fails, as iodism, if it did occur under these circumstances, would add very much to the distress of the patient. Discriminately used, however, it seems to Curle as if it would reduce the mortality from these maladies. One advantage of the treatment is that in using iodid, closed phthisis is not likely to be overlooked in the examination of the sputum, and another worthy of note is the intestinal asepsis and clean tongue which follows its use. The use of the chlorin with the iodid, when properly conducted, does not seem to cause iodism more readily than when potassium iodid is given alone.

Curle has used the following method, combining ionization with the internal administration of potassium iodid, for over two years with a measure of success, which justifies further and more extensive trial. At 9 a. m., the patient (an adult) is given 25 grains potassium iodid and 5 grains potassium bicarbonate, in a copious draught of water. At 11 a. m., 1 p. m. and 3 p. m., the dose is repeated. At 4 p. m., with the patient resting in bed, ionization, as employed by Professor Leduc in the treatment of ankylosis, is carried out by means of plates of block tin, thin enough to bend into hollows, each having a surface of 20 square inches, under which are placed sixteen layers of lint, saturated with a warm 2 per cent. solution of potassium iodid. The plates having been placed in position so as to include the affected part, and held there by means of a suitable bandage, a current, controlled by a suitable regulator, with a milli-amperemeter in circuit, is passed through them, which, beginning at zero, is gradually increased to 100 m.p. and at the end of half an hour is gradually withdrawn. Before disconnecting the apparatus, and removing the plates, an interval of two or three minutes is allowed to elapse, as, if the circuit be broken immediately, the patient sometimes experiences disagreeable shocks, probably due to condensation. Curle has tried ionizations every alternate day, so as to keep the blood constantly charged with iodid, but found that this took too much out of the patient, and is apt to make the skin so tender that the full milli amperage cannot afterward be borne. The best results, he has found, were obtained when intervals of four to seven days were allowed, and in subsequent ionizations, the positions of the plates are so altered that in each ionization the current is directed from a different point through the affected parts. When the disease is extensive, the whole pulmonary surface is gone over in this way, and the most seriously affected parts repeatedly ionized. As by this method, ionization takes place from the potassium iodid introduced into the blood, through the walls of the blood-vessels into the tissues, as well as from the lint outside the skin, it offers a very decided advantage over the older method from the skin alone.

Curle has now given over 200 ionizations, and, with the exception of the praecordia, has applied the electrodes over every part of the thorax, and also over the anterior triangle of the neck, without any inconvenient results. With preliminary preparations, thirty minutes of current, and subsequent operations, each ionization takes up nearly an hour. He has now tried ionization on five patients suffering from pulmonary tuberculosis, and one suffering from lupus. In the first, fourth and fifth patients treated, there was hemorrhage and pleurisy before commencing treatment. There was no recurrence of hemorrhage under treatment, and the pleurisy disappeared with one or two ionizations.

76. **Cause of Cough.**—The condition referred to by Hicks is a dry pleurisy, affecting the layers of the pleura over the upper posterior surface of the lungs. Physically, the sign to be detected is a dry creaking, most common over the outer areas of the scapular regions, and elicited most easily in deep breathing. The extent and loudness of the friction naturally vary considerably; at times it exactly reproduces the creaking of leather; it never has the features of a soft friction rub; it is very rare over the extreme apices of the lungs. Its disappearance may be traced concurrently with the subsidence of the symptoms it produces. It is extremely apt to recur in successive seasons. Clinically, cough of this type is generally paroxysmal in character; the attacks are apt to be prolonged and exhausting; they give the impression of an "irritation" cough. The patient often wakes up in the night and coughs unceasingly for a long time, perhaps for two or three hours, before relief arrives; at times the paroxysms are quite uncontrollable, and they may even result in vomiting. In some cases the paroxysmal character is less marked, and the coughing is a more or less incessant dry "hack;" occasionally it is very noisy; it may be "barking," in some cases it is almost brassy in character. This latter condition is, perhaps, most common in boys. Rarely, there is even a suggestion of whoop-

ing about the paroxysms. Expectoration is generally absent or very trivial; a severe paroxysm generally ends with the production of a little glairy mucus. Pain is generally absent, though some patients, especially in the more acute forms, are apt to complain of "rheumatism" about the shoulders. Pyrexia, slight in degree, is present only in acute cases; as a rule the temperature is quite unaffected.

This form of cough often supervenes on a common cold, and lasts for a long time. In practically every case the patient complains of a tickling in the throat, or behind the upper section of the sternum. Where the distress is acute enough to demand it, Hicks says nothing achieves benefit so quickly as a few poultices applied over the shoulders. The first application should contain a rather strong proportion of mustard, this being followed by ordinary linseed; speedy relief will invariably follow; and the nocturnal paroxysms may be often cut short in this way. In more chronic cases, friction over the affected areas with any strong liniment, or with capsolin, or with iodex, applied night and morning, is a suitable method of treatment. In dealing with delicate individuals, Hicks often orders to be worn for a few weeks over the shoulders a carefully-fitted pad of thermogene; this can be secured in position by tapes carried from behind over each side of the neck, which are met by and fastened to similar tapes coming up under the opposite axilla from the lower corners of the pad. For internal use, nothing gives such prompt relief as the following for an adult:

℞	Gm. or c.c.		
Liquoris morphinae acetatis ...	4		♏60
Acidi acetici dil.	1	33	♏20
Syrupi tolutani	16	or	ʒiv
Aquae camphorae q. s. ....ad	120		℥iv

M. S. One-half ounce as needed.

Archives des Maladies du Cœur, etc., Paris

November, V, No. 11, pp. 689-752

80 Paroxysmal Tachycardia. E. Savini.
81 The Murmurs of Mitral Insufficiency. (Les bruits de souffle circulaires de l'insuffisance mitrale.) M. Couto.
82 Epithelioma Inside Jugular Vein. (Sur une forme particulière d'épithélioma vasculaire.) R. Argand.
83 Symmetrical Area of Purpura on Left and Zona on Right Arm. H. Gougerot and Thibaut.
84 Fragility of the Red Corpuscles. (A propos de la résistance des hématies normales et sensibilisées.) R. Hertz.

Archives Générales de Médecine, Paris

November, XCI, No. 11, pp. 965-1056

85 Compulsory Declaration of Tuberculosis. (Rapport sur la déclaration obligatoire de la tuberculose au nom de la Commission permanente de la tuberculose.) M. Letulle.

Archives Mensuelles d'Obstétrique et de Gynécologie, Paris

November, I, No. 11, pp. 273-480

86 *Extra-Uterine Pregnancy at Term with Normal Child. (Grossesse extra-uterine opérée à terme au cours du travail avec enfant vivant.) A. Boquel.
87 *The Interreactions in Blood from Men and Women. (Les réactions intersexuelles du sang humain.) V. Le Lorier.
88 Viscosity of Blood in Relation to the Arterial Tension During Pregnancy and the Puerperium. P. Pellissier.
89 Operable Puerperal Phlebitis. C. Jeannin, Vanverts and Paucot.

86. **Extra-Uterine Pregnancy at Term.**—Boquel was able to distinguish the fetus through the abdominal wall evidently outside and on top of the uterus; the placenta was implanted on the fundus and just below. Except for threatening hemorrhage, the child, a well formed girl weighing over 6 pounds, was readily extracted. There had been no hemorrhage at any time during the course of the pregnancy. At first there had been frequent pains but they ceased as the pregnancy advanced and except that the patient tired a little more easily than usual and had some difficulty in walking, conditions seemed to be physiologic. Two or three weeks before actual labor there had been some brief pains suggesting the onset of labor but they were irregular and ineffectual. He has learned from this case and the records of others that it would be better to deliver the child by a median incision as term approaches, without waiting for actual labor, puncturing the membranes and extracting the child without pulling on the sac or cord. The placenta should be separated rapidly and completely after clamping the vessels. He approves of draining for forty-eight hours and, in any event, being prepared for emergencies of all kinds in an operation for extra-uterine pregnancy.

87. **The Intersexual Reactions of Human Blood.**—In Le Lorier's research he found that serum from a male agglutinated the blood-corpuscles from a pregnant woman and from another man in an average of 36 per cent. of the persons tested. The serum of a gravid woman agglutinated the corpuscles from a man or another pregnant woman in only 11.8 per cent. The agglutinating property is thus seen to differ in the sexes, but the red corpuscles in both sexes seem to behave exactly alike in respect to any given human serum. It is possible, he suggests, that this biologic difference between the male and the female albumins may be the cause of sterility in certain cases or of disturbances in the development of a pregnancy, either on the part of the mother or of the embryo.

Bulletin de l'Académie de Médecine, Paris

November 12, LXXVI, No. 38, pp. 377-419

90 Growth of Nerve Tissue Outside of the Organism. (Croissance des fibres nerveuses dans le milieu de culture, in vitro, des ganglions spinaux.) G. Marinesco and J. Minea.
91 *Transfusion of Blood; Six Cases. H. Henrot.

91. **Transfusion of Blood.**—Henrot remarks that the accidents liable from anaphylaxis on reinjection of serum are not to be feared in injection of the whole blood, and he urges his French confrères not to let the Americans re-implant transfusion in France when French medicine already has a fine record in this line. The first of his six cases of transfusion of blood dates from 1876; it was done for uterine hemorrhage following retention of the placenta in a peculiarly malformed uterus. The patient was almost exsanguinated when 200 c.c. of blood drawn from a man with prominent veins was injected and the woman rapidly recovered. Henrot's experience with this and other obstetric cases indicates that the hemorrhage from abnormal implantation of the placenta on the cervix, with repeated losses of blood, is a more urgent indication for transfusion than the hemorrhage which accompanies directly the delivery. It seems as if the organism is able to make up at once for a sudden extensive loss of blood but that when the losses occur repeatedly the time comes when the blood-producing organs become exhausted and transfusion here is a life-saving measure. In his second case a girl under 14 with extreme chlorosis and uncontrollable uterine hemorrhage plus uncontrollable vomiting was saved by transfusion of 170 gm. of blood drawn from her father. There was no further hemorrhage. In a third case a man of 41, intensely debilitated from malaria and dropsy, was injected with 30 c.c. of blood from another man. The number of reds increased at once by 600,000 and by the end of six weeks the number was 1,890,000, while it had been only 1,082,000 before the transfusion. Seven weeks after the operation all signs of edema had disappeared and the previously bed-ridden patient was out of doors all the time, but the enlargement of the spleen still persisted, indicating that the patient was only improved, not cured. Faulty technic was responsible for the failure of the measure in the fourth case, the blood evidently having failed to enter the vein as supposed. The veins in these exsanguinated patients are so flabby and collapsed that it is a difficult matter to find and enter one properly. Transient benefit was obtained from the transfusion in a case of pernicious anemia but the progress of the disease was only temporarily arrested. In another case of pernicious anemia the patient was a tailor, 30 years old, and his blood was like water while the blood transfused was unusually concentrated. The donor was a robust girl cousin from the country, and the blood did not blend. Fatal pulmonary embolism followed in a few minutes. Henrot emphasizes that even a small amount of blood may do wonders. He never attempted to transfuse the blood directly but drew it into a Mathieu apparatus for the purpose, a funnel with graduated recipient and rubber-bulb attachment.

Lyon Médical, Lyons

November 17, XLIV, No. 46, pp. 809-856

92 Shriveling of the Thymus in Six Dogs Under Roentgen-Ray Exposures. (Action des rayons de Roentgen sur le thymus du chien.) C. Regaud and R. Cremieu.
93 Antimeningococcus Serum in Treatment of Gonorrheal Urethritis. R. Salle.

Presse Médicale, Paris

November 23, XX, No. 97, pp. 981-992

94 *Causes of Disturbances in the Artificial Menopause. T. Tuffier and A. Mauté.
95 Dialysis of Diabetic Urine. (Application de la dialyse à l'étude de l'indose organique urinaire chez les diabétiques.) H. Labbé and G. Vitry.
96 *Appendicectomy and Herniotomy by the Inguinal Canal. (Appendicectomie et cure radicale de la hernie crurale.) E. Desmarest.

November 27, No. 98, pp. 993-1000

97 *Diagnostic Induced Diuresis. (Epreuve de la diurèse provoquée; polyurie expérimentale. Valeur séméiologique du rythme d'élimination urinaire de l'eau et des chlorures.) H. Vaquez and J. Cottet.

94. **Artificial Menopause.**—Tuffier and Mauté discuss the primary origin of the disturbances resulting from premature suppression of menstruation by operations on the ovaries, and state that their experimental and clinical experience and necropsy findings all demonstrate that ovarian treatment is of no use after the ovaries have been removed. It aims to stimulate the glands and can do no good if the glands are gone. Ovarian extract should be restricted to cases of obesity, chronic rheumatism or possibly exophthalmic goiter in which it may prove a useful adjuvant. The congestion and nervous disturbances of the artificial menopause are due to overfunctioning of the thyroid and adrenalin glands and treatment should aim to reduce their functioning within normal range. They have found antithyroid serum effectual to act on the thyroid while for adrenalin hyperfunctioning ipecac, sodium salicylate and opium have displayed efficacy. In a few special cases thyroid extract and epinephrin in small doses have seemed to reduce excessive functioning.

96. **Appendicectomy and Treatment of Femoral Hernia Through the Inguinal Canal.**—Desmarest reports three cases which confirm the advantage of the technic which permits a radical operation on a right femoral hernia and removal of the appendix at one time through an incision in the inguinal region and opening up of the inguinal canal.

97. **Induced Polyuria.**—Vaquez and Cottet expatiate on the important information to be derived from the delay in elimination of 600 c.c. of water taken on a fasting stomach. The method is simplicity itself, while it throws light on the disturbances induced in the kidneys by functioning of other organs. Diuresis occurring predominantly at night—nycturia—may be ascribed to reduced permeability of the kidneys from pathologic changes if the output of urine after the test 600 c.c. of water is scanty, whether the patient reclines or stands. The nycturia must be ascribed to causes outside the kidneys if the induced polyuria is normal while the patient reclines but becomes scanty as he gets up. The rhythm of the diuresis is an important element in the diagnosis. At 6:30 a. m. the patient drinks the 600 c.c. of the mild mineral water (Evian) which Vaquez always uses for the test, and the urine for twenty-four hours is separately collected for the periods 7 to 9 a. m.; 9 a. m. to 9 p. m., and 9 p. m. to 7 a. m. The test period 7 to 9 a. m. should be passed reclining at one time, and at another time the patient should rise at 7 a. m. The preceding day no fluid should be taken after breakfast except 400 c.c. at noon and at supper. The findings as to amount, specific gravity and urea and chlorid content are recorded for each of the three portions separately, corresponding to the above three periods. Some typical findings are tabulated to show the information that may be thus obtained. In a normal person the three portions were respectively: night, 350 c.c.; 7 to 9 a. m., 500 c.c.; 9 a. m. to 9 p. m., 700 c.c., with a specific gravity of 1.022; 1.005 and 1.018; chlorids to the liter, 7.69, 2.77 and 8.5; urea to the liter, 18.59, 0.71 and 10. The corresponding figures in a case of renal sclerosis with albuminuria and high blood-pressure were 1.500 c.c.; 70 c.c. and 400 c.c.; 1.007, 1.011 and 1.013; 2.08, 2.63 and 0.99 and 3.55, 1.57 and 17.87.

Revue de Chirurgie, Paris

November, XXXII, No. 11, pp. 657-868

98 *Traumatic Ossifying Muscle Disease. (Pathogénie et traitement des myostéomes traumatiques.) A. Lapointe.
99 Sporothrix Synovitis. (Synovite sporotrichosique.) H. Gougerot and G. Lévi-Frankel.
100 Fracture of the Ankle. (A propos du troisième fragment tibial dans les fractures mâlléolaires.) Vaillet.

98. **Traumatic Ossification of Muscle.**—Lapointe gives the radiograms of a case in which a large myosteoma was removed from the muscle of the thigh. Sixty-six days after the accident the experiences in this case, as in others on record which he reviews, show that the myosteoma developed from ossification of the connective tissue of a contused muscle. Conservative treatment is unreliable although the ossifying process has retrogressed enough to permit satisfactory functioning in some cases. The preferable technic, however, is to take the growth out six or eight weeks after the trauma if the myositis is not complicated with ossifying periarthritis. This combination is particularly frequent, following dislocation and spraining of the elbow. Removal of the myosteoma is of little use in such a case. Orthopedic resection should be applied for persisting serious infirmity. The muscular and bone tissue surrounding the myosteoma should be spared injury as much as possible.

Revue Mens. de Gynécologie, d'Obstétrique et de Pédiatrie, Paris

November, VII No. 11, pp. 617-688

101 *Operative Treatment of Pelvic Phlebitis. (Les phlébites utéro-pelviennes et leur traitement chirurgical.) J. Vanverts and H. Paucot.
102 Sterility in Relation to Defects in Development of the Uterus. (La stérilité dans ses rapports avec les anomalies de developpement de l'utérus.) L. Funck-Brentano and E. Plauchu.

101. **Operative Treatment of Pelvic Phlebitis.**—Vanverts and Paucot tabulate the details of eighty-two cases of operative treatment of puerperal thrombosis, with recovery in thirty-three cases, as reported by twenty-six writers. Lenhartz and Bumm each have reported eight cases, including four recoveries. Study of the tabulated details suggests that uteropelvic phlebitis requires treatment to prevent escape of emboli and transmission of infectious products through the veins, while the original phlebitic focus should be directly attacked. In practice, however, the former is the most important and the original focus may sometimes be left untouched. If the veins can be ligated above the thrombosis this should be done, and if there is suppuration in the vein or an abscess in the broad ligament, the abdominal incision can be closed and the purulent focus opened and drained by extraperitoneal access, either through the vagina or through an incision above Poupart's ligament. If the pelvis shows no signs of suppuration or there is merely slight infiltration along the vein, it may not be necessary to attack the focus directly. If symptoms of suppuration in the broad ligament develop a few days later, the focus can be opened then below the peritoneum.

Semaine Médicale, Paris

November 27, XXXII, No. 48, pp. 565-576

103 Puerperal Lesions in Uterine Adnexa and Broad Ligament. (Annexites et lymphangites du bord supérieur du ligament large.) R. de Bovis.

December 4, No. 49, pp. 577-588

104 The Argyll Robertson Sign in Non-Syphilitic Disease. F. Rose.

Berliner klinische Wochenschrift

December 2, XLIX, No. 49, pp. 2297-2344

105 Decline in the Birth-Rate and Means to Combat It. (Der Geburtenrückgang und seine Bekämpfung.) J. Wolf.
106 Changes in the Electric Responses in Muscle with Diseases of Various Organs. (Ueber Veränderungen der elektrischen Reizbarkeit der Muskeln bei Erkrankung verschiedener Organe.) R. Balint and E. Egan.
107 Radium and Mesothorium Treatment of Tumors. (Anwendung des Radiums und des Mesothoriums bei Geschwülsten.) A. Sticker.
108 Duration of Therapeutic Action of Thorium X. J. Plesch.
109 Roentgenotherapy in Gynecology. (Kritische Bemerkungen zur Therapie von Frauenleiden mit Röntgenstrahlen.) M. Cohn.
110 Action of Serum on the Toxins of Aqueous Extracts of Organs. (Wirkung des Serums auf die wässerigen Organextraktgifte.) H. Dold.
111 Vaccine Treatment. (Die Erfolge und Misserfolge der Vaccinationstherapie.) G. Wolfsohn.
112 The Sanatorium in Preventing the Spread of Tuberculosis. (Verminderung der Möglichkeit der tuberkulösen Infektion durch die Heilstätten.) H. Ulrici.

Correspondenz-Blatt für Schweizer Aerzte, Basel

November 20, XLII, No. 33, pp. 1257-1288

113 Deported Tissue Cells as Possible Source of Cancer. (Die körpereigenen Gewebstranspositionen als Ursache des Krebses im Lichte der modernen Immunitätslehre.) J. Gwerder-Pedoja.

114 *Epidemic Poliomyelitis in Switzerland. (Zur Epidemiologie und Therapie der epidemischen akuten Kinderlähmung.) F. Brandenberg.

114. **Epidemic Poliomyelitis.**—Brandenberg reports a small epidemic of poliomyelitis in Switzerland, nineteen in the Basel district and twenty-four in Eastern Switzerland. In the latter group the cases occurred along the road between Roschach and Winterthur but with intervals of months. In one family a small child had it in 1909 and another child in 1912. The ages of the children were from 2 months to 11 years.

Deutsche medizinische Wochenschrift, Berlin

November 28, XXXVIII, No. 48, pp. 2249-2296

115 *Psoriasis. (Behandlung der Schuppenflechte.) A. Jungmann.
116 *Protective Ferments. (Ausblicke über die Verwertbarkeit der Ergebnisse neuerer Forschungen auf dem Gebiete des Zellstoffwechsels zur Lösung von Fragstellungen auf dem Gebiete der Pathologie des Nervensystems.) E. Abderhalden.
117 *Traumatic Neuroses. (Unfallneurosen und die Mitwirkung des Arztes bei ihrer Bekämpfung.) E. Schultze. Commenced in No. 47.
118 Manometer Findings in the Jugular Vein. (Nachträge zur Manometerwirkung der Jugularvene.) R. Ohm.
119 *Improved Technic for Inhalation. (Ein neues Inhalationssystem.) E. Mayrhofer.
120 Improved Technic for Local Anesthesia. (Verminderung der Novokainkonzentration durch Kaliumsulfat bei der Lokalanästhesie.) A. Hoffmann and M. Kochmann.
121 Typhoid in Rabbits. E. Hailer and E. Ungermann.
122 *How Long Are Typhoid Patients Capable of Transmitting Infection? E. Schumacher.
123 Structure of Thrombi. H. Ribbert.
124 Catalase Content of Liver and Blood with Mouse Cancer. (Untersuchungen über den Katalasegehalt der Leber und des Blutes bei Krebsmäusen.) E. Rosenthal.
125 Efficacy of Atropin in Certain Cases of Tinnitus. S. Weissenberg.

115. **Psoriasis.**—Jungmann remarks that we have a number of measures at our disposal which may influence this affection and heal it up temporarily, but that nothing is known to date which will eradicate the tendency to new eruptions. Dieting is important, aiming to change the metabolism; local measures are liable to prove more effectual in the overcorpulent after an anti-obesity course. Arsenic is the main reliance among drugs, followed at a long distance by iodids and thyroid treatment. Among the local measures the Roentgen rays take a prominent place although—like all other local measures—they are not always effectual. If no benefit is apparent after two or three exposures, this method had better be dropped; as a rule a mild eruption gradually subsides after a single exposure. In case of recurrence a course of roentgenotherapy should never be given in less than a year after the first series.

116. **Protective Ferments and the Pathology of the Nervous System.**—Aberhalden recapitulates the results of his research on the importance of the ferments in the blood as a sign of the presence of alien substances. There are ferments not only for proteolysis, but for fats, phosphatids, nucleoproteids, carbohydrates, etc. The proteolytic ferments are the ones that have been best studied to date, both by the dialyzing and optic methods. They are proving useful not only in diagnosis but they suggest possible therapeutic progress by treating patients with serum from individuals who have large amounts of the protective ferments or possibly by finding means to rouse the organism from its torpor and start it to producing its own ferment, or possibly the serum from animals might be used which had been treated beforehand to immobilize the protective ferments. These ideas seem promising as already the method has proved useful in the diagnosis of pregnancy and often in that of cancer and it opens new outlooks for study of the pathology of the nervous system. He urges the collecting of data, saying that science throws out its nets in every direction, hoping now and then to catch something that will advance progress.

117. **Traumatic Neuroses.** Schultze presents an important contribution to this subject which has acquired so much practical interest in Germany. He reviews among others his own certificates as to the results of traumatic injury compared with the outcome of the cases years later. The psychic shock is often responsible for the glycosuria noted soon after the accident but disappearing later. The pallor is too often ascribed to anemia, and many phenomena such as exaggeration of the reflexes, reduction of the sensation of pain, etc., which are often cited in the certificate, are within the physiologic range. Lead-poisoning is often responsible for a neuritis which has led to misapprehension of the results of the accident, as also flat-foot and alcoholism. As the years have passed he has become more and more conservative in the amount of damage credited to the accident itself. He makes a point of never giving a certificate to the patient himself; the harm done by such private certificates far outvalues any possible good from them.

119. **Improved Technic for Inhalation.** Mayrhofer has found that salt melted can be applied to the air passages in a remarkably fine spray and this dry spray has been applied in thirty cases of bronchitis or laryngeal tuberculosis with fine results. The hot, dry air, the pharmacologic action of the salt which penetrates with the air into the lungs and the chemical action of the minute salt crystals which induce an intensive osmotic action are all important factors in the benefit derived.

122. **Duration of Infectiousness in Typhoid.** Schumacher discusses how long a typhoid patient shelters the germs after recovery, exclusive of the chronic carriers. In ten cases in a recent epidemic of thirty or forty cases the infection must have occurred a few weeks after the individual was supposed to be entirely free from typhoid bacilli.

Medizinische Klinik, Berlin

December 1, VIII, No. 48, pp. 1931-1974

126 *Hypophysis Tumors and Adiposity. (Ueber Adipositas cerebralis und Adipositas cerebrogenitalis.) R. v. Jaksch.
127 *Habitual Constipation. (Torpor recti—Dyschezie.) G. Singer.
128 Blunders to be Avoided in Treatment of Lupus. (Wie soll man den Lupus nicht behandeln?) A. Jungmann.
129 Local Anesthesia. (Ueber einige neuere Anästhesierungsverfahren, mit bes. Berücksichtigung der Plexusanästhesie.) K. Siebert.
130 Influence of Internal Secretion on the Mind. (Einfluss der inneren Sekretion auf die Psyche.) L. v. Frankl-Hochwart.
131 *Paraffin in Treatment of Wounds. F. Auerbach.

126. **Adiposity of Cerebral Origin.**—Von Jaksch reviews our knowledge in regard to the action of the hypophysis cerebri on the development of abnormal adipose tissue and sexual characteristics. He reports four cases to show this connection. The first patient was a man of 51, who had a tumor in the hypophysis but no symptoms of acromegaly. His weight is much above normal. The first signs of the tumor had been noted ten years before; change in the sexual characteristics became evident two years later. The man refuses to permit any operation although very fine results are on record after even merely partial operations on hypophysis tumors. The second patient was a boy of 14, with several congenital deformities, who had had meningitis at the age of 3, leaving hydrocephalus. The latter had led to disturbances in the hypophysis and as the boy grew his body assumed more and more the feminine type, until at 14 he was a typical specimen of what may be called cerebrogenital adiposity. The third patient, a man of 26, presented much the same syndrome consecutive likewise to hydrocephalus left by meningitis. The fourth patient was a man of 31 with symptoms of syringomyelia for the last twelve years, and for the last three the tendency to obesity characteristic of a hypophysis tumor; but the sexual apparatus persisted normal.

127. **Constipation from Torpid Rectum.**—Singer concludes his remarks on the subject by commending very small enemas, morning and evening, not of glycerin, which he considers too irritating, but of plain water or warm oil or chamomile tea. Still more effectual is a small enema of fluid paraffin. The coat of paraffin protects the mucosa, loosens up incrustations and prevents the stool from becoming too dry.

131. **Paraffin in the Treatment of Wounds.** Auerbach extols the advantages of applying fluid paraffin freely to protect the skin all around a focus of suppuration, the last thing before the dressings are applied. The paraffin not only protects the skin against irritation from oozing, thus warding off inflammation and eczema, but it keeps the dressings from sticking.

St. Petersburger medizinische Zeitschrift

November 14, XXXVII, No. 21, pp. 311-324

132 Alcohol and the Nervous System. H. Hirsch.
133 Alcohol from the Standpoint of the Individual and of Society. v. Engelhardt.

Wiener klinische Wochenschrift, Vienna

November 21, XXV, No. 47, pp. 1857-1896

134 *Roentgen Ray-Treated Spleen Extract in Treatment of Tuberculosis. (Die therapeutische Wirkung der mit Röntgenstrahlen vorbehandelten Milz bei Tuberkulose.) W. J. van Stockum.
135 Purin Bases in the Blood. (Ueber den Purinstoffgehalt des Blutes und seine Bestimmung.) R. Bass and W. Wiechowski.
136 Gynecologic Reflex Mental Disease. (Meine Ansichten über die reflektorischen Psychopathien und die Notwendigkeit der Verbesserung des Irrenwesens.) L. M. Bossi.
137 Promotion of Breast Nursing. (Ueber Stillschwierigkeiten und deren Behandlung.) H. Beer.
138 Starch Days in Diabetic Dietary. (Mehltage bei Diabetes.) N. Roth.

134. **Roentgenized Spleen Extract.**—Van Stockum has been studying for five years the action of the Roentgen rays on tissues, having become convinced that the rays induce some chemical change in sound tissues which results in the formation of a new substance which has a destructive action in turn on pathologic tissue. The conclusion followed that this new substance might be generated artificially in tissues and be used in treatment of cancer and tuberculosis. If his hypothesis is correct, then injection of the tissues subjected to the action of the Roentgen rays would have a destructive action on local pathologic processes. When small animals succumb to exposure to the Roentgen rays, the morbid changes found predominate in the skin, blood and spleen. The spleen is the one organ which seems to escape cancer most. Experiments with beef spleen gave negative results, but a remarkable effect was observed when scraps of spleen tissue were implanted in the subcutaneous tissue and the region of the implants then exposed to the Roentgen rays. In April, 1910, he treated in this way a man of 26 with multiple suppurating glandular tuberculosis, another man with ulcerative tuberculosis of the entire large intestine, and a man of 21 with tuberculous hip-joint and pulmonary disease. The results were a surprisingly prompt and permanent subsidence of all the symptoms, but in some other patients the progress of the more advanced tuberculosis was only temporarily arrested. The implanting of the spleen tissue is a disagreeable procedure, and he has been experimenting since with extracts of spleen tissue previously exposed to the Roentgen rays, and he thinks that this method has a future. His experience with 3,000 such injections has confirmed the harmlessness of the method while a marked turn for the better was apparent from the first, he says, especially in cases of surgical tuberculosis.

Zentralblatt für Chirurgie, Leipsic

November 23, XXXIX, No. 47, pp. 1601-1632

139 Improved Technic for Suturing Stump of Stomach or Intestines. (Eine einfache Verschlussnaht des Magenlumens.) A. Baron. (Die Kreuzverschlussnaht in der Magendarmchirurgie.) C. Pochhammer.

Zentralblatt für Gynäkologie, Leipsic

November 23, XXXVI, No. 47, pp. 1569-1600

140 *Action of Roentgen Rays on Uterine Cancer. E. Bumm.
141 Active or Expectant Treatment of Eclampsia? Lichtenstein.
142 Development of New-Born Infants. (Die körperliche Entwicklung des Neugeborenen.) R. Lutz.

140. **Action of Roentgen Rays on Uterine Cancer.**—Bumm reports a case which shows that the Roentgen rays can be applied through the vagina to an inoperable uterine cancer, and, without injuring the vaginal mucosa, induce such sclerosis in the surrounding connective tissue and muscles that the cancer was unable to spread farther. After the sloughing off of masses of cancerous tissue, a clean cavity was left, and there was no more suppuration or hemorrhage. At this stage the growth was operable and it was accordingly successfully removed. Although the clinical course of the case was so striking, yet the microscope revealed that the cancer cells proper had not been killed by the exposures, no specific influence on them being apparent. Their growth had been checked merely by the barrier thrown up around them by the hardening of the encircling soft parts. The exposures were given every day or so for two months, a total of 800 units or 1.600 Kienböck *x* units.

Zentralblatt für innere Medizin, Leipsic

November 23, XXXIII, No. 47, pp. 1165-1188

143 Chemical Tests of Serous Fluids with Uranium Acetate. (Enteiweissung und Reststickstoffbestimmung des Blutes und seröser Flüssigkeiten mittels Uranilazetat.) A. Oszacki.

Gazzetta degli Ospedali e delle Cliniche, Milan

November 10, XXXIII, No. 139, pp. 1457-1464

144 Immunizing Action of Autolysates of the Skin of Animals Yielding Vaccine. (Immunizzazione con la cute infetta di vaiolo bovino autolizzata.) E. L. Tocco.

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145 Modern Methods of Sputum Examination. (Dei nuovi metodi di ricerca dei bacilli di Koch nell'espettorato.) C. Gamna.

Policlinico, Rome

November 24, XIX, No. 48, pp. 1741-1776

146 Varices in the Pharynx. (Una forma di disturbo subiettivo della faringe.) T. Mancioli.

November, No. 11, Surgical Section, pp. 481-528

147 Lymph-Node Extract in Immunization Against Tuberculosis. (Sull'importanza funzionale delle glandole linfatiche e su talune proprieta degli estratti di glandole tubercolari.) G. Perez.
148 Invagination for Intestine Deprived of Its Mesentery. (Proposta di trattamento dell'intestino privato del suo mesenterio coll'invaginazione.) S. Marinacci.
149 Experimental Research on Surgery of the Hypophysis Cerebri. A. Chiasserini.

Riforma Medica, Naples

November 16, XXVIII, No. 46, pp. 1261-1288

150 Nature of the Cammidge Reaction. P. F. Zuccola.
151 Pathogenesis of Epilepsy. A. Dellepiane.
152 Development of Cancer Cells. (Sui mitocondri delle cellule blastomatose.) C. D. Martelli.

Brazil-Medico, Rio de Janeiro

November 1, XXVI, No. 41, pp. 429-438

153 New Species of Amblyomma. (Nota sobre os Ixodidas collecionados nos Estados de Goyaz e Matto Grosso pelo Dr. Murillo de Campos.) H. B. Aragão.

Semana Medica, Buenos Aires

October 31, XIX, No. 44, pp. 869-932

154 Attempts to Induce Abortion in Extra-Uterine Pregnancy. A. P. Ramos.
155 Chemical Study of South American Plant: Capparis Tweediana Eich. (Contribucion al estudio de la corteza de la raiz de meloncillo.) M. Faulin.
156 Importance of General Measures in Treatment of Local Tuberculous Processes. (Transcendencia clinica de las tuberculosis locales.) D. S. G. Hurtado.

Hospitalstidende, Copenhagen

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157 Superior Reliability of Subcutaneous Tuberculin Test for Adults. (Sammenlignende Undersøgelser over subkutane Tuberkulininjektioners og kvantitative Kutanreaktioners diagnostike Værdi.) J. Ostenfeld and G. E. Permin.
158 Serodiagnosis of Syphilis. (Herman and Perutz' Syfilisreaktion udført i 16 Tilfælde paa Sindssygehospitalet ved Middelfart.) A. Ipsen and H. Helweg.

November 20, No. 47, pp. 1365-1424

159 Origin of Glaucoma. II. (Videre Undersøgelser over det hæmostatiske Glaukoms Patogenese. Om en Klapvirkning af Sinoskleralpladen som Aarsag til hæmostatisk Glaukom.) C. F. Heerfordt.

Ugeskrift for Læger, Copenhagen

November 21, LXXIV, No. 47, pp. 1711-1776

160 *Paralysis of Ocular Muscles in Children. (Nogle Tilfælde af erhværvede Øjenmuskelparalyser hos Børn: Heine-Medin's Sygdom.) K. K. K. Lundsgaard.
161 Therapeutic Application of Absorbed Light Rays. (Behandling af Lupus vulgaris og Lupus erythematosus med absorberet Lysenergi.) T. Brinch. See The Journal, 1912, lix, 1586.

160. **Paralysis of Ocular Muscles in Young Children.**—The five cases reported by Lundsgaard were encountered at a time when epidemic poliomyelitis was prevailing, and he regards the paralysis as secondary to this disease, as it had developed after a few days of malaise or brief mild febrile illness, disregarded at the time or called "influenza" by the family. Poliomyelitis was suspected only in one of the cases, and this only from the fact that a family which had recently lost a child from poliomyelitis had moved into the building. During the six months in question, June-November, 1911, from three to ninety-one cases of poliomyelitis had been declared in Denmark, thirty-three of which occurred in Copenhagen. In each of the above cases the external rectus was totally paralyzed and in four of the cases there has been no change to date. In the fifth case there was ptosis of both eyelids and the movements of the eyeballs were restricted, but the ocular symptoms completely subsided in a week or so. The assumption of an incomplete form of epidemic poliomyelitis seems the only plausible explanation of the paralysis of the ocular muscles in these cases. These incomplete forms of the disease are particularly important from the epidemiologic standpoint.

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THE THEORY AND PRACTICE OF THE TREATMENT OF STERILITY IN WOMEN *

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That sterility has long been one of the comparative failures of gynecology is probably the result of the obscurity of its causes. My own interest in this subject has now extended over a period of nearly twenty years, and the success in its treatment which I think I have attained in recent years has resulted from the gradual elaboration of a theory of its etiology which has withstood the test of an application to practice.

About ten years ago I reached the theoretical conclusion that in the majority of cases the mechanism by which the sterility of women was produced was the existence within their genital tracts of secretions which were so far pathologic as to cause the destruction of the spermatozoa. The application of this theory to practice at once resulted in success with a certain limited class of cases, and as further study led to more exact comprehension of the underlying causes which determine these changes in the secretions the percentage of successful cases steadily increased. There remained, however, a large percentage of unexplained failures until further reflection and experience resulted in the study of the conditions which prevent the formation and liberation of a normal ovum.

Since the causes which produce the conditions inimical to the ovum have seemed, after somewhat extended observation, to be closely related to, if not identical with, some of those which produce the conditions destructive to the spermatozoa, the result has been a fairly comprehensive theory of sterility which, when applied to practice during the last few years, has resulted in a highly satisfactory degree of success in the treatment of this previously obscure and unsatisfactory department of practice.

A discussion both of the theories held and of the results of treatment is the object of this paper.

Fertility is the result of the travels of normal spermatozoa and a normal ovum to their point of conjugation, and of their arrival there in a state of vitality sufficient for successful conjugation. From the time the spermatozoa are deposited in the vagina and the ovum is released from the follicle to the time of their conjugation their only relation to the woman who is their host is that they live in her secretions. The spermatozoa and ovum are during this period independent living cells, which, though they differ in some respects from the true protozoa, are nevertheless so closely similar to them that their description as protozoa in independent and active individual life will not lead to false conceptions of the conditions. The primal conditions for fertility are then, first, that both partners must set free normal genital elements and, second, that the secretions of the woman must be in such condition as is compatible with the lives of these protozoa.

If the known facts of the process of impregnation are considered in the light of these concepts the subject of sterility is so illuminated that much which has seemed uncertain becomes easily intelligible, and the knowledge so gained leads naturally to rational and, as it has proved, successful treatment of the conditions. Familiar as the facts are, it is therefore worth while to follow them throughout in the light of this conception.

The normal life-history of the spermatozoa and ovum must then be considered separately, and as the travels of the spermatozoa are through the lower portion of the genital tract it is natural to consider their life-history before that of the ovum.

It involves of course both the characteristics of the spermatozoa and their relations to the secretions which they meet.

Previous to ejaculation the spermatozoon is essentially an independent organism, but leads a very sheltered and dormant life. It is surrounded by a slightly alkaline, albuminous medium, and is isolated from contact with other protozoa,[1] in a carefully regulated temperature. It lives in these conditions for a very considerable period, during which it is motionless, and is nourished, in so far as it needs nourishment, by imbibition. By ejaculation an enormous number of spermatozoa are thrown into new conditions in which under the most favorable circumstances all but a few eventually perish. They are now motile and under favorable circumstances each spermatozoon is capable of traveling a quite considerable and grossly measurable distance in the course of its independent life. The duration of this life is uncertain, but it has been the subject of direct study in the higher vertebrates and is variously estimated as lasting in the human subject from a few to many days. Its continued motility and its capacity for covering distance are essential to its attainment of conjugation with the ovum, and therefore to the fertility of the individual pair (man and woman).

We know from many direct observations under the microscope that it is immediately demotilized and almost immediately devitalized not only by very slight alterations of temperature, from which it is usually protected under the natural environment, but also by equally slight alterations in the chemical reaction, composition, or

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* Because of lack of space this article is abbreviated in The Journal. The complete article appears in the author's reprints, a copy of which will be sent by the author on receipt of a stamped addressed envelope.

[1] Consider the possibilities of their possible later contact with pus-cells.

viscosity of the medium which surrounds it. We know, further, that its rate of progress through the medium is so slow that it cannot make headway against any considerable current. These facts any one may readily verify for himself by simple experiments with an ordinary microscope.

It remains then to inquire how these observed facts apply to the problem of sterility in women in the light of our second primal condition mentioned above, and in relation to easily observed facts about the secretions of the genital tract in the female. To this end it is necessary to consider separately the secretions of the vagina, uterus and, so far as we know them, of the tubes.

The vaginal secretions are normally acid, and it is known that the slightest acidification of the serum destroys the spermatozoa. The normal existence of such an obstacle to impregnation would seem *a priori* unlikely, but since it is an undoubted fact we must seek an explanation for it. The working out of that explanation was the first step necessary to the present theory and was published about five years ago.[2]

Very few of the pathogenic bacteria can flourish in an acid medium. Even when gradually accustomed thereto they rapidly lose their virulence in such a habitat and, moreover, are then seldom able to withstand a sudden retranslation into an alkaline medium. It is then probable that the acidity of the vaginal secretions, while those of the uterus remain alkaline, is a natural bar to infection of the uterus, and a moment's thought will show the absolute necessity of such a protection if the continuation of the race is to be insured. Coitus is not ordinarily conducted under aseptic precautions; bacteria of many kinds are therefore ordinarily introduced into the vagina at every intromission, and if they were able to maintain vitality and virulence in the vagina they would inevitably effect an entrance into the uterus in a short time thereafter. The change of reaction between the vagina and cervix is then essential to the maintenance of health.[3]

The spermatozoa are, however, even less resistant to an acid medium than the pathogenic bacteria. There must then be some special mechanism by the aid of which they normally overcome this initial danger of their journey.

In the inquiry into this mechanism we meet for the first of many times a difficulty which obtains throughout the whole subject, that the physiology of coitus and impregnation have been subjected for obvious reasons to but little direct scientific observation. On each of the many points where this fails us we are forced to depend on the probabilities as deduced from known biologic laws, and as reinforced by the results of clinical observation. Fortunately, on most of the points the results of these two methods for establishment of the clue are so closely coincident as to approach a demonstration and at least to furnish a working hypothesis which may then be proved or disproved by a subjection to the test of further clinical observation.

The cervical, that is, the uterine, secretions are normally alkaline, clear, translucent, and of about the viscosity of the blood-serum. We may safely consider that they are from the necessities of the case, when in their normal condition, a favorable medium for the spermatozoon; hence some authorities have endeavored to explain the escape of the spermatozoa from the presumably unfavorable vaginal secretions by the assumption of a theory that the semen is sucked into the cervix by a pump-like action of the uterus similar to a peristalsis and excited by the stimulation of coitus. There is no direct evidence either in proof or in disproof of this theory, but that such a phenomenon is not necessary to impregnation and therefore is probably not usual to it is shown by the many observed cases of impregnation without penetration. It has been held by some that none of these cases was conclusive, but their number is suggestive, and I am myself able to report one case which seems to me incontestable — a case in which it was stated to me by both partners that the pregnancy was the result of a single and incomplete coitus in a standing position, and in which on examination I found the hymen not only intact but with an opening so small and rigid that it would hardly have admitted a large lead-pencil. I did not see the labor, but the pregnancy was seven months advanced and the evidence of its existence was unquestionable.[4]

The existence of such cases makes it necessary to assume that under favorable conditions the spermatozoon can live in the vagina for a considerable period, but it is still necessary to find an explanation for their survival there in an apparently acid medium. We come here, it must be confessed, into the realm of theory, but a very probable explanation is at hand.

The spermatozoa are of course deposited in the vagina surrounded by the semen, which is their native medium, but as they progress they must sooner or later emerge from this medium into the secretions of the woman, with which indeed the semen must soon become mixed by osmosis. Unless these secretions have a chemical composition and degree of viscosity closely comparable to those of the semen, the vitality or effective motility of the spermatozoon must then be lost. There is, so far as I am aware, no exact scientific knowledge of the secretions of the female genitalia during coitus but it is a matter of common knowledge that the quantity of the secretions is increased at this time. In the absence of exact and recorded observations we are forced to rely on the general impression which can be obtained by questioning women, and their statements can be of scientific value only when it is found that there is substantial concurrence in them as obtained in considerable numbers, and under conditions which insure an attempt at accurate and uncolored statements on the part of the witnesses. The discussion of such a subject with women is distasteful and must necessarily be brief, but there is a general consensus of statement to the effect that under normal circumstances there is a very considerable discharge of fluid at the time of the orgasm, and it is inherently probable that this is uterine in its origin. We may then assume with fair safety that there is at the time of coitus the discharge of a quantity of uterine secretion which under normal circumstances should be sufficient to neutralize, or very possibly displace from at least the upper part of the vagina, the presumably inimical vaginal secretion.

The theorem that such a discharge is normally sufficient to overcome the hostile characteristics of a normal vaginal secretion, but is usually insufficient to overcome those of an abnormally acid secretion[5] seems reasonable, and is sustained by a considerable amount of evidence obtained in my clinical experience. I would quote in evidence one among a considerable number of such instances.

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[2] Reynolds, E.: Am. Jour. Med. Sc., August, 1907, p. 209.

[3] It is probable that the change of reaction between the normally alkaline mouth, the acid stomach and the alkaline intestine may have a similar purpose. In the digestive tract, however, the presence of material introduced from without in large masses to a great extent overcomes this protection, and similarly infection of the vagina occurs in spite of the natural bar when a sufficiently large quantity of infective material is introduced.

[4] Incidentally, such cases demonstrate the spermatozoon's power of traversing under favorable conditions a distance of at least 3 inches (and more, probably 5 or 6), and arriving at its destination in condition to effect conjugation.

This is the case of a woman (Private Records, Series B, 2616) married three years without pregnancy, in whom careful vaginal examination revealed no abnormality other than the presence of a somewhat excessive, and very acid vaginal discharge. It was typical of the appearance characteristic of an excessive presence of the very common *Bacillus lactiformans* of Doederlein, and the initial treatment adopted was for convenience empirical and founded on the appearance of the secretion. The destruction of this bacterium by thorough and continued disinfection of the vagina is habitually easy, and in this case a short period of such treatments resulted in pregnancy after the very next menstrual period. In this case the vaginal secretions evidently remained normal, as another pregnancy followed after a brief interval.

So prompt a result is somewhat exceptional even in this simplest form of sterility, and the recognition of the many possible alterations of the vaginal secretions is difficult and unfortunately to a large extent empirical, but the accumulation in the course of years of many equally successful cases[6] has furnished strong accumulative evidence that the presence of an altered vaginal secretion may be by itself a sufficient cause of long-continued sterility. If it be considered valid, as I now regard it, the theory on which the forms of treatment which I have adopted were founded furnishes some presumptive evidence of the importance of the uterine secretions which are probably excited by coitus.

The undoubted fact that impregnation is not only possible, but frequently does occur, in the absence on the woman's part of the pleasurable sensations commonly associated with the orgasm might seem presumptive evidence against the importance of these secretions of coitus, but it is known that the degree of these sensations varies widely in different individuals, and it is probable that such an action of the uterus may take place without noticeable pleasurable sensation; indeed, such evidence as I have been able to obtain under the restrictions which are necessarily attendant on such questionings tends to show that the excess of secretion does occur in many women who are indifferent to coitus. There is, moreover, considerable evidence to show that the amount of this secretion is unfavorably affected by overfrequency and other abnormalities in sexual intercourse, and there are many cases in which an appropriate regulation of intercourse is followed by impregnation in previously sterile women with apparently normal genitals.

These explanations may or may not hold, but that hostile vaginal secretions may be considered as the first danger to its existence which the spermatozoon must encounter in its new environment may certainly be considered as established.

Hostile, cervical, that is, uterine, secretions are the second danger. The cervical secretions are not only normally alkaline, clear, translucent and of the viscosity of the serum, but they are normally so small in amount that there is no rapidly perceptible flow from the os in the absence of a mechanical stimulus. When they are either acid, thickened and inspissated, or overabundant, they may easily be so far antagonistic to either the vitality or the effective motility of the spermatozoon as to inhibit pregnancy, and their hostility may evidently be due either to their altered chemical composition or to their presenting an efficient mechanical obstacle to its progress. Direct observation of the progress of the spermatozoa through the human cervix is never likely to be made, but the inherent probability of the preceding statements is so evident as hardly to require further argument; and it is, moreover, strongly supported by the many successful cases in my own experience in which pregnancy has followed a restoration of the cervical secretions to an apparent normal by one or another form of treatment.

The probability of their truth is further reinforced when we consider a further point in the natural mechanism for the maintenance of normality in the cervical secretions, and the causes which lead to their abnormality by failure of this mechanism.

Since the spermatozoon is normally able to reach the cavity of the uterus in an active condition, while the pathogenic bacteria so frequently introduced normally fail to reach the favorable medium of the uterine secretion, there must be a further bar to ascending infections which is less effective against the spermatozoon than against the bacteria, and this is probably to be found in the normal existence of a slight but constant outward flow of the secretions through the cervix.

The spermatozoa are actively motile and the pathogenic bacteria are not. It is probable that the normal outward flow of the uterine secretions is just that which can be overcome by the motility of the spermatozoon and is yet enough to return the non-motile bacteria to the vagina, where their virulence is destroyed by the much more profuse and acid vaginal secretions. It will be seen at once that if these views are in accordance with the truth we have here an exceedingly delicate balance.

It would seem as if the existence and even the amount of such a cervical flow should be easily demonstrable, but in point of fact it is so slow that if the surface of a normal cervix be wiped dry and watched through the speculum many minutes elapse before the secretion visible in the os can be seen to increase, and the difficulties of obtaining opportunity for such prolonged observation in a sufficient number of normal cases are practically prohibitive of any satisfactory results; but the absence of direct observation on this point may be easily made good in other ways.

It has long been conceded that persistent congestion of the upper genital tract is a bar to fertility, but one of the most prominent characteristics of the congested uterus is the existence of an overabundant secretion, which in many such cases can be seen to flow continuously from the os when it is held for even a few minutes under observation through the speculum, and the adoption of the above theory of its importance has led to success in the management of many hitherto obscure cases.

Congestion of the genital organs is seen in connection with many pathologic lesions but congestion as the only abnormality is in most cases the product of overfrequency or abnormal peculiarities in the sexual act or appetite. The actual perversions of act or thought are, it is to be hoped, rare in the community and are certainly rare in marital life, but the importance of minor abnormalities of the sexual relation, either psychic or physical, in the production of sterility has been generally overlooked.

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[5] The reaction is the only easily ascertained element in the chemical composition of the secretions and may be used as a rough test of their normal or abnormal composition.

[6] As only my recent records have been separately indexed under the item "sterility," it is not feasible for me to give the number

CASE 1.—Private Records, Series B, 3150. The patient had been married fifteen months; there had been no pregnancy. On examination the cervix was seen to be slightly anteflexed but hardly beyond the normal limit; os ample. The vagina and cervix were deeply congested. There was profuse cervical flow of clear, thin, normal-looking uterine secretion. No anatomic abnormalities were detected and no tendernesses. On inquiry patient stated very frankly that the sexual appetite had appeared early in life and had always been so far active as to make her very cautious about even the ordinary familiarities with the other sex. She had looked forward to marriage with a very active anticipation and had been greatly disappointed when the actuality produced little or no sensation. She denied onanism. On cross-questioning it became evident that she had formed an ideal of rough possession and that the absence of roughness on the part of a very considerate husband had been a disappointment. She stated that she now had frequent and almost continuous desire but no gratification. She was a very intelligent woman and had taken up study and mental discipline as the best means of dealing with the situation, stating that there were very many other things in life which were more important to her than that, and that she could get along without it, but that she was extremely anxious for children. She was advised to use continuous glycerin depletion by suppositories introduced into the vagina each night, and to abstain from excitation in every way possible. The husband was interviewed and given appropriate advice. She was not seen until about two years afterward, when she was three months advanced in pregnancy, and gave the following history: that shortly after her previous visit coitus had become moderately satisfactory and subsequently increasingly so (she was unaware that advice had been given to the husband), but that an annoying amount of desire in the intervals had persisted for about a year, when it gradually disappeared. About six months after this change she became pregnant.

In this case the reason for the absence of gratification was evidently psychical and since the excitation of desire by the presence of the husband was not affected while the orgasm was inhibited, the occurrence of an intense and persistent congestion and its accompaniment of an unduly abundant uterine secretion was an inevitable consequence.

That desire without gratification is a cause of congestion is too well known for need of argument, and that the relief of congestion by depletion decreases the abnormal desire has long been a familiar fact in the management of the health of recent widows. The comparative failure of mere depletion in this case as opposed to those of widows was undoubtedly due to the continuance of excitation.

More prompt and striking results from the regulation of coitus could easily have been quoted, but this case is selected because the gradual decrease of incessant desire (with its concomitant congestion), in connection with the gradual increase in the frequency of the orgasm, and the occurrence of pregnancy within a few months after the disappearance of the abnormal desire seem to make it typical of the most important facts in this class of cases. It should be said, however, that the idea which was dominant in this case is of a somewhat unusual nature.[7]

It seems inherently probable that the overprofuse cervical flow which is the inevitable product of continued congestion is by itself in many cases an efficient cause of sterility; its opposite, an overscanty flow, with consequent inspissation, is most evidently an equally efficient mechanical obstacle to the progress of the spermatozoon; indeed, in my own observations, which have now extended over many years, no fact has seemed more certain than that women whose cervical secretions are thick, inspissated and tenacious, and consequently in mechanical stasis, are almost always, if not invariably, sterile. It seems possible that inspissation might be the result of a mere mechanical obstruction with partial retention and the reabsorption of the fluid of the secretion, or of an intrinsically scanty flow, but on a review of all the evidence it seems more probable that it is usually the result of some degree of infection of a secretion which is arrested, or partially arrested, behind a mechanical obstruction. I have, indeed, never observed a case which presented an abnormally scanty amount of normal uterine secretion through a normal cervix, but the probability that inspissation is usually the result of some degree of infection is reinforced rather than weakened thereby, since an abnormal slackening of the current, though undoubtedly favorable to the spermatozoon, is also favorable to the occurrence of an ascending infection; as a result of which an abnormally scanty amount of normal uterine secretion ought to be, as it is, the rarest of phenomena. This consideration also explains the fact which I have observed in a great number of instances and with which the observation of every gynecologist will probably concur, that virgins with the condition known as pinhole os commonly have normal secretions and an absence of any symptoms, while married women[8] with the same condition commonly have clouded (i. e., infected?) and, after some years of marriage, usually inspissated and ropy cervical secretions.

The inference is obvious, that in the absence of a habitual introduction of bacteria into the vagina from without, a stasis of the cervical secretions behind a mechanical obstacle is of far less importance than when such introduction of foreign material is frequent, and when it is moreover habitually carried into the upper portion of the vagina and consequently attains contact with the cervix before the contained bacteria have been in prolonged contact with the acid vaginal secretions, as would be the case with the mere vulvar contact with the outside world which alone obtains in virgins. In fact, mechanical obstruction is probably in most instances followed, in married women, by some degree of ascending infection, which fact often furnishes an important indication for treatment.

Infection of the cervical secretion is of course often a part of a complete ascending infection, but it seems to be a clinical fact that it is sometimes limited to the cavity of the cervix alone. Such cases usually differ from those in which the process has extended further in their total absence of pelvic symptoms, other than sterility, and in the non-existence of tenderness of the uterus and tubes on palpation, and have usually been considered cases of unexplained sterility.

CASE 2.—Private Records, Series B, 3364. The patient, 28 years old, six years married, had been very anxious for children and had consulted several physicians, but had always been told that she was quite normal. She considered herself in perfect health and on cross-examination denied all symptoms of any kind. On examination pelvic organs appeared thoroughly normal with the exception of sharp anteflexion of a very small cervix with an equally small os. Vaginal secretions were normal, cervical secretions clear, but thickened and sticky. The body of the uterus was well developed and not tender. The adnexa were not tender.

The cervix was enlarged and straightened by a plastic operation modified from a Dudley discission, and its cavity was curetted and disinfected. As it seemed probable that the uterine mucous membrane was unaffected the internal os was not entered. No further treatment was undertaken; pregnancy occurred at the end of six months, after six years of sterility.

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[7] When more fully developed it is, however, characteristic of one of the recognized psychopathies.

[8] That is, women whose vaginas are habitually exposed to the mechanical introduction of miscellaneous collections of bacteria.

The essential point in the treatment of such cases is the long-established surgical principle that the return of a surface to absolute normality is to be secured only by the establishment of absolutely free drainage. It usually requires the lapse of some time in addition.

When uterine tenderness or other conditions lead the observer to believe that the alteration of the secretion — that is, the infection of the mucous surface — has extended to the body of the uterus also, complete widening of the internal os and curettage of the cavity should of course be added. The inefficiency of mere dilatation and curettage in the treatment of the majority of those cases of sterility which are apparently dependent on endometritis has, however, been a matter of almost universal experience. This fact seems to be the product of two factors: first, that the attainment of permanent and thoroughly satisfactory drainage through the internal os is not usually secured by a mere dilatation, but requires the adoption of one or the other of those plastic operations which have for their object the permanent straightening of the uterine canal;[9] second, that it is probable that an infection even of minor degree which is nevertheless virulent enough to travel into the uterine cavity usually effects some alterations of the mucous membrane of the tubes also.

So far we have been dealing only with the obstacles to the life or motility of the spermatozoon afforded by abnormal vaginal or cervical secretions. We must now approach the much more difficult subject of the obstacles to its conjugation with the ovum which are furnished by abnormal conditions of the tubes and ovaries.

It is well understood that women with apparent salpingitis are sterile and that unfortunately most of them are permanently sterile, but every gynecologist is familiar with a large class of patients in whom there is no apparent salpingitis and no gross alteration of the ovaries, and who are yet permanently sterile.

My next point is that the sterility in these cases rests on the existence of either a salpingitis or else an alteration of the ovaries which is, first, of such slight degree as to escape detection by the ordinary methods of diagnosis, and, second, insufficient to cause noticeable injury to health, but which may be quite sufficient to upset fertility. The refinements of diagnosis which make the detection of these slight conditions possible have been reached only by careful observation of the conditions found in the tubes and ovaries in a long series of operations done for other purposes, and then a comparison of the symptomatology and other conditions present with the fertility or non-fertility of the individual patients.

It will be best to deal with the slight abnormalities of the tubes first.

The prognosis of the ascending infections varies of course with their virulence. They may be roughly divided into three classes, the accidental infections of coitus, the gonorrheal, and the obstetric infections,[10] which latter should include of course the infections of abortion.

In the study of these secretions bacteriologic methods are unfortunately of little use. The bacteriology of the vagina is so complicated by the habitual presence there of non-virulent bacteria of many kinds that it is of value only in acute infections, and cultures from the contents of chronically inflamed tubes and endometritic uteri are usually negative; the chemistry of these secretions is as yet practically unknown, and in the absence of exact information from these sources all study of them and all knowledge of them from the standpoint of sterility must necessarily be clinical, empiric, and rather a matter of individual belief than capable of exact demonstration. What I have to say of them rests merely on accumulated clinical evidence, and on inference from such general knowledge of perverted physiology as we already have.

The following statements are in accordance with established bacteriologic principles, but have seemed to me to be of clinical importance, and are perhaps worth a brief recapitulation.

The non-specific accidental infections of coitus often exhaust themselves on the lower mucous membranes and seldom inflict permanent and irreparable damage on any of the organs, probably because the bacteria are deposited only in the vagina where they soon lose virulence and, if they subsequently invade the upper portions of the genital tract, they are therefore unlikely to produce more than superficial injury.

The gonorrheal infections almost never fail to reach the tubes and almost invariably infect both tubes, almost invariably, too, to a degree which produces recognizable tubal symptoms; but the gonococcus is one of the few pathogenic bacteria which is not readily exterminated by an acid medium; it, moreover, travels by extension through the tissues of the mucous membrane and is therefore better fitted to progress in spite of the existence of a downward current.

The obstetric infections are extremely variable in the degree of their permanent and ultimate importance, but this is evidently the result of their nature. They are always accidental and may be of any degree between the mere introduction of the non-pathogenic bacteria of decomposition into the vagina and the mechanical deposition of the most virulent of organisms within the cervix or uterine cavity by a finger or instrument.

It will be seen at once that our practical management of cases in which the sterility is believed to be due to the condition of the secretions of the upper genital tract must be determined largely by the question of whether the inflammation is believed to have been arrested in the uterus or to have extended into the tubes. Unfortunately, in dealing with the slight or long-quiescent inflammations which are present in the majority of patients who come to us for sterility, the diagnosis of this point is extremely difficult, and primarily, that is, in the absence of an abdominal section, can usually be determined only by exclusion, as will be evident from consideration of the conditions likely to be present in the tubes.

From the standpoint of the gross infections, we are accustomed to think of a salpingitis as existing in a tube closed at both ends and distended with fluid, though we realize that such tubes occasionally discharge themselves through the uterus. Every abdominal operator, is, however, familiar with the very common phenomenon of a tube which is closed at the ovarian end but is flaccid, empty and not enlarged. All mucous membranes have a continuous secretion even though it be small in amount, and it is consequently a necessary postulate that these empty tubes with closed ovarian ends must have patent uterine orifices, and that their secretions must empty through the uterus. These empty tubes are nonpalpable on vaginal examination and when the inflammation which has sealed their ovarian ends has been so mild that it has not resulted in extensive peritoneal adhesions they usually either escape observation altogether, or are seen incidentally and in the course of other abdominal work.

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[9] Reynolds, E.: Anteflexion of the Cervix and Spasm of the Uterine Ligaments in Relation to Retroversion, Dysmenorrhea and Sterility, Surg., Gynec. and Obst., July, 1911, pp. 17-24.

[10] The obstetric infections apply of course only to the so-called one-child sterility, but are there of preponderant importance.

Case 3.—Private Records, Series B, 3435, October, 1911. A strong healthy woman of 30, whose only pregnancy had terminated in an early miscarriage with slight subsequent pyrexia nearly six years before. She denies all symptoms except slight catamenial irregularity; has been curetted twice. Under examination without anesthesia no abnormality except a pinhole os with profuse and thickened mucopurulent secretions and slight tenderness on pressure over the adnexa on both sides. Under anesthesia the left ovary was thought to be a little enlarged and probably adherent in a somewhat low position. No abnormality of the right adnexa was detected even under anesthesia. Operation was recommended.

After plastic correction of the shape and size of the cervix the abdomen was opened. The left ovary was found to be tightly bound down by old adhesions but enlarged only by a few rather superficial cysts. The fimbriated end of the tube was closed by adhesions and the tube contained a little fluid, making it moderately palpable. The right ovary was free and contained a great number of small cysts, that is, an approach to the Rokitansky tumor. It was considerably enlarged and was peculiar in that it was, at all events at this time, nondistended and flaccid to the touch. The fimbriated end of the tube was occluded by adhesions but the tube was empty. These physical conditions made it thoroughly evident why the hopeless condition of the right adnexa as regards fertility had entirely escaped detection on vaginal examination. (The altered condition of the left adnexa was detected only under anesthesia and was then so slight that in the entire absence of pelvic symptoms other than sterility it would have been considered unimportant by many gynecologists, especially in view of the apparently normal condition of the right side.) Both ovaries were treated by plastic operation, both tubes were opened, and new and ample fimbriated extremities constructed by plastic methods. Complete elevation of the adnexa was secured by a round ligament operation. Convalescence was rapid and uneventful and the patient, who had previously considered herself well, has gained decidedly in general health (removal of a slight auto-intoxication?). The cervical secretions remained abnormal after operation, but under continued depletion and occasional minor treatments steadily improved and at the end of nine months have reached an apparent normal. Slight tenderness of the left adnexa, only, has persisted, though in a decreasing degree, and is still occasionally detectable. Depletion must be continued until this disappears.

Although this case is evidently too recent for any possibility of pregnancy as yet, it is reported in detail as a typical instance of the treatment which now seems best applicable to such cases. It is also a typical instance of conditions which formed an absolute bar to fertility, but which had produced no other recognizable symptoms, had been overlooked by an able practitioner and were susceptible of an accurate diagnosis only after the abdomen had been opened.

The number of these quiescent tubal cases which have been treated in this way is not yet sufficient to warrant a differentiation of their prognosis from that of the gross salpingitis to be referred to later, but it is undoubtedly somewhat less good than that of those cases in which the tubes are normal. Without operation it is of course hopeless.

The diagnosis of these slight affections of the tubes rests mainly on the study of the uterine secretions as affected by the presence of slight salpingitis and on the frequent coincidence between these slight alterations of the tubes and the ovarian alterations to be spoken of later.

A further point of importance which has escaped observation is that the existence of one such tube is commonly sufficient to cause sterility even though the other tube be normal. This is probably due to the fact that the drainage of the abnormal secretions of such a tube through the uterus results, or so my observations have led me to believe, in a uterine secretion which is sufficiently abnormal to be hostile to the spermatozoon.

Case 4.—Private Records, Series B, 2678. The patient, 38 years old, eight years married, had had two pregnancies in early married life, both terminated prematurely for eclampsia, the second followed by some pyrexia and disturbance of puerperium. She had been sterile since then; had had much treatment, including pessaries, depletion and several plastic operations. On examination the cervical secretion was found thick and tarry behind oversmall os (result of plastic operation), some tenderness in right broad ligament. The patient was under observation and minor treatment for about three months, during which time tenderness over right broad ligament was sometimes absent, frequently present. Two slight attacks of acute pain in right lower quadrant occurred, the second, which was sufficient to keep her in bed for two days, terminating abruptly with the escape of a small quantity of fluid from the vagina. There was never any tenderness over the left broad ligament. The character of the secretions was unaltered by treatment. Operation was advised. The right ovary was but little enlarged; contained one cystic corpus luteum and a large number of small follicular cysts. The right tube was deeply congested, thickened, constricted, and apparently impervious at about its middle. The left uterine appendages were normal. The right tube and ovary were removed, tube by wedge-shaped incision in the cornu. The appendix was removed and the abdomen closed. During the next two months minor treatment, which had before failed, resulted in great improvement in the secretions, which six months after operation appeared normal. Owing to the patient's poor general condition following overstrain and anxiety, pregnancy was prohibited for about eight months. The secretions were then again a little cloudy, but promptly improved under minor treatment, and about eight months after this was discontinued pregnancy occurred, and was successfully concluded at term without eclampsia.

I am then inclined to believe that the existence of an absolutely normal uterine secretion practically disproves the existence of salpingitis, but that when an altered uterine secretion fails to clear up in due time after proper cervical drainage has been obtained by either minor or operative treatment, and when the persistence of such a secretion is associated with tenderness on bimanual examination over the region of one or both tubes, the possibility of such a condition must be borne in mind as an element in the management of the case.

The diagnosis of such minor salpingitis may be made extremely probable by repeated examinations of the patient, in which case it will be found that while tenderness over the area of one or both tubes is constantly present, it varies greatly at different times, being usually greatest in the presence of the premenstrual congestion and at such times the tube may even become palpable in cases in which no resistance is ordinarily felt, but such opportunities for extended observation are obtainable in but a small proportion of the cases who come to us for sterility. In the majority of cases we must be content with one examination and with the inferences which can be drawn from the history. The coincidence of persistently abnormal uterine secretions and tubal tenderness always, however, warrants a *presumption* of mild tubal inflammation.

It is only recently that I have come to appreciate the significance of a fact which further observation has abundantly confirmed, that these mild inflammations of the tubes are never found in coexistence with an entire normality of the corresponding ovary. Observation during abdominal sections shows conclusively that, while enlargement of the ovary is frequently present without demonstrable alteration of the tube, the mildest salpingitis is always accompanied by such a degree of alteration of the ovary as is usually palpable on physical examination. Hence coincidence of abnormal uterine secretions which are persistent in spite of treatment, with an enlargement of one or both ovaries, adds to the probability of tubal involvement, but, as has been said, the final establishment of the presence of these mild degrees of salpingitis is usually possible only after abdominal section.

The question, In which cases is it permissible to recommend an abdominal operation as a step in the treatment of sterility? can be discussed only after the relation of ovarian alterations to sterility has been taken up.

So far our discussion of the theories proposed has been concerned with the travels of the spermatozoon only. We must now turn to the equally important subject of the conditions which permit or prevent the release of a normal ovum.

The theorem which I wish to present, that the minor enlargements of the ovaries which have long been neglected as unimportant to the patient in all respects are in reality of great importance in their relations to sterility, is so new to the profession that it must be presented in careful detail. It is perhaps best introduced by a presentation of the marked contrast between the well-known and long-accepted physiologic and anatomic descriptions of a normal human ovary and the accepted, but evidently erroneous, current surgical definition of normality in the same organ.

The physiology of normal ovulation, as everywhere admitted, is in brief as follows: The graafian follicle is formed in the depth of the ovary and not only enlarges but migrates toward the surface as the ovum which it contains matures. The normal ovary has no definite capsule, its surface being formed merely by a somewhat increased amount of the connective-tissue framework of its stroma; this gradually thins under the tension of the projecting follicle and finally gives way before it; the tension which precedes the bursting of a ripe graafian follicle stimulates the tube to clasp the ovum, and the non-motile ovum which is thus received into the tube is then moved along the tube into the uterus (either before or after conjugation) by the action of the ciliated epithelium of the tube. The escape of the ovum into the tube is followed by a small amount of extravasating hemorrhage into the walls of the follicle, and the formation and disappearance of the corpus luteum of menstruation (so-called) may be stated in their simplest terms as consisting of the organization of the extravasated clot and its subsequent absorption. When ovulation is succeeded by pregnancy the resulting corpus luteum is much larger and more persistent, the difference being probably due to the increased blood-supply which attends the occurrence of pregnancy.

Anatomically the normal human ovary is described as an oblong flattened body of soft consistence when palpated between the thumb and finger, and usually of slightly corrugated exterior. It is usually from a quarter to half an inch in thickness, not far from three-quarters of an inch in breadth, and from an inch to an inch and a half in length. Its thickness is in any case much less than its width, and the width is less than the length; it is, then, a soft and flattened oblong body.

On inspection a normal ovary may show one prominent graafian follicle ready to burst, usually of the size of a marrowfat pea, or it may present one recent corpus luteum, which in the absence of pregnancy should not be much larger than the ripe follicle.

On section the normal ovary should show in addition not more than two or three follicles which are approaching maturity. These are smaller than the ripe follicle and lie deeper in the stroma. It may also show two or three retrograding corpora, but the unripe follicle and the retrograding corpus are normally small, soft and, as has been said, limited in number.

All this is accepted anatomic description which may be found in any text-book.

The prevalent surgical conception of a normal ovary is, on the other hand, that it is an organ which is not increasing in size so rapidly as to cause, or threaten to cause, pelvic symptoms of importance to the patient. It thus includes within the limits of normality many ovaries which are not at all in correspondence with the accepted anatomic and physiologic descriptions of the normality of the organ, and which are those which are now to be discussed. These ovaries are tense and rounded instead of flaccid and flattened. Their thickness is often as great as their width and they are usually several times the size of the normal ovary. On palpation between the thumb and finger the presence of numerous tense bodies of varying size is readily perceptible. On section the contrast between the structure of these ovaries and the thoroughly normal ovary is very perceptible. Their capsule, so-called, is uniformly thicker, whiter and tougher than that of the normal ovary; that is, the greater tension is accompanied by an increase of the connective-tissue elements at the surface of the ovary.[11] The increased tension and size is due to the presence within the ovary of many small cysts, some or many of which are usually larger than the normal mature follicle, or of several to many corpora lutea of varying size and physical characteristics. The larger of these corpora are frequently cystic, the smaller are in various stages of retrogression.

Clinically moderately enlarged ovaries are a familiar phenomenon, we all know that they ordinarily change but little in size or consistence even in the course of years of observation, and there can be no question of the correctness of the prevalent surgical opinion that they are not pathologic in the sense that they do not ordinarily give rise to definite new growths or involve any danger to the patient's life. They have, in short, roughly speaking, no mortality (and often little or no morbidity), but from a physiologic point of view they are plainly not in a normal state. Physiologically all the authorities agree, as has been said above, first, that when the follicle is mature and has reached the surface it should shortly rupture and discharge into the tube; second, that there should be but one ripe follicle present at any one time. Similarly the presence of one recent corpus luteum not much larger than a ripe follicle and the remains of at most two or three previous corpora in the process of rapid retrogression is the utmost that is regarded as normal physiologically.

The presence of several to many overlarge and persistent follicles or corpora distending the ovary to two or three or more times its normal size behind an overtough capsule does not constitute a neoplasm, but it is not a normal physiologic state and is *a priori* unlikely to be attended by normal release of the ova.

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[11] Whether this is cause or effect need not be discussed here.

Whether the existence of this condition is or is not *in fact* attended by normal performance of the ovarian functions can be determined only by clinical evidence, and its final and complete determination must of course await the accumulation of a great mass of material at the hands of many different observers. Those clinical observations which I have myself made seem, however, to support the inherent probability that these moderately enlarged ovaries with their many persistent corpora or follicles are physiologically in a perverted state. In pursuit of this subject let us see how far this condition of probably perverted physiology corresponds to the symptomatology found in the same cases. Since the ovary controls menstruation and performs ovulation, some form of dysmenorrhea and complete or relative sterility would be the perversions of the functions which would naturally be expected. On the relation of the minor enlargements of the ovaries to the first of these two symptoms, dysmenorrhea, I feel able to produce fairly conclusive evidence of a statistical nature. This has been recently published in a paper based on the analysis of a series of 110 conservative operations on the ovaries.[12] The analysis of this series of cases was there presented in careful detail and only the conclusions can be introduced here. In seventy-seven of these cases dysmenorrhea was either the main indication for operation or was present in sufficient degree to be a prominent feature in the symptomatology. In seventy-four, that is, in 96 per cent., of these seventy-seven cases, either the patient or her physician has informed me that after periods varying from one to five years the relief obtained from operation was satisfactory to the patient, which is perhaps the best rough test of symptomatic success which is obtainable.

Additional evidence on this point, though of less direct character, has been furnished by study of the records of about 3,500 of my personal cases in which the characteristics of menstruation have been set down in detail in connection with the results of their physical examination.[12]

A similar statistical analysis of the effect of the conservative operative treatment of these ovaries in its relation to sterility from a considerable series of operative cases is much to be desired, but must be relegated to the future, since in this section, as indeed on the whole subject of sterility, though the gradual development of the theories which have been set forth and the consequent adaptation of treatment to each advance have led to an increasing and now very satisfactory degree of success in the treatment of sterility, these very variations and increases of success make the statistical treatment of the material available difficult or impossible. It seems established that many of the earlier failures would to-day be successes, while, on the other hand, since some little time usually elapses between the cessation of treatment and the occurrence of pregnancy,[13] the latest cases are not yet available for statistical analysis. The probable prognoses of the several classes of sterility are best stated separately.

At the start two classes may be disposed of summarily, since the one is hopeless and the other offers but little prospect of pregnancy. In all other classes my experience of late years leads me to believe that the prospect of successful treatment is good.

There is no treatment for the persistently infantile uterus or for degrees of underdevelopment which approach it. In moderately underdeveloped uteri in young women not many years married some hope may be offered that further development may occur under the stimulus of the sexual relations, but there is no treatment which can be recommended.[14]

There is one other condition productive of sterility, and I believe only one, in which the prognosis is so poor that but little encouragement can honestly be given the patient. It will be remembered that in the earlier days of the conservative surgery of the tubes and ovaries a number of pregnancies after the resection of portions of thoroughly diseased tubes were reported. Some of these cases can hardly be doubted, and we must admit that there probably is some chance of pregnancy after such operations, yet my experience in such cases has been so uniformly discouraging that I do not at present feel disposed to encourage such operations for the relief of sterility alone. When, as is frequently the case, such conditions of the tubes are provoking a degree of ill health which might in itself warrant an operation, the side chance of fertility may be considered as increasing the indications for an operation, but if the surgeon is to be thoroughly honest the indication should in my opinion be put in this form.

All other sterilities are usually remediable.

Sterilities due to the congestions caused by unsatisfactory conditions of the sexual relation are uniformly curable if the cause is discovered and corrected, but some little tact and knowledge is often required to elucidate it. Information on these points is seldom volunteered and must be obtained by direct questions. Both to obtain the patient's confidence and to interpret the information obtained, considerable knowledge of the subject is essential. In the class of patients who come to us for sterility the perversions are of course extremely rare, but the psychical and physical peculiarities which are of importance group themselves usually under the same classifications with the perversions, and, distasteful as study of this subject is, some outline knowledge of it is in my experience a necessity to anyone especially concerned with the treatment of sterility.

Sterilities due to alterations in the vaginal secretions only are not very common, but occur with sufficient frequency to constitute a fairly important section of the subject, more especially since they are usually easily remediable, and often within a very short length of time. They occur, as a rule, in women who are free from other symptoms, and are habitually overlooked by the average practitioner. Their treatment is, of course, minor, should be conducted along established lines, and be such as seems appropriate to the individual alteration of the secretion. A prolonged discussion of the details of treatment is rendered impossible by lack of space.

Sterilities due to abnormalities of the cervical secretion usually, though not always, imply the existence of an altered vaginal secretion as well. When the pathologic condition, if such it can be called, is situated in the cervical cavity only, it is usually a mere inspissation in a dilated canal behind a pinhole os. It may exceptionally range from this up to an extensive alteration of the cervical mucous membrane. Its treatment is free drainage with or without curettage and such subsequent topical applications as may be necessary, but success implies an intelligent adaptation of the procedures adopted to the conditions of the individual cervix. Many such cases are overlooked, and many of them are subjected to dilatation, or dilatation and curettage with an unduly small percentage of successes.

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[12] Reynolds, E.: The Ultimate Results of the Conservative Surgery of the Ovaries, Surg., Gynec. and Obst., March, 1912, pp. 255-259.

[13] Of all my successful cases, pregnancy occurred in the first six months after the patient returned to her husband in only about 30 per cent., and within the first year in only 50 per cent., the remainder becoming pregnant in the second year after operation, the variation being apparently due to the varying degrees of the pathologic conditions of the mucous membrane in individual cases and the consequent variation in the length of time which must elapse after treatment before they are able to return to the high degree of normality which is essential to fertility.

[14] An underdeveloped or infantile cervix with a reasonably well-developed body is, however, not an incurable condition. If this condition interferes with proper drainage from the uterus it frequently forms an efficient bar to conception and is then readily susceptible to operative treatment.

Sterilities due to alteration of the cervical, uterine and tubal mucous membranes and those in which the foregoing conditions are complicated by the presence of the altered semicystic conditions of the ovaries, of which I have spoken, are difficult of separate classification. No point has seemed more clear than that the perverted condition of the ovaries is seldom or never seen in the absence of these minor alterations of the whole upper genital tract. It seems probable that the etiologic relation which must then exist is to be found in an alteration of circulation, and consequent derangement in the nutrition of the ovaries, but whatever this relation may be the clinical fact has seemed established.

To judge from the lessons received from past failures, it seems clear that in the treatment of sterility success is not to be expected in any large proportion of the cases unless all the deranged conditions are restored to the normal, and preferably simultaneously. A large number of cases has seemed to establish the fact that a return of the mucous membrane to the normal is attended by only a small percentage of pregnancies, if the enlargement of the ovaries is permitted to persist.

In practice it must not be forgotten that the fertility of the husband should always be ascertained at the outset and certainly before any operative treatment is undertaken.

In our other work the gynecologist's diagnostic efforts must be directed toward determining the presence or absence of gross abnormalities capable of producing symptoms, and of deciding whether those which are found are capable of producing the individual symptoms of which the patient complains. In the investigation of sterility the same rule obtains, but here the balance is very delicate and very minor degrees of abnormality must be investigated and estimated to see whether they are capable of causing the individual symptom of sterility or not.[15] A large proportion of my patients, in whom treatment of the conditions found has been followed by conception, had been previously assured that they were in normal condition. In fact, no point in this subject is of more importance than that many of the conditions which are sufficient to produce sterility are insufficient to produce the other symptoms which we associate with abnormalities of the pelvic organs.

It now seems assured that with careful study of the individual case, with the faculties of observation trained to the detection of these slight perversions from the normal and with careful estimation of the relative importance of each of these deviations in the individual case, most sterilities outside of the two unfavorable classes, those due to infantile uterus and to gross lesions of the tubes, can be treated with a satisfactory degree of success along the lines indicated.

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[15] It is well known that gross abnormalities like large ovarian cystomas of one ovary or fibroids of considerable size may not annul fertility; it is not generally appreciated that minor alterations which produce no pain or ill health may be entirely efficient bars against conception.

INTOXICATION PROCEEDING FROM THE INTESTINE, ESPECIALLY POLYNEURITIS

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There is scarcely another term in medicine so frequently misused as the word "auto-intoxication." This word has an unpleasant sound in scientific literature. The attempt has been made to explain with it many pathologic conditions when other explanations were lacking, or when insufficient investigations needed to be supplemented by a fine-sounding word. If we review the history of the term "auto-intoxication" we must distinguish in it several phases. The word was first applied to those well-known conditions which occur in the final stages of severe diabetes mellitus, and further in uremia and cholemia. In these and similar conditions the word retained its original meaning, and no one doubts that in these cases well-characterized forms of auto-intoxication are involved. Then came the well-known work by Bouchard, who extended the conception in an interesting way and explained almost all pathologic conditions which were not caused by microbes as auto-intoxication. The methods which Bouchard introduced for the support of his views have fallen into discredit. Scarcely a single stone of his structure remains. Indeed, it may be said that the fear of making the same mistake as Bouchard has been a hindrance to the further development of the theory of auto-intoxication. We cannot blame Bouchard, however, for, at the time when he wrote his book on auto-intoxication, chemical and biologic methods were not yet sufficiently developed to guard him against incorrect experiments and conclusions.

Moreover, we must acknowledge that Bouchard, in spite of his defective methods and his controvertible experiments, presented inspiringly correct fundamental views, and that the later period, while it did not confirm his detailed statements, fully justified his fundamental ideas. Soon afterward came a period of standstill, and after the time of the great debate on auto-intoxication at the Leipsic congress for internal medicine in 1892, there followed a long period which was entirely fruitless for the further development of this subject. To be sure, a short time later Albu in Berlin took up the subject again with Bouchard's conception, but even his attempt suffered from the lack of positive knowledge and could not be regarded as a serious advance in the solution of the question.

Then came the time in which the theory of internal secretions was developed; with it the question of auto-intoxication received a new meaning and significance. The theory of the disturbances of the internal secretions of the pancreas, the thyroid, the epithelial bodies, the adrenals, the hypophysis cerebri, the male and female sexual glands, etc., was introduced. The conception of auto-intoxication was displaced, and it became clear that many things which were brought forward as an acquisition had been previously suggested in the ideas of the brilliant Bouchard.

For the present discussion I shall put aside this important and significant side of auto-intoxication, and devote myself simply to the so-called intestinal intoxication; from this field I shall single out only a small portion. My remark at the beginning, that the term "auto-intoxication" had fallen somewhat into discredit, applies to no other part of this large field to a greater extent than to the intestinal forms. The term has been used so recklessly that pathologic conditions were involved which do not at all belong to this conception. With the exception of certain conditions which occur in infants, the term "intestinal auto-intoxication" should be rejected completely, but it should be the more recognized that other intoxications proceeding from the intestine play an important rôle. One may speak intelligently of auto-intoxication only when the poisons are formed by the tissues of the body itself, or, in other words, when the so-called endogenous poisons are concerned. We know practically nothing, however, of poisons which are formed in the wall of the stomach of the intestine. On the other hand, we know that the contents of the intestine are a rich source of poisons. Even among the normal products of digestion which arise under the influence of peptic and tryptic digestion, substances are found which cannot be introduced into the circulation without severe injury to the entire organism, especially to the nervous system. The sum of the poisonous substances is materially increased, besides, by the decomposing action which the bacterial intestinal flora exerts on the ingesta. It might be called a remarkable phenomenon that in spite of the fact that day after day such an abundance of poisonous substances is formed in the immediate neighborhood of an absorbent membrane the health is not impaired. How the detoxication occurs, we do not know. I think that this is one of the most important biologic problems for the future.

At any rate, valuable attempts at the solution of the problem have already been made. I refer to the work of Metchnikoff, who is endeavoring to render harmless a certain bacterial growth of the intestine which is regarded as injurious, by securing in the intestine an abundant development of another bacterial inhabitant, which is harmless. I believe that we all agree that Metchnikoff as a result of his enthusiasm goes much too far in his assumption and in his conclusions. If we should follow his ideas to their final consequences, we should expect to find not only the greatest amount of health, but also the greatest amount of physical and mental activity among the milk-drinkers, potato-eaters and vegetarians. That this is not the fact is evident from the history of mankind. We might say with certain justification that the Anglo-Saxon, Germanic, Slavic and Semitic races have attained the mastery of the world by their physical and intellectual abilities; and on the average they all have been great flesh-eaters; that is, they have preferred such foodstuffs as, without doubt, produce the greatest amount of poisons. The facts to which Metchnikoff refers are only laboratory investigations, and I see no reason why on account of simple laboratory investigations we should forget facts which are presented by the history of the nutrition of nations. We should gratefully admit that man, like the carnivorous lower animals, has secured in the struggle for existence the ability to neutralize poisons which arise in the course of digestion in the intestinal canal. All these are exogenous poisons; that is, they do not arise in the tissues, but as it were outside the door of the tissues; and for this reason we should not speak of auto-intoxication in connection with them. We are not protected against all poisons which arise in that locality. I will mention, in order to indicate what I mean, the cholera toxin. In addition to this worst foe, however, there are many others, and there is no question that also slight deviations from the normal digestive and bacterial decompositions in the digestive canal, as well as pathologic changes in the absorbing surface; may lead to the introduction of poisons into the blood, which set in motion pathologic phenomena in the nervous system or in other organs.

In such cases it may be necessary to withhold from the intestinal canal foodstuffs which in the normal condition produce no pathologic changes; in fact, this is fully justified, and it has been customary since primitive medical practice to treat such conditions by simplification of the diet, the exclusion of meat, the use of milk diet or vegetarian food, etc.

On the whole we are acting on the empiric basis. The attempt has been made here also to substitute scientific investigation for experience; but if we apply a critical standard, we must admit that we are at the very beginning of investigations, and must wait for the future to supply us with everything that has a real scientific foundation.

In this connection I must not omit to state that Combe in Lausanne a long time ago made the attempt to bring these questions into a scientific system; and one who is not conversant with these questions may think, on reading his book, that Combe has gone deeply into the scientific study of the subject. This is not the fact, and I must refer to a conclusion expressed elsewhere that Combe treats all the questions superficially and only from one side. The unfairness not only is shown in the theoretic part of his deductions, but is also reflected in the therapeutic conclusions and applications. We find repeatedly in his writings and prescriptions the preference for simple farinaceous foods. They predominate in the diet for the entire day. Even when one admits that this is the best diet for certain cases of intestinal disturbances, it is without doubt incorrect to extend it so far as Combe does. A critic has coined the word "Combism," meaning thereby that in the views presented by Combe and the therapy practiced by him it is not the individual condition of the patient which prescribes the therapeutic procedure, but that the method governs the situation, and in this system are included pathologic conditions of the most various kind. Uniformity of conception and treatment governs just as in a military drill. My objection to the method of Combe, from the point of view of practical therapy, pertains to another very important point of view. Combe's therapy reduces the patient to an extremely light diet, that is, to a diet which is appropriate and customary in infancy — a so-called "protective diet." If this method is adopted, it is frequently observed that the patients progress well as long as they remain on this diet, which makes only slight claims on the functional capacity of the intestine, but that as soon as the patient returns to a mixed diet, complications are again noticed. With the exception of severe diseases of the intestinal canal, it is, in my opinion, undoubtedly the better way to strive to increase the power of resistance of the intestine and to accustom the patient to the manifold requirements of every-day life and to the natural variations of the daily diet. This is "exercise cure" in opposition to "protective therapy." According to my own experience, one reaches through the inuring, practical therapy much better and, particularly, more lasting results than with the protective therapy, which shows only at the beginning of the treatment a temporary justification, and which should be continued for a longer time only in especially severe cases. This also applies to cases of simple intestinal catarrh, nervous diarrhea, chronic constipation, and above all to the frequent cases of so-called mucomembranous enteritis. The course of the last-mentioned cases is prolonged to many years if treated with the protective therapy. Recurrences are common. On the other hand, they may be done away with completely if treated with the exercise or inuring therapy.

After these digressions, let me refer to a special form of intestinal intoxication which I have specially studied in the course of recent years.

Patients sometimes complain of a certain irregularity of digestion. In most cases they suffer from constipation, which they try to cure by using different purgatives. Sometimes, however, the evacuation occurs daily, and the patients, if they are asked, deny most distinctly that they suffer from constipation; but if the abdomen is examined after the evacuation, one will find that the intestine is not empty. In the sigmoid flexure, far up, hard fecal masses are still to be found. Only the lowest part of the intestinal canal has been emptied. Further up the masses are held firmly. Delicate people have as a result of this certain symptoms, particularly a continuous feeling of fulness; each ingestion of food increases the trouble, and then, as a rule, the general nutrition also suffers, because the patients do not eat enough. They become emaciated. The patients themselves refer the discomforts to the stomach rather than to the intestine, and by medical examinations this is often apparently confirmed; as quite often one finds a delay in emptying the stomach, and especially remarkable degrees of hyperacidity. Ten years ago I referred to the fact that hyperacidity of the stomach is often not an independent affection and can surely be cured when the constipation is removed by the regulation of the diet, while treatment with purgatives does not give the same good results.

A further examination of the abdomen shows nearly regularly that on the left side of the abdomen there is a certain point very sensitive to pressure. I call it the S point, because it indicates a condition of irritation of the sigmoid. Its position on the left corresponds to McBurney's point on the right, which has reached great significance in the diagnosis of appendicitis.

It is not always constipation, however. Diarrheas sometimes occur which are caused by the mechanic and chemical stimulation of the sigmoid flexure, which is filled with feces. Production of mucus and spontaneous pains may occur and then we have a clinical picture of colica mucosa or so-called enteritis mucomembranacea. The irritation of the flexure is, however, in reality of no importance. If the mucous membrane is examined with a sigmoidoscope, there are found here and there a slight hyperemia and somewhat tough mucus clinging to the mucous membrane. On the other hand, swelling of the mucous membrane, as well as ulceration, is absent. Only in very chronic and severe cases one finds these latent lesions. The *x*-ray examination shows in agreement with the findings of palpation that the sigmoid flexure holds masses unusually long and very tightly. There exists a spasm of the intestinal wall, which hinders the descent of the fecal masses.

While in many individuals the symptoms are restricted to the above-described anomalies of digestion and cause only local complaints, sometimes greater, sometimes less, there develops in many other persons a peculiar clinical picture. Pains occur in the most various regions of the body. Sometimes they affect the occipital nerves, or appear in the area of the trigeminus, sometimes in the arms, in the back or in the area of the sciatic or the crural nerve. The pains may repeatedly change their location, that is, they appear in the form of the so-called *dolores vagi* (wandering pains). I found pains specially frequent which corresponded to the ordinary sciatic or intercostal neuralgia. If the so-called pressure-points of the nerves are examined, there is often a marked tenderness of such points, even in cases in which the spontaneous pains are insignificant and scarcely noticed. The pressure-point of the radial nerve in the upper arm is very tender at a specially early date. While the pains are limited in many patients more to the muscular regions, in others they affect to a greater extent the joints. There is no swelling or redness of the joint, but on movement pains occur, especially in the morning hours, which disappear in the course of the day. We have to do with a mild neuritis, which may be called an elective neuritis to the extent that it affects only the sensory fibers. Careful testing shows often also an alteration of the tactile sense, especially frequent in the area of the nervus cutaneus externus (meroparesthesia).

Anomalies of the activity of the heart are often associated — either a simple slowing of the pulse, or slight irregularities which cause the physician and the patient anxiety. In other respects, the heart is entirely healthy. The irregularities (consisting in ordinary extrasystoles) occur as a rule when the patient is completely at rest or is exhausted. As soon as he experiences physical or psychic excitement, the irregularities disappear. Consequently at such times there is often temporary acceleration of the heart. Quite often there is noted a sudden change in the fulness of the capillaries in the skin, a marked variation in the sense of cold and heat, and a by no means infrequent tendency to dermography, which in some cases develops into urticaria factitia or apparently spontaneous urticaria.

These circulatory disturbances are on the whole unimportant; torpid individuals scarcely notice them, but in cases in which the patients are of irritable, neurasthenic disposition, the symptoms naturally play a large rôle in the patients' list of complaints.

More careful examinations lead to the discovery of several other anomalies. Particularly, as a rule, the daily amount of urine is markedly diminished, even when the patients drink water freely. In consequence, there is a tendency to the formation of sediment in the urine which leads both the physician and the patient only too frequently to think of uric acid diathesis. In fact, the uric acid is not increased. There is simply a lack of water necessary to retain it in solution as in ordinary cases. The diminished secretion of urine is the result of an unusually marked insensible perspiration. Attacks of sweating may indeed occur; as a rule, however, they are absent, and only the imperceptible evaporation of the skin is increased.

When we sum up the symptoms I have described, we see that we have to do, on the one hand, with a diffuse sensory polyneuritis of a mild grade, and, on the other, with a pronounced condition of irritation in the vagus area. To this belong retardation of the pulse, extrasystoles, the abnormal tonicity of the sigmoid flexure, hyperacidity, dermography and increased insensible perspiration. There is developed a pathologic picture which in many parts corresponds to that which my assistant, Dr. H. Eppinger, some time ago described as vagotony. Naturally, all elements of the pathologic picture are not present in all cases. One who knows the picture as a whole, however, will be able also to recognize it even if some elements are lacking.

Now what has this to do with intestinal intoxication? What evidence have we that the changes in the peripheral nerves and in the autonomous nerve system are in relation to the absorption of poisons from the intestinal canal? First it should be noted that in the majority of these cases a quite unusual excretion of indican is found. While in normal cases by means of the colorometric method of Bouma we find about 20 mg. of indigo in the daily urine, this amount is increased in our cases often to 50, 80 or even to 100 mg. This shows an abnormal degree of bacterial decomposition of albumin in the intestine and a relatively large absorption of the products of putrefaction. It is notable that the amount of ethereal sulphuric acid is, as a rule, not so markedly increased as would correspond to the amount of indican. This results from the fact that a part of the indol combines with glycuronic acid and therefore we often find a certain reducing power in the urine, similar to that in mild glycosuria. It is, however, not sugar but glycuronic acid that produces this phenomenon.

While the high content of indican in the urine is alone sufficient, our assumption of the production of poisons in the intestine is still further confirmed by the fact that my assistant, Dr. H. Eppinger, in some such cases has been able to extract a poisonous substance from feces, which in animal experiments produced quite similar symptoms. It acts as a powerful stimulant to the vagus. A little of it placed on the human skin leads to marked local urticaria, which lasts from ten to fifteen minutes. It seems, indeed, that we have succeeded in isolating a specific bacterium that produces these poisons; it belongs to the paratyphus group, but is not identical with the hitherto known forms. The production of poisons is quite different, according to the medium on which the microorganism is cultivated. This indicates some important therapeutic points, but all these bacterial and chemical investigations are so difficult and consume so much time that we are not yet in the position to communicate exact details.

I must mention here one more symptom that frequently accompanies the described clinical picture, and often is predominant; that is, increases of temperature. Only exceptionally such rises of temperature can really be designated as fever, but the temperature often rises to the maximum of its physiologic height, that is, from 37.5 to 37.7 C. (99.5 to 99.86 F.), and the degree of variability between the minimum and maximum daily temperature is abnormally high. We find this abnormal behavior particularly in such cases as occur in children and young persons, and it is evident that these temperature anomalies often are the object of serious anxiety, inasmuch as latent tuberculosis process is suspected. The temperature anomalies, however, disappear completely as soon as the intestine is regulated.

It is evident that these conditions must be known if one is not to make serious errors in diagnosis. In almost all cases which I have seen personally, the original diagnosis was a simple neurasthenia, or, on account of the pains a chronic rheumatic affection; or the presence of sediment in the urine had led to a diagnosis of "uric acid" or genuine gout (arthritis urica); or a suspicion of latent tuberculosis was aroused and maintained. Mostly, however, there was a confusion with rheumatic myalgia, neuralgia, arthritis and the uric acid diathesis. The treatment corresponded to this diagnosis, and the most various methods with baths, massage, electricity, sun-baths, antirheumatic and antigouty remedies were employed. As a rule, such cures all lead to a certain success, as they reduce the irritability of the nervous system; but the success is only temporary and relapses are the rule. Actual health is obtained only when the intestine is again regulated.

You will now desire that I present some special methods of treatment by which this is to be accomplished; but it is not possible to give any universally applicable direction. Each case must be studied for itself. There are cases in which one reaches the goal most quickly with a pure milk diet or with modifications of milk, such as sour milk, yoghurt, kefir, etc. In other cases milk is the most unsuitable diet. Farinaceous food or a mixed vegetable diet then probably gives better results. In some cases it was found to be a decided benefit to have the patient take nothing for some days but solution of sugar. There are cases, again, in which an animal diet deserves the preference. In every case our aim must be to give one-sided diet only for a short time, and later to accustom the intestine to a mixed diet. One cannot speak of a definite cure until the intestine works regularly on the ordinary diet which the average man partakes, and until the entire lower section of the intestine is completely emptied at stool. In accomplishing this purpose, I use practically no laxatives or other drugs, but have the impression that the best results are obtained in a purely dietetic way. Purgatives, including enemas, only hide the pathologic condition of the intestine. Instead of helping they retard the definite cure. They are justified and advantageous only in acute diseases.

The dietetic treatment may be prolonged to several weeks. As a rule, however, two or three weeks are sufficient to establish with certainty the correct way of dietetic treatment. Of course, it always requires a longer period until all secondary symptoms disappear. Increases of temperature, if present, disappear first. Several weeks or months may pass before the changes in the nervous system fully disappear, and sometimes other measures, such as baths, etc., must be adopted so as to hasten the process of cure. This is exactly the same as in other chronic intoxications. I refer, for instance, to chronic nicotin poisoning. When a patient who has smoked considerably gives up the use of tobacco, several months are required before the last pathologic symptoms disappear, and sometimes the changes caused by nicotin are so marked that the symptoms cannot generally be corrected.

I mention here the nicotin intoxication because, to a certain extent, there is a similarity between the clinical picture of nicotin poisoning and the pathologic picture described. I refer especially to the neuralgias.

I will not enter into the further therapeutic detail, as I do not wish to establish schematic rules for the treatment of these conditions. Perhaps this will be possible at some future time. In the meantime it is of more importance to me to show that there are well-defined clinical pictures which must be actually referred to intestinal intoxications. I might present several other clinical pictures which differ from those here described. We are busily occupied at my clinic in establishing these. Here, however, I have limited myself to toxic polyneuritis of enteric origin, because in this we have advanced the farthest both as regards its clinical symptomatology and its treatment.

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Old-Fashioned Morality and Health.—A clean mind in a clean body: the ideal is as old as the Stoics. But it is as modern as it is ancient, and to-day it is the essence of sanitation, of social morality, of eugenics. He who follows the prosaic directions of common old-fashioned morality is already far advanced in the science of health.—*Public Health Jour.*

THE MORON AND THE STUDY OF ALIEN DEFECTIVES

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In no branch of the science of medicine does a lay diagnosis have weight in a court of law as it does in mental aberration. In most types of active insanity there are manifest and obvious symptoms which brand the possessor as "crazy" in the eyes of the laity. For instance, the testimony of a lay person has been admitted to substantiate the sanity of a person making a will on his death-bed. In many cases of the systematized delusions (paranoia) without deterioration, the interval manic-depressive and certain alcoholic hallucinosis cases of a mild type there may be external evidence of insanity to the layman, but in some cases this is lacking.

There is one great class of defectives of tremendous importance from a eugenic, social and economic point of view that is not ordinarily recognized by laymen as defectives. This class comprises the morons and constitutional inferior types. These terms are not at all synonymous but stand for classes which partake of some of the characteristics of each other. The two have in common latent or undeveloped moral tone, limited ability for coordinated and consecutive mental effort, erratic judgment and inability to compete unaided in the struggle for existence.

The differentiation is best made by the system devised by the French psychologist, Dr. Binet, or by a modification to suit the class of cases in question. It would be manifestly absurd to use educational tests in the case of uneducated persons. The moron adult at puberty will be found to be several years younger mentally than he is physically; his brain will organize at this point, and he never can become any older mentally. "A man is as old as his arteries" and as young as his brain. The constitutional inferior, however, may respond to the mental tests for normal persons of his physical years. The moron can contribute nothing to society, but he needs protection for himself and most of his offspring owing to his inability to get on in the world.

While an officer in the medical corps of the Army, I observed and examined men who were perfect specimens physically but who mentally were but children, glad of the protection offered by the well-ordered life and excellent care of the Service. They had tried various work in civil life but could not succeed and were referred to by their co-workers and employers as "dumb," "wooden" or "thick." These men of course are not wanted by the Army or any other organization in which men are sometimes called on to think for themselves or to act on their own initiative. Such men belong in the moron groups.

In certain rural communities several miles from a railway a majority of the inhabitants are mentally deficient and one or two perhaps are in the "town fool" class. This is usually due to near or remote consanguinity. The people in these communities probably never heard of Mendel or his theory, but the conscientious doctor and minister in such places should know it and profit by it; they should know that normal parents with normal ancestry can bring forth only normal children who are incapable of transmitting a neuropathic constitution to their offspring. They should also know and realize that if both parents are neuropathic all their children will be neuropathic also.

A drop of ink in a barrel of water does not make ink, but the greater the number of drops of ink in that barrel of water the more inky it becomes. Likewise every defective, both mental and physical, that enters this country or is born in it is another drop of ink and may become a parent who will fulfill one of the many theoretical expectations of Mendel and will surely produce defective progeny.

This progeny, if not actually insane, has a constitutional psychopathic predisposition — in other words, potential insanity — and is waiting only for adversity, change of environment, alcohol, syphilis or some other contributing cause to become actually insane and a public charge.

The detection of higher defectives is a science that could well demand the attention of teachers and jurors, for it is in the school-house and the court-house that most young lives are saved or lost. There are hundreds of minors in reformatories that should be in training-schools for the feeble-minded, and if delinquents and prostitutes were regarded as mental defectives in the eyes of the law and appropriate means taken to inhibit procreation, the social problem would be practically settled, at least for our great-grandchildren.

There are perhaps more unclassified entities in psychiatry than in any other branch of medicine. It is easiest to detect insanity in the type of people with whom one has most often been associated; but when one reaches out to examine a subject with whom one has not a thing in common it is a different proposition that can be met only by studying many normal subjects of the same kind and by being possessed of a keen natural ability for psycho-analysis apart from the acquired ability to detect mental disease.

I refer especially to the alien insane as observed in hospitals in this country. Experience with the various races convinces an observer that each alien has a more or less distinct set of psychosic attributes due to his environment, natural attributes and degree of inherent intelligence. In working with these cases one must never lose sight of the fact that each expression of thought that comes out of the mind must at some previous time have gone into it, and for this reason it is foolish and useless to ask a man to tell time who has never seen or heard of a time-piece.

At this point, however, the normal person, no matter how ignorant he may be or to what race he may belong, can be separated from the moron or higher defective in that the normal person has a practically unlimited capacity for absorbing knowledge properly prepared for him, while the moron can learn only to a certain limited point which must suffice.

As a student must be thoroughly acquainted with normal histology before he can take up the study of pathology, so must he know thoroughly a normal Italian, Greek or Pole before he can study or hope to recognize a mentally defective one. This is especially true in regard to psychoses in their incipiency and to conditions of feeble-mindedness.

Paresis in an educated American business man is hardly the same, in the early stages at least, as the same disease in an alien from Southern Europe.

To the uninitiated using routine tests for defectives nearly all the peasants from certain European countries appear to be of the moron type; but of course this is a fallacy. If these peasants are questioned about conditions existing in the land from which they come most of them will show average intelligence.

In making tests on these people the following conditions should be fulfilled:

1. The interpreter should have a pleasant and kindly manner; he must be accurate in his statements and convey the exact thought and intent of the alien and he must be unbiased, impartial and above all else intelligent. The interpreter, like the examiner, should have special training.
2. A quiet, well-ventilated room should be used for the examination.
3. The condition of the alien should be taken into consideration; for instance, after ten days of sea-sickness, fatigue and excitement he could not be expected to do himself justice. Rest, food and reassurance are to be prescribed here in generous quantities.

The alien in most cases should be given the benefit of the doubt if there is any, but it must be remembered that the alien will usually deny hereditary taint and in every way minimize his symptoms to suit his purpose, just as some soldiers will magnify theirs on a hot day with a long march in prospect.

With special reference to the examination of immigrants it may be said that the detection of morons or higher defectives is of vastly more importance than the detection of the insane, for the reason that the insane or potentially insane will soon be recognized after landing and placed in an asylum or deported so that in either event they cannot propagate and affect the race adversely. On the other hand, the moron will not be recognized and will immediately start a line of defectives whose progeny, like the brook, will go on forever, branching off here in an imbecile and there in an epileptic, costing the country millions of dollars in court fees and incarceration expenses.

THE DETECTION OF THE MENTALLY DEFECTIVE AMONG IMMIGRANTS

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It will be the purpose of this paper to discuss, not the detection of the insane, but the detection of the idiot, the imbecile and the feeble-minded seeking admission to this country.

In this day of large immigration there is scarcely a ship coming into the port of New York which does not carry among its passengers a mental defective of some degree. One of the duties of the medical officer detailed for line inspection in immigration work is to detect such cases and detain them for further mental diagnosis. One can readily see the difficulties presented by the admixture of races coming on each ship and the want of time for conducting such examinations. Aliens of the cabin class are examined on shipboard on the way from quarantine to the docks. The examination is especially difficult, owing to the lack of accommodations, of light, of space, to the excessive noise from the machinery and to the general confusion at the docks, all of which detract from the efficiency of the examination.

The present-day immigration gravely concerns the nation as a whole, and the importance of the detection of the mentally defective is apparent when we stop to reflect on the following data. Figures presented by Dr. T. W. Salmon,[1] of the New York State Board of Alienists, show that the State of New York receives 26 per cent. of all immigrants coming into the United States and is the destination of more than 80 per cent. of the immigrants found on arrival to be insane or mentally defective. Under the headings of idiots, imbeciles and feeble-minded, the New York Society for the Prevention of Cruelty to Children has investigated these conditions among children of the school age and reports[2] that there are 7,000 distinctly feeble-minded children in New York or 1 per cent. of the school population. This is in addition to the idiots and imbeciles and does not include the morally defective or the border-line cases. Census statistics show that 30 per cent. of the feeble-minded children in the general population of the United States are the progeny of aliens or naturalized citizens. The financial outlay for caring for this class of people is enormous. Dr. Anna Moore[3] states that to support a feeble-minded person in one of the state institutions costs the state, on the average, $161.20 a year. The financial side of the question is interesting, but more important is the influence of mental defectiveness on the future race of the country. It is an undisputed fact that the feeble-minded are as a class highly prolific. The report of the British Royal Commission for 1908 on the care and control of the feeble-minded showed the birth-rate and the death-rate to be abnormally high; these defectives tend to have many children of whom a great many survive in spite of the high death-rate. The suggestions of Dr. Moore on the control of procreation among the feeble-minded, such as a proper segregation law and an efficient marriage law, to reduce the percentage of the mentally defective, are ideal for the present existing conditions, but more effective will be the removal of one of the principal causes, by reducing to a minimum the entrance into this country of the mentally and morally low type of alien. Immigration largely contributes to the high percentage of this class in the United States.

"Under the name phrenasthenia are comprised all forms of defective evolution of the mind. They constitute a very numerous family which differ widely from one another, from the state of almost absolute amentia to the numerous and multiple interlockings of weaklings who live mingled with the weaker normal individuals, but in all cases differ from those who in each country give the mean standard of mentality of the race concerned."[4] On primary inspection we do not concern ourselves with the degree of defectiveness mentally but endeavor to determine the certainty of a defect, still we cannot free ourselves from the traditional nomenclature of idiots, imbeciles and feeble-minded, although it is not best to regard these as designating well-distinguished groups, as they are all simply degrees of defective mental evolution.

The idiot is a type which is usually easily recognized. The physician with the ordinary medical training or the layman will detect one when seen. Perhaps this state may not be recognized quickly in the very young but on close inspection the usual stigmata of degeneration present themselves, the most important of which are such anomalies as the low receding forehead and flat occiput with marked asymmetry. The size of the face is disproportionate to that of the cranium, either too large or too small, with deviated or flat nose and excessively deep orbits, the latter due to the protrusion of the superciliary ridges. The ears are deformed, enlarged,

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1. Salmon, T. W.: Insanity and the Immigration Law, New York State Hosp. Bull., November, 1911.

2. Special Report to the Board of Directors, New York Society for Prevent. of Cruelty to Children, Feb. 13, 1912.

3. Moore, Anna: Report Prepared for the Public Education Assn. of New York, June, 1911.

4. Bianchi: Text-Book on Psychiatry, page 429, edit. 1906.

twisted or rudimentary. In the mouth there is bad setting of teeth, very irregular or protruding, also marked arching of the palate. The skin may be of the Mongolian coloration or albinism may be present. In the limbs there is asymmetry of length with possibly polydactylism. In studying the physical characteristics of mental defectives, the various ethnologic types are easily discerned: the dark skin, the curly hair and thick lips of the Ethiopian, the prominent and high cheekbones and deep orbits of the American Indian and the straight coarse hair and peculiar cast of countenance of the Mongolian. When examining the alien we come to know the idiot by signs which are wanting in the normal. The child is often extremely apathetic or on the contrary may be unduly excited, the eyes staring and vacant or else rolling aimlessly, "seeing without looking."[5] Salivation is common, due to the hyperemic condition of the salivary glands. Objects are not noticed nor can the attention be attracted with any amount of persuasion. The hearing and sight are as a rule imperfect. Among the cranial abnormalities are seen the microcephalic and the hydrocephalic. True microcephals are either mutes or semi-mutes with limited vocabulary and with a harsh brute-like voice. The hydrocephalic in the pronounced form is easily detectable, the skull large and distended and of peculiar shape, the eyes prominent and usually cast down, there being in some cases nystagmus present. The body is as a rule puny and small, with a peculiar top-heavy gait in those who are able to walk. There is practically no difficulty in diagnosticating cretinism if a typical case is presented. This condition is a phase of idiocy either endemic, especially in certain parts of Europe, or sporadic, the mentality of which varies, but cretins are rarely brighter than the low-grade imbeciles. The head, hands and feet seem unduly large in proportion to the size of the trunk and limbs. The expression is stupid, the eyes dull, the speech defective, the tongue swollen and protruding, while the limbs are short and bent and the skin is thick, sallow and greasy. The imbecile is a step further up the scale from the idiot, ranging from the low-grade imbecile nearest the idiot through degrees to the high-grade imbecile in whom there is some power for receptive education. The stigmata of degeneration in these cases are generally well marked, the articulate speech being defective and the vocabulary limited. The hardest problem with which we have to deal is that class of feeble-minded commonly known as the "school dunce," with feeble attentive powers, unable to give his attention to abstract matters from which to build up the concrete and being easily confused even with the simplest questions. It is impossible for him to study independently or to advance beyond the merest primary work. This is the type of alien wherein lies the difficulty of detection on primary inspection, it being a great problem to pass on the mental status of a child near normal in appearance but nevertheless on close examination found to be feeble-minded. Friedman[6] says:

> The difficulty lies in making a distinction between the feeble-minded, who have just overstepped the line to the side of the defective, and the backward, who are still on the normal side of the line. The dividing line between the two is very fine. On the one side the mental development is limited, while on the other side, in the case of the backward, the mentality is retarded but with the proper education comes within a few years up to the average or normal.

Very often the backward child, stolid and stupid or of nervous temperament, always wandering, never being able to occupy its attention at one thing for any length of time, often appears more abnormal than do many imbeciles of high grade. So close is the line sometimes that great caution and great length of time must be employed in making a diagnosis.

The duties of the medical officer detailed for the medical inspection of immigrants make of him an expert in the system of diagnosis by inspection, in that he must decide quickly the advisability of holding a case for further physical diagnosis or mental observation. An officer with experience, becoming familiar with the different races, studying closely their characteristics, knowing something of their language, can tell at a glance the abnormal from the normal as they pass him on the line, on being presented for examination. Anything in the configuration of the individual that constitutes a deviation from the mean type of the race is especially significant to the examiner. As the person approaches, the gait, stature and expression are quickly noted so that by the time he is ready to engage in conversation with the alien, the medical inspector's general impressions have been made and so within a few seconds he is able to determine the course to pursue in either passing or detaining. The abnormal physical conditions which may be detected by simple inspection are numerous and are thoroughly discussed by Wilson,[7] in his paper on "Diagnosis by Inspection."

The close application to the study of the race is more important in the determination of the mental status of the alien than in the diagnosis of physical abnormalities. We should interpret the mental reaction of the alien only after having full knowledge of the different racial characteristics, for that which is a defect in an individual of a race of high mental attainment may be a normal condition in the existence of other people who have not attained the same grade of development. It is perfectly normal for the southern Italian to show emotion on the slightest provocation but should he show the stolidity and indifference of the Pole or Russian, we would look on him with suspicion and perhaps hold him for a detailed examination. The English and German immigrants answer questions promptly and to the point, but should they become evasive as do the Hebrews, we would be inclined to question their sanity.

The duty of the alienist or specialist in mental diseases is to diagnose defectives accurately according to degrees and to classify the different forms of insanity. The alienist, expert in his refined diagnosing, without the proper training and long experience in immigration duties, would be absolutely useless in the detection of the feeble-minded on primary inspection, because his vision is too finely focused on the refinements of diagnosis to give sufficient perspective in eliminating in a general way the defectives from the normal and also because of his lack of knowledge of the racial characteristics as previously stated. As on primary inspection we do not concern ourselves with the degrees of defectiveness, but simply endeavor to determine definitely the abnormal from the normal, the officers who have had actual experience in routine examinations are of the highest efficiency and ability, and such men will work out the problem of combating the present-day influx of all forms of degenerates from the different parts of Europe, the results of which will bring the future stock of this country up to a very high standard.

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[5] Barr: Mental Defectives, Ed. 1904, p. 124.

[6] Friedman: Diagnosis of Mental Conditions, Med Rec., Nov. 2, 1912.

[7] Wilson: Diagnosis by Inspection, New York Med. Jour., July 8, 1911.

DEMONSTRATION OF SPIROCHAETA PALLIDA IN THE CEREBROSPINAL FLUID

FROM A PATIENT WITH NERVOUS RELAPSE FOLLOWING THE USE OF SALVARSAN

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The presence of *Spirochaeta pallida* in human tissues and body fluids has been demonstrated either by animal inoculation or by direct examination of stained smears and of fresh preparations, especially with the aid of the dark-ground illumination. In the case of the cerebrospinal fluid, only one successful inoculation is on record. Hoffman,[1] in 1906, reported the inoculation of a monkey's eyebrow with spinal fluid from a patient with papular syphilis and the appearance of a small but distinct lesion in thirty-two days. A number of failures have been reported with the use of monkeys, one by Hoffman, two by Neisser[2] and seven by Thibierge and Ravaut and LeSourd.[3] The last-named authors used the centrifugate of spinal fluid from patients with secondary syphilis, cerebrospinal syphilis and hereditary syphilis, but never succeeded in producing a lesion.

By direct examination, spirochetes have been found in the spinal fluid in five cases, in two of which the examination was made post mortem. Dohi and Tanaka,[4] in 1905, using Giemsa's stain, found the organism in the fluid in a case of papular syphilis. Babes and Panea,[5] in 1905, by Giemsa's stain, found one spirochete after long search in the fluid of a child which died shortly after birth. Gaucher and Merle,[6] in 1910, with the dark-field microscope, in a case of syphilis of the nervous system examined post mortem, found spirochetes in the spinal and ventricular fluids. Rach,[7] in 1910, found spirochetes in abundance by the dark-field microscope, in the turbid fluid of a 4-months-old infant with hereditary syphilis. Sézary and Paillard,[8] in 1910, in a centrifuged specimen from a hemiplegic with skin symptoms, found one spirochete after fifteen minutes' search with the dark-field microscope. Many failures to find the organisms are recorded. Dohi and Tanaka failed in two other cases of papular syphilis and in two cases of gumma and one of tabes. Thibierge, Ravaut and LeSourd examined a great many cases without success. Rach and Siebert[9] report several failures and Rosenberger[10] and Gordon[11] report a total of twenty-two negative results.

Summarizing these findings we see that *Spirochaeta pallida* has been demonstrated in the spinal fluid during life in four cases: twice in papular syphilis, once in hereditary syphilis and once in syphilis of the nervous system with skin symptoms. The organism has been found more frequently, of course, in the meninges post mortem, and its presence in the fluid, in most cases, must be due to a syphilitic meningitis. The positive findings in secondary syphilis are of special significance because they indicate an early involvement of the nervous system. Indeed, it is now recognized, especially as a result of serologic and cytologic examinations of the spinal fluid, that in a considerable number of secondary cases the nervous system is infected even in the absence of any definite nervous symptoms. This fact has a direct bearing on the subject of nervous relapse and will be referred to later.

In this communication we desire to record the successful inoculation of the rabbit with *Spirochaeta pallida* from the cerebrospinal fluid. As far as we are able to determine, this is the second successful inoculation to be recorded and the first one in which the rabbit has been used. The feature of special interest, however, is the fact that the fluid came from a patient suffering with nervous relapse following the use of salvarsan and that the final proof of the syphilitic nature of this condition has now been given.

SUMMARY OF CASE HISTORY

J. H. M., aged 25 years, an electrician in the U. S. Navy, contracted syphilis in September, 1911. During the primary stage of syphilis there appeared a suppurating inguinal gland which was drained. November 2 the Wassermann reaction (U. S. Navy Medical School) was negative. November 20 there was noted a well-developed eruption over the body associated with myalgic and arthritic pains. November 25, 0.6 gm. of salvarsan was given intravenously followed by marked improvement in the patient's condition. December 16 he was given another intravenous injection of 0.6 gm. salvarsan and on the 24th was returned to duty. In May, 1912, symptoms of mental disorder developed and he was transferred to the Naval Hospital, New York City, where the following symptoms were noted: He responded to questions slowly, attention at times being difficult to obtain, speech incoherent and irrelevant, memory poor for both remote and recent events, paresis of the muscles of the right leg, deep reflexes exaggerated, marked ankle-clonus on the right side, and the Babinski reflex present on both sides. Gait was somewhat ataxic. The Wassermann reaction, June 6, 1912, was strongly positive. June 8 the patient was transferred to the Government Hospital for the Insane.

Physical examination on admission to this hospital showed that the tongue deviated to the right on protrusion. Slight paresis of the facial muscles of the right side of the mouth, pupillary reaction normal, paresis of the muscles of the right leg, exaggeration of the right patella and Achilles tendon reflexes, Babinski sign and ankle-clonus on the right side were present. There was no speech disturbance. Handwriting showed marked tremor. Mental examination on admission showed the patient to be disoriented for time, place and person. There was impairment of memory for both recent and remote events. Emotionally he was happy and apparently had no insight into his condition. No hallucinations or delusions could be elicited. June 13 Wassermann reaction with blood-serum was complete positive. June 23 examination of the cerebrospinal fluid showed 510 cells per cubic millimeter, protein content markedly increased. Wassermann reaction negative. June 30, examination of the cerebrospinal fluid showed 840 cells per cubic millimeter, protein content markedly increased, Wassermann reaction negative. A portion of this specimen was used for animal inoculation. July 2, examination of the spinal fluid showed 828 cells per cubic millimeter, protein content markedly increased, Wassermann reaction negative. On this date the patient was given an intravenous injection of 0.9 gm. neosalvarsan. July 9, Wassermann reaction with the blood-serum was negative. By this time the patient showed noticeable improvement in his mental condition, having become oriented and having gained some insight into his condition. On July 11 there was first noted a speech disturbance which progressed in less than a week to a distinct motor aphasia not associated with any marked change in the patient's mental condition. Ophthalmologic examination on this date showed the presence of a mild retinitis on both sides. Hearing was normal. July 15, examination of the cerebrospinal fluid showed 151 cells per cubic millimeter, protein content increased. Wassermann reaction negative. On this date another 0.9 gm. neosalvarsan was given intramuscularly. On July 22, examination of the spinal fluid showed 102 cells per cubic millimeter, protein content increased. Wassermann reaction negative. The Wassermann reaction with the blood-serum was also negative. A luetin test made July 28 resulted in a positive reaction. July 30, examination of the spinal fluid showed 51 cells per cubic millimeter, protein content increased. Wassermann reaction negative. Another 0.9 gm. neosalvarsan was administered intramuscularly and the patient was given iodid by mouth and mercurial inunctions. August 8, Wassermann reaction with blood-serum negative. August 13, examination of the spinal fluid showed 41 cells per cubic millimeter, protein content increased, Wassermann reaction negative. September 7, examination of the cerebrospinal fluid showed 18 cells per cubic millimeter, protein content slightly increased—still sufficient to give a positive Noguchi butyric acid reaction. Wassermann reaction negative. The patient now showed noticeable improvement in the aphasic condition. The right patellar reflex was still decidedly increased, and there was a very faint Babinski sign on the right side, but no ankle-clonus. There was no noticeable impairment of gait. The tongue deviated to the right on protrusion and there was still well-marked although less pronounced tremor shown in the handwriting. September 28, the cell-count of the spinal fluid was 12.5 per cubic millimeter, Noguchi reaction faintly positive. Improvement in all the symptoms has been continuous.

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[1] Hoffman: Dermat. Ztschr., 1906, xiii, 561.

[2] Neisser: Pathologie und Therapie der Syphilis, 1911, p. 79.

[3] Thibierge, Ravaut and LeSourd: Bull. et mém. Soc. méd. d. hôp. de Paris, 1906, p. 383. Thibierge and Ravaut: Ann. de dermat. et de syph., 1905, p. 575.

[4] Dohi and Tanaka: Jap. Ztschr. f. Dermat. u. Urol., 1905, v, 12.

[5] Babes and Panea: Berl. klin. Wchnschr., 1905, xlii, 865.

[6] Gaucher and Merle: Ann. des mal. ven., 1910, v, 426.

[7] Rach. E.: Jahrb. f. Kinderh., lxxv, No. 2.

[8] Sézary and Paillard: Compt. rend. Soc. de biol., 1910, lxviii, 295.

[9] Siebert: Berl. klin. Wchnschr., 1905. p. 1091.

[10] Rosenberger: Am. Jour. Med. Sc., 1906, cxxxi, 143.

[11] Gordon: Am. Med., 1905, x, 155.

The marked reduction in the degree of cerebrospinal pleocytosis (see chart) and of the protein content of the cerebrospinal fluid together with a negative Wassermann reaction may be taken as an indication of improvement in the active syphilitic process; but whether or not the nervous structures responsible for the aphasia and hemiparesis can be fully restored to their normal condition remains to be seen. We believe that this depends on the nature of the nervous lesions, as we expect to stop the further progress of the disease. A full report of this case with further discussion will be published elsewhere by Dr. Hough.

INOCULATION EXPERIMENTS

As stated above, the material for inoculation was obtained by lumbar puncture, June 30, 1912. The fluid contained 840 cells per cubic millimeter, had an increased protein content and showed a negative Wassermann reaction. An examination of several preparations with the dark-field microscope failed to show any spirochetes. The fluid was clear and free from blood, microscopically, and as the patient had no skin lesions, we have no hesitation in regarding our result as free from criticism. A full-grown brown-and-white male rabbit with large organs was selected and 3 c.c. of the untreated spinal fluid was immediately injected into the substance of each testicle; a small amount of fluid escaped on withdrawal of the needle. There was no marked local reaction on the following days; the rabbit was examined weekly and nothing noted until August 19, fifty days after inoculation; when the lower part of the body of the left testicle seemed firmer than normal. On August 26 this same area of resistance was more marked. A capillary pipet was inserted into the area and a small amount of clear ropy fluid was obtained. This fluid, on examination with the dark-field microscope, was found to be rich in active spirochetes of the *pallida* type. Smears stained with Giemsa's stain also showed typical *Spirochaeta pallida*. On September 12 a distinct nodule was found in the lower part of the testicle, and numerous active spirochetes were present. September 19, the lesion in the testicle was definite and, in addition, there was a nodule in the epididymis minor which also showed numerous spirochetes. The testicle was removed, under ether, and its lower part was found to be occupied by a whitish, faintly translucent mass about the size of a large pea. A hard rim of tissue projected out from the surface of the testicle. On section, a clear ropy fluid exuded. Stained sections of this lesion showed only the outlines of the tubules remaining. Their normal structure was entirely replaced by a loose myxedematous connective tissue. Here and there, especially at the periphery, were large collections of round cells. No polynuclear cells were seen. Sections stained by Levaditi's method showed immense numbers of typical spirochetes located principally in the connective tissue and about the blood-vessels at the periphery of the section. All these findings given above are typical of a syphilitic orchitis in the rabbit such as results from inoculations of serum from chancres and mucous patches. The other testicle has remained unaffected to date.

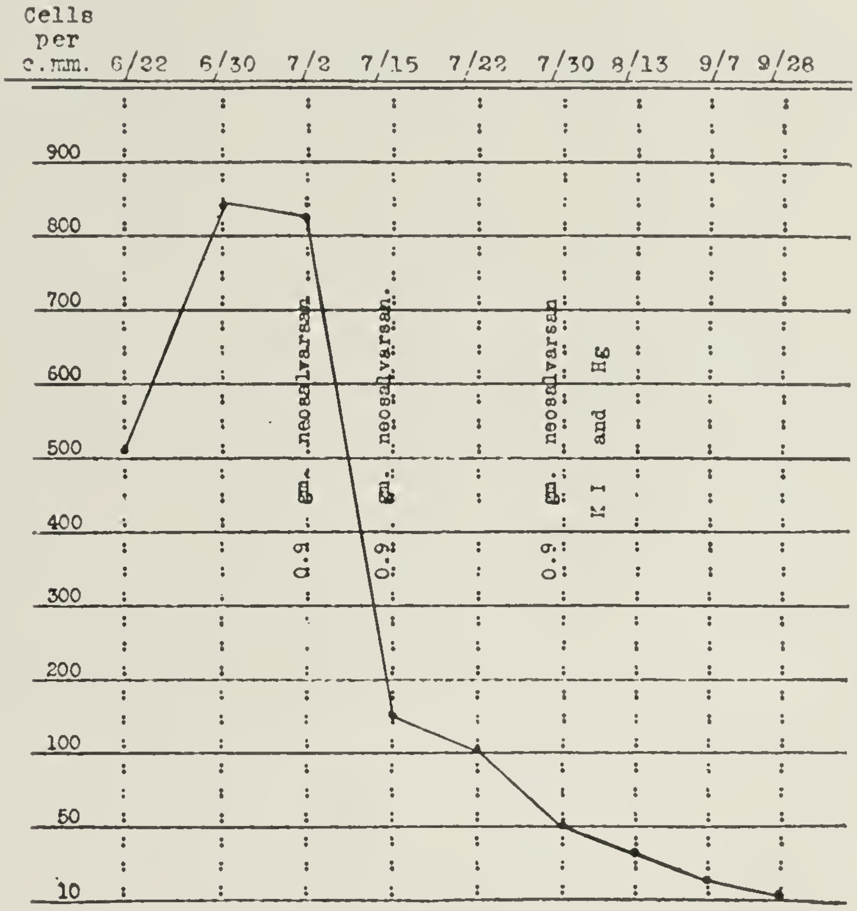

Chart showing fall in cerebrospinal pleocytosis.

In order to preserve the strain two rabbits were inoculated from the first one. One of these was inoculated September 12, and on September 24 an induration of the testicle was felt and typical spirochetes were found. September 30 the lesion had increased to a good-sized nodule. Thus the spirochetes have been transmitted to a second generation in the rabbit and the incubation period has dropped from fifty to twelve days. The strain will be carried on and further work done in order to throw some light, if possible, on the question of "neurotropic" spirochetes.

Cultures of spinal fluid in Noguchi's spirochete medium were made July 2, and remained sterile for two months, when the tubes were discarded.

CONCLUSIONS

The case history given above is a typical one of "neurorecidiv" following the use of salvarsan. A patient in the early secondary stage of syphilis is treated with salvarsan. There is an immediate and apparently complete recovery and no further treatment is given. But a few months later the patient returns with marked nervous or mental symptoms. As is well known, such symptoms, in the ordinary course of syphilis, usually occur in the tertiary stage. These early nervous manifestations after salvarsan were at first thought to be due to the toxic action of arsenic. It was soon pointed out by Bernario,[12] however, that such symptoms occasionally occur in the secondary stage after treatment with mercury. Furthermore they do not occur after the use of salvarsan in other diseases, such as yaws. They occur only in the secondary stage of syphilis, and only several months after treatment has been stopped. The Wassermann reaction becomes positive and examination of the spinal fluid gives all the indications of an active inflammation. Further treatment with salvarsan or with mercury improves the condition. All these considerations have led to the conviction that nervous symptoms after salvarsan constitute a true syphilitic relapse. Up to the present time, however, the presence of *Spirochaeta pallida* in the nervous system in this condition has never been demonstrated. We have now furnished this demonstration and we believe that the proof of the syphilitic nature of nervous relapses is now complete.

The question still remains why these relapses are more frequent under treatment with salvarsan than with mercury. Some authors hold that salvarsan damages the nervous system and thus predisposes to a localization of the spirochetes in this region. It seems to us, however, that these relapses can be satisfactorily explained according to Ehrlich's ideas. In a considerable number of cases, in the secondary stage, the nervous system is infected with or without symptoms. Our patient undoubtedly would have shown pleocytosis in the spinal fluid at the time of his first treatment.

When such a case is treated with salvarsan the great bulk of spirochetes are suddenly destroyed. They are not simply repressed as is the case under mercury, and the resistance of the body is not gradually stimulated against them. There remain, however, small foci of spirochetes, especially in areas which are less accessible to the circulation, such as are found in the central nervous system. After a time these spirochetes begin to multiply and they meet no resistance such as is afforded by the continuous administration of mercury or by the natural defenses of the body, because these defenses have not been continuously stimulated by a large number of organisms all over the body. As a result, the spirochetes which have remained grow with increased vigor and presently produce symptoms where they are located — in the nervous system. Ehrlich[13] compares the extent of their growth to the relative size of a few colonies of bacteria on an agar plate as contrasted with the size of the same colonies when several hundred are present. And we may also compare their rate of reproduction to that of rats and rabbits when a large number have been killed off in a given area. The remaining animals reproduce at a greatly increased rate and soon they are as numerous as ever.

The clinical lesson is that in the early secondary stage our treatment must be vigorous and prolonged. In attempting a radical cure during this stage we must give a minimum of three or four intravenous injections of salvarsan combined with an intensive treatment with mercury covering at least two months. If an examination of the spinal fluid can be made, it is of great advantage, because an increased cell count and protein content indicate the cases which are potentially those of nervous relapse.

As one of us[14] has previously pointed out, the rabbit is now the animal of choice for certain lines of work in syphilis and the result of the present experiment shows that the rabbit is also suitable for inoculation experiments when the spirochetes are present in small numbers. In this case the organism was undoubtedly present in small numbers in its spiral form. In view of the possibility of a complex life-cycle of the spirochetes and of other forms than the spiral one and in view of the possibility that such forms might be present in tabes and paresis in which diseases spirochetes, as such, have never been found, we have made several inoculations in rabbits of the spinal fluid and of the cortex of paretics during the past year and a half. So far we have obtained no positive results, but further work must be done before these possibilities are excluded. Uhlenhuth and Mulzer[15] also report negative results from the inoculation of rabbits with the spinal fluid from patients with early paresis and tabes.

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12. Bernario: Ueber Neurorecidiv, 1911.
13. Ehrlich, Ztschr. f. Chemotherap., 1912, Orig. i, 6.
14. Nichols: Jour. Exp. Med., 1911, p. 196.
15. Uhlenhuth and Mulzer: Centralbl. f. Bakteriol., 1912, Orig. lxiv, p. 165.

THE HUMAN PROSTATE GLAND AT BIRTH

WITH A BRIEF REFERENCE TO ITS FETAL DEVELOPMENT *

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This discussion is based on the study of serial cross-sections of the prostate of a human baby which were cut and mounted in the usual manner, being stained on the slides in hematoxylin and eosin. The sections were cut 30 micromillimeters in thickness. A part of the work done includes the reconstruction in wax of the various groups of tubules composing the gland, the prostatic urethra, the ejaculatory ducts, and the utriculus prostaticus, enlarged twenty times. This model is so constructed that normal relations are exactly maintained, the different parts being held together by pins and wire buried in the wax. In order to gain a clearer idea of the entire structure of the organ its different parts were separated and supplied with fixtures so that it can be fitted together or taken apart at will.

In this specimen the five lobes of the prostate[1] were clearly identified, and the two groups of tubules, which might appropriately be called accessory glands from their intimate relationship to the prostate anatomically and in diseases of this part of the genito-urinary tract, were found present.

The duct openings of the nine tubules which make up the middle lobe are quite widely separated from those of other lobes, and occur on the floor of the urethra rather close to the openings of the ejaculatory ducts, but between those structures and the bladder, as shown in Figure 1. It is noticed that the mouths of these tubules do not open in the middle of the floor of the urethra as in the younger fetuses, but are pushed laterally to a slight extent, owing, no doubt to the great increase in the size of the verumontanum. Careful identification of the tubules of the middle lobe and their branches discloses the fact that although in many cases the tubules of this lobe lie side by side with those of the lateral lobes there is at no point an intermingling. Therefore the middle lobe is at birth an independent structure.[2] On the other hand, no evidence is found of a definite fibrous layer separating the middle from the lateral lobes, and the fact that the middle lobe is independent in its location and development is of slight practical importance. In this specimen the middle-lobe tubules have extended up behind the sphincter to its uppermost border. The end of the tubule which has extended the highest is situated in the middle line just above the ampulla of the vas, and its branches are surrounded by rather dense muscular tissue. The whole mass lies imbedded in the loose connective tissue beneath the bladder musculature. Lower down in the direction of the mouths of the tubules these branches are reinforced by others of a like nature, and a very short distance below become connected with the musculature surrounding the urethra. The musculature surrounding the tubules of the middle lobe are quite thick and firm, being in some instances as large as the walls of the ejaculatory ducts.

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* Read in the Section on Genito-Urinary Diseases of the American Medical Association, at the Sixty-Third Annual Session, held at Atlantic City, June, 1912.

1. Lowsley: Am. Jour. Anat., No. 3, July, 1912.

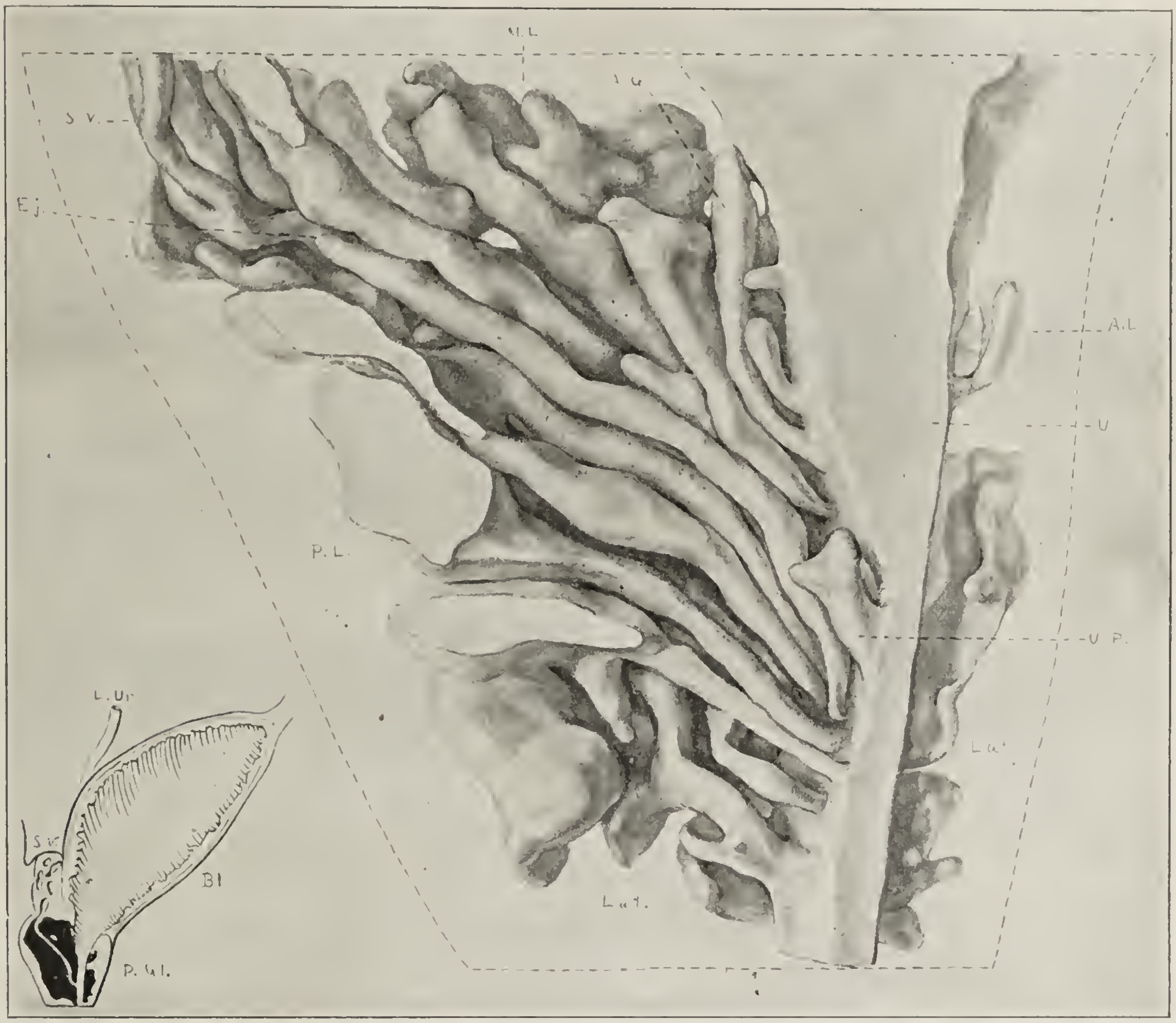

Fig. 1.—Sagittal view of a wax model of the prostate of a new-born infant. Lat., anterior branches of lateral lobes; P. L., posterior lobe; Ej., ejaculatory duct; S. V., seminal vesicle; A. L., anterior-lobe tubule; U., urethra; U. P., utriculus prostaticus; A. G., subcervical glands of Albarran; M. L., middle-lobe tubules; L. Ur., left ureter; Bl., bladder; P. Gl., prostate gland.

The lateral lobes are made up of seventeen tubules on each side, which form the main mass of the gland. These tubules empty into the right and left prostatic furrows, and a few on the lateral walls of the urethra. By their great development they cause the base of the prostate to bulge laterally and posteriorly. The right lateral lobe tubules are found to have extended back only to a point above the opening of the seminal vesicles into the ejaculatory ducts, while the uppermost ends of the left lateral lobe tubules have extended back under the bladder and are found contained in their thick muscular envelope, adherent to the sides of the seminal vesicles. Where the prostate reaches its broadest dimension the branches of the tubules are exceedingly numerous, a surprisingly large number joining together to empty into the urethra through a duct which is no larger in size than one of its smallest branches. The two lateral lobes are separated posteriorly by the posterior lobe, the middle lobe, the ejaculatory ducts and utriculus prostaticus, mesially by the urethra and anteriorly by the anterior lobe and a considerable area of stroma, although in the lower or outermost portion anterior branches of the lateral lobes approach each other rather closely. Two large tubules in the outermost or caudal portion of the lateral lobes send branches in a caudad direction, all of the others extending cephalad or toward the bladder. This fact is of interest surgically because in nearly every successful enucleation it is necessary to cut these forward branches, as they seem to be particularly adherent to the capsule. The posterior borders of these lobes are separated from the posterior lobe, by a rather dense layer of connective tissue, which also separates the latter from the middle lobe and ejaculatory ducts.

The course of the posterior lobe tubules follows rather closely the dorsal aspect of the ejaculatory ducts until the latter structures ascend almost vertically toward the urethra, immediately caudad to which there is a small area free from glandular elements. Some of these tubules have extended toward the bladder until they are almost as far back as the ends of the middle-lobe tubules. This lobe fits over the posterior surface of the gland like a cap, being definitely and strongly separated from the other parts by a fibrous portion already referred to. This is the part of the prostate which is palpated by rectum, and presents in the middle of its posterior surface a slight depression which is ordinarily termed the median furrow. This depression in the specimen under discussion is more pronounced in the region of the apex, gradually becomes shallow at the middle of the gland, and at the base assumes a rounded contour. It is produced by transmitted pressure from the lateral lobes. In this case the posterior lobe is made up of eleven tubules which open on the floor of the prostatic urethra anteriorward from the entrance of the ejaculatory ducts, and grow back toward the bladder behind these structures forming the main mass of the apex of the gland.

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[2] Griffiths (Jour. Anat. and Physiol., 1889, xxiii, 374) expressed the opinion that the middle lobe was independent, "having glands of its own which open on parts of the hinder wall of the prostatic urethra." Tandler and Zuckerkandl (Folia Urolog., 1911, v, 587) have utilized this fact in their consideration of prostatic hypertrophy. Gustaf Pallin (Arch. f. Anat. u. Physiol., 1901), Evatt (Jour. Anat. and Physiol., 1908, xliii, 314), and Jores (Virchows Arch. f. path. Anat., 1894, cxxxv, 224), all maintain that the so-called middle lobe is always formed by ingrowths from the lateral lobes. In my studies on the embryology of the prostate I observed in one specimen an entire absence of middle-lobe tubules. There were two large tubules noted in this case to be extending into the region usually occupied by the middle lobe. All of the other series showed independent middle lobes. A full description of the above-mentioned specimen is given in the American Journal of Anatomy, xiii, No. 3, p. 318. One hundred and three prostates obtained at autopsy, from dissecting-room cadavers and from fetuses, were studied with the result that in only one specimen, the fetus already mentioned, was there observed an absence of middle-lobe tubules. In five other instances the presence of a middle lobe was not determined, as the specimens were considered valuable and could not be sectioned. The remaining ninety-seven prostates all had definite middle lobes.

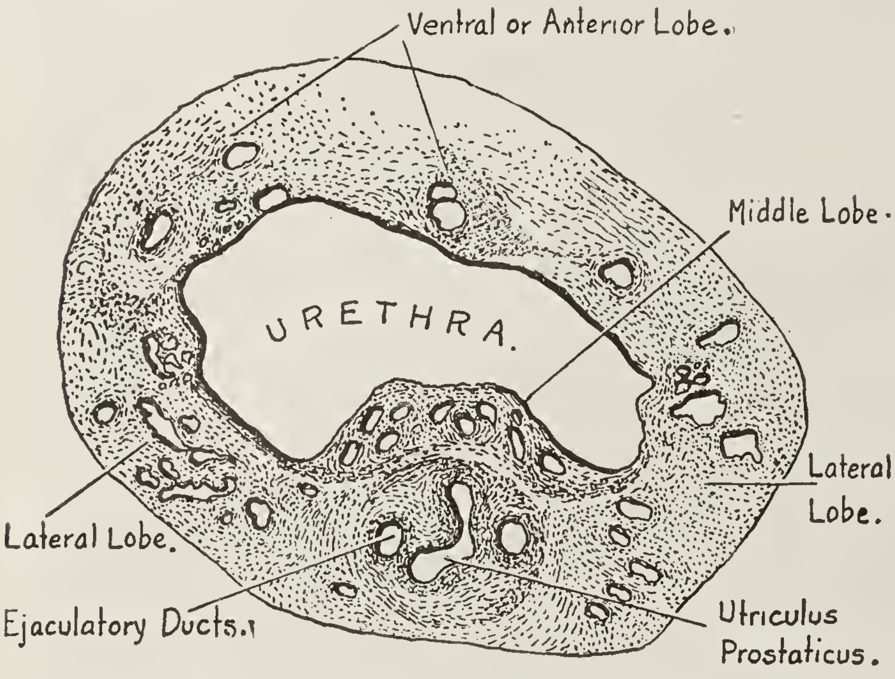

Fig. 2.—Prostate of human fetus (12.5 cm.) at 4 months, showing rather definite separation of the middle lobe from the lateral lobes.

This lobe is of considerable importance for several reasons. Dr. M. L. Boyd and Dr. J. T. Geraghty in their studies on the pathology of the prostate have found that hypertrophy rarely or never occurs in this part of the gland, and that primary cancer of the prostate rarely or never begins in any other portion. These findings, considered with the fact that the posterior lobe is thoroughly separated from the other portions of the gland by a firm, thick fibrous capsule, suggest the possibility of there being some functional difference between it and the rest of this organ. In doing Young's perineal prostatectomy, operators find it necessary to make their two parallel incisions entirely through the posterior lobe, which in hypertrophy is usually flattened out, owing to increased pressure within the capsule, and the partition between it and the lateral lobes; otherwise the enucleation of the hypertrophied portions is impossible. In case the incisions are made only through the capsule of the gland into the posterior lobe, an attempted enucleation leads the operator's instrument or finger laterally into the outer capsule again where the partition between the posterior and lateral lobes becomes lost in it, and removal of the real offenders in hypertrophy, lateral and middle lobes, is not possible until the incision is made into the part of the gland that contains them.

In the new-born, as shown on the reconstruction (Fig. 1), there are two very small tubules composing the anterior lobe. Occasional hypertrophied anterior lobes of considerable size have been found by Dr. Hugh H. Young and other operators. Two of our specimens showed hypertrophied anterior lobes, and Kuznitzky found a persistent ventral lobe in one out of every fifteen adult prostates. The total number of prostatic tubules opening into the urethra in the specimen under consideration is fifty-six, which is much greater than that usually mentioned in text-books. The number in six fetuses varied between fifty-three and seventy-four, the average being sixty-three.

TABLE SHOWING NUMBER OF TUBULES OF EACH LOBE OPENING INTO PROSTATIC URETHRA, THE NUMBER OF ALBARRAN'S TUBULES AND THE NUMBER OF SUBTRIGONAL TUBULES

Size of Fetus, Crown-Rump Measurement	Middle Lobe	Lateral Lobes	Posterior Lobe	Anterior Lobe	Total Number of Prostatic Tubules	Subcervical Glands of Albarran	Subtrigonal Glands
7.5 cm.	12	39	11	12	74	0	0
8 "	7	27	6	13	53	0	0
12.5 "	10	46	4	14	74	8	0
19 "	0	42	10	7	59	11	5
27 "	11	36	9	8	64	9	4
36 "	9	34	11	2	56	19	9
Averages* ...	10	37	8	9	63	12	6

* The averages are taken from the specimens in which the structure is present in case of middle lobe and the group of Albarran and the subtrigonal group.

A study of the embryology of the prostate gland that I have recently completed has brought out the following facts: The prostate begins to develop at the twelfth week of fetal life. It originates from five groups of tubules which begin as solid epithelial outgrowths, and which later develop lumina. These various groups arise from the floor of the urethra between the ejaculatory ducts and the bladder, from each prostatic furrow, from the floor of the urethra outward from the ejaculatory ducts, and from the ventral wall or roof of the urethra, and become the middle, right and left lateral, posterior and anterior lobes, respectively. The tubules grow, with few exceptions, back toward the bladder, and by the sixteenth week are surrounded by developing muscle fibers which in later stages become quite thickly dis-

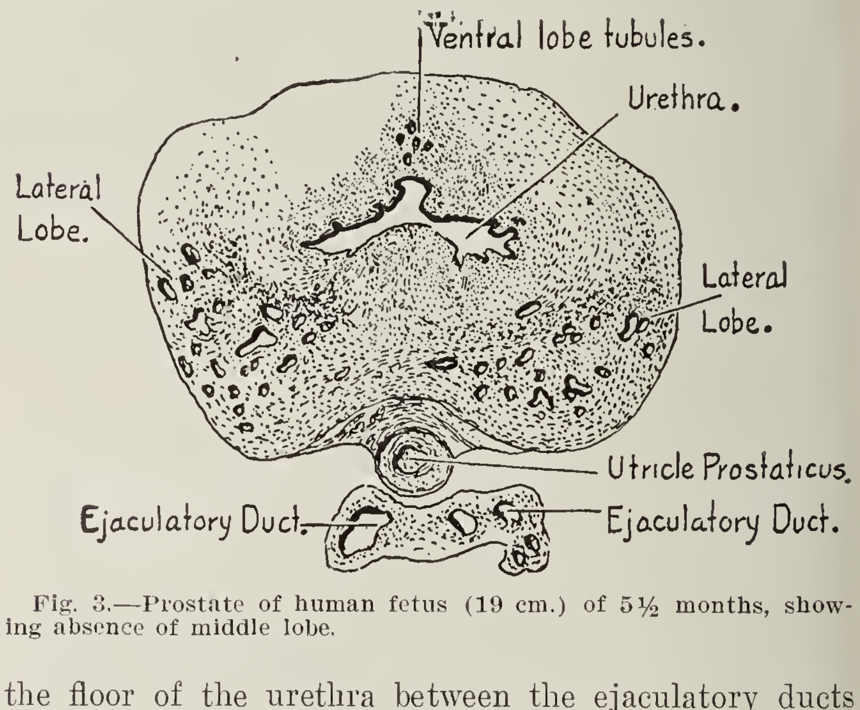

Fig. 3.—Prostate of human fetus (19 cm.) of 5½ months, showing absence of middle lobe.

posed. In early stages the five lobes of the prostate are well separated from one another, but later development decreases the separation between the lateral and middle lobes, although in every case but one, in which the middle lobe was entirely lacking, the independence of these lobes is discernible. The lateral lobes make up the largest portion of the gland. The posterior lobe grows back behind the ejaculatory ducts, and becomes separated from these and the middle and lateral lobes by a plane of connective tissue. The tubules making up the anterior lobe are at first as large as other tubules, and are quite numerous; but at the sixteenth week they are reduced in size, comparatively speaking, and after this time appear to shrink into insignificance. All of the tubules of the prostate seem to be firmly bound together within its capsule with the exception of those of the middle lobe, whose upper ends in some cases seem to extend beyond the capsule, lying freely between the vasa deferentia and the bladder.

There exist in close relationship with the prostate tubular structures which might be called accessory glands. These are the subcervical group described by Albarran,[3] and a subtrigonal group, the development of which I have described elsewhere.[1]

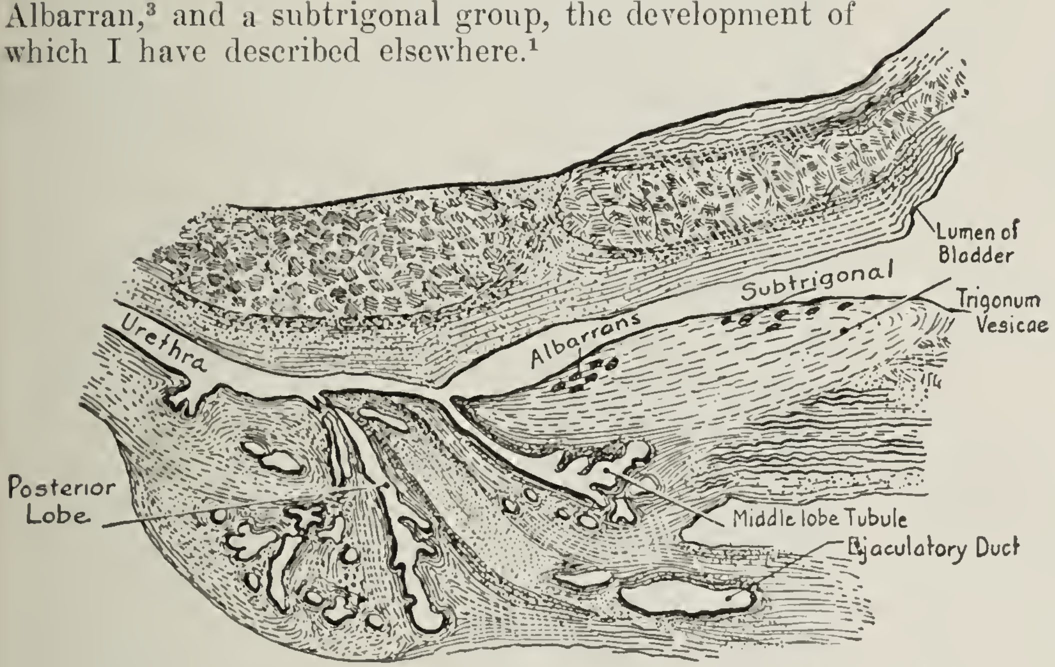

Fig. 4.—Sagittal section of prostate of 16-cm. human fetus of 5 months; × 15.

The subcervical group of Albarran is represented in the specimen of the new-born here described by nineteen simple tubular glands, lined with very small columnar epithelium, which do not extend very far beneath the mucosa. These structures are found in the mucous membrane commencing at about the middle of the vesical sphincter and extending down to its lower border. In a few instances they have smaller branches, some of which extend for a short distance into the musculature of the sphincter. None of these tubules is found in the ventral mucosa of the orifice except in one instance, but there are some very small evaginations in that region which may later develop into tubules of some sort. They are not surrounded by muscular tissue as are the prostatic tubules, but appear to be merely imbedded in the submucous structures. They open for the most part near the middle line on the floor of the urethra, but a few open in the angular depressions at the sides of the urethra which mark the beginnings of the prostatic furrows. Previous study on fetuses has shown that this group makes its appearance at the sixteenth week, being found in all specimens older than that, and in one case in the mucosa of the ventral wall of the urethra as well as the posterior. The position in which this group occurs is of the utmost importance because urologists have found that a slight enlargement at this point causes grave obstruction to the passage of urine, more in fact, than great hypertrophy of any of the prostatic lobes, because the tubules grow back directly within the sphincter.

In the mucous membrane at about the middle of the trigonum vesicae are found nine delicately constructed tubules which are recognized as the subtrigonal glands. Most of them are simple tubules which extend down to the muscle, but a few of them have one or two small branches which extend for a short distance into the musculature of the bladder wall. The blind ends of these tubules are a little closer to the base of the trigone than their mouths. In the series of fetal prostates studied the subtrigonal glands were not found in any of the specimens younger than 20 weeks, but were found in all of those older than 20 weeks. They are apparently insignificant, but as in the case of the subcervical group occupy a strategic position. Cases have been observed by Dr. Hugh H. Young, Dr. John T. Geraghty and other surgeons in which this group of tubules had become enlarged, and a further growth had caused them to become almost free in the bladder lumen, being connected to the original site by a small pedicle. On attempted urination this globular mass would fall into the orifice of the urethra, and blocking it would cause more obstruction than an enormous adenomatous prostate.

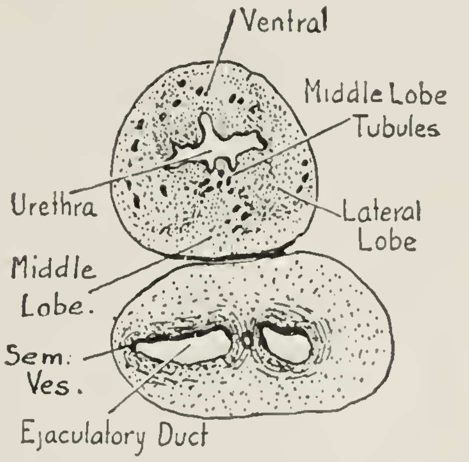

Fig. 5.—Prostate of human fetus (7.5 cm.) of 3 months; × 20.

In the mucosa of the prostatic urethra at the region of the apex of the gland and in the urethral mucosa just below this point there are noticed numerous tubular structures which are easily differentiated from prostatic tubules, being much smaller in size, having fewer branches, and lacking the muscular coats of the latter. The entire structures are contained within the muscular walls of the urethra, and their ducts open into it on all sides. These tubules are considered to be glands of Littré, and while numerous just below the apex of the prostate are comparatively few in number lower down in the urethra.

The seminal vesicles are made up of five divisions on each side; their walls are almost as thick as those of the vasa deferentia, and their uppermost ends reach a point behind the bladder and on a level with the base of the trigone. The lumina of these several divisions communicate lower down, the whole structure consisting of a main part which is convoluted and from which four short convoluted branches grow out as described by Pallin.[4] They connect with the ejaculatory ducts just below the point where they become imbedded in

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3. Albarran: Maladies de la Prostate, 1902, p. 526.

4. Pallin, Gustaf: Arch. f. Anat. und Pathol., 1901.

the musculature of the prostate. The ampullae of the vasa deferentia are easily distinguishable in this specimen, and are marked by a considerable widening and great increase in the size of the lumen.

A study of the embryology of the seminal vesicles discloses the fact that they begin to develop at the thirteenth week as lateral evaginations from the vasa deferentia, being surrounded by the same tissue that envelops the latter structures. They grow backward and laterally, their lumina becoming large and convoluted with branches as described above, and their openings into the ejaculatory ducts comparatively much smaller.

The ejaculatory ducts surrounded by their thick muscular walls, which become intermingled one with the other, lie quite close together in their passage through the prostate. Their course through the gland is interesting. They begin well within the tubular region of the prostate by the junction of the vasa deferentia and the seminal vesicles. They pass anteriorly on a gradual slant, assuming much the same direction as the middle lobe tubules until they reach the verumontanum, at which point they turn sharply and run almost parallel with the axis of the urethra for a distance equalling one-half of the length of the verumontanum. They then turn sharply lateralward and empty on the sides of the verumontanum; their lateral openings, which seem to be protected by a small valve-like membrane, make for an effectual closure of their outermost portions in the case of distention of the posterior urethra from any cause; this probably accounts for the fact that few posterior urethral infections are transmitted through the ejaculatory ducts to the seminal vesicles and epididymides.

The utriculus prostaticus is found in the uppermost or bladderward portion of the verumontanum. It runs parallel with the long axis of the urethra for a short distance, and then the main part of it ascends rather abruptly toward the crest of the verumontanum, while a small part of it continues on for a little way in its original direction. It opens through a rather large mouth in the middle line at the summit of the verumontanum, a considerable distance above the mouths of the ejaculatory ducts, which is an unusual arrangement, as in nine fetuses this structure opened immediately below the openings of the ejaculatory ducts. There is no evidence in this or in any of the other prostates studied that either the ejaculatory or the prostatic ducts open into the utricle.

The utriculus prostaticus is found in the 13-weeks-old fetus, being observed as a small tube between the vasa deferentia. In all specimens older than 22 weeks the utricle appears only in the verumontanum, which is formed by the growing in and further development of the ejaculatory ducts, and the utricle, as shown in Figure 2.

I wish to express my sincere thanks to Drs. Hugh H. Young, Franklin P. Mall and E. R. Clark for the use of material at their disposal and for many valuable suggestions. This research was done in the anatomic laboratory of the Johns Hopkins University.

2415 California Street.

ABSTRACT OF DISCUSSION

Dr. Hugh H. Young, Baltimore: Dr. Lowsley's work was undertaken at my suggestion. I felt that the literature in regard to the embryology and histology of the prostate was very much at sea. This material which he has presented represents a tremendous amount of work. Dr. Lowsley kept at it for about a year and a half, almost every day, and the formation of this wax reproduction of the prostate is masterly. I think that he has solved some interesting and troublesome problems in regard to the prostate. We have known for a long time that in doing a perineal prostatectomy an incision merely through the capsule very quickly leads one entirely outside of the prostate. Further investigation showed that it was necessary to cut a certain distance, from 5 to 8 mm., before the real capsule of the prostate was reached, there being an entirely separate and distinct fascia. Dr. Lowsley has demonstrated why in the pathologic prostate we find the conditions we do and how essential it is to observe them during operation.

We have now seen twenty or thirty cases in which hypertrophy was associated with carcinoma; we have found hypertrophy of one part and carcinoma of the other. The two have gone hand in hand, and absolutely distinct, and the capsulation of this lobe is often so distinct as to prevent the invasion of the carcinoma. The carcinoma would involve the seminal vesicles and ejaculatory ducts without involving the lateral lobes. We have also seen at operation a number of anterior lobes. Dr. Lowsley's demonstration that there is a peculiar ventral group of glands which later on may atrophy, but which is constant in the new-born, is an interesting explanation of it. His division of the various parts of the prostate is, I think, original and very important, especially the trigonal group as separate from the middle lobe, and I think a great many of the mooted questions of prostatic hypertrophy will be solved. There is certainly a great deal of doubt now as to how these things do develop.

A CASE OF BILATERAL URINARY LITHIASIS

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CHICAGO

This case is of sufficient interest to be reported because of the following facts:

1. The long interval between the present symptoms, for which the patient sought relief, and the original onset of his trouble — sixteen years.
2. The necessity of subjecting patients to a radiographic examination of both kidneys and both ureters, although the symptoms at the time of examination may be unilateral.
3. The value of the shadowgraph catheter in the diagnosis of ureteral calculi.
4. The fact that in this case the only pain of which the patient complained was right-sided, yet he had bilateral calculi in the upper urinary tract.
5. A simultaneous right-sided ureterotomy for stone and a left-sided nephrectomy.

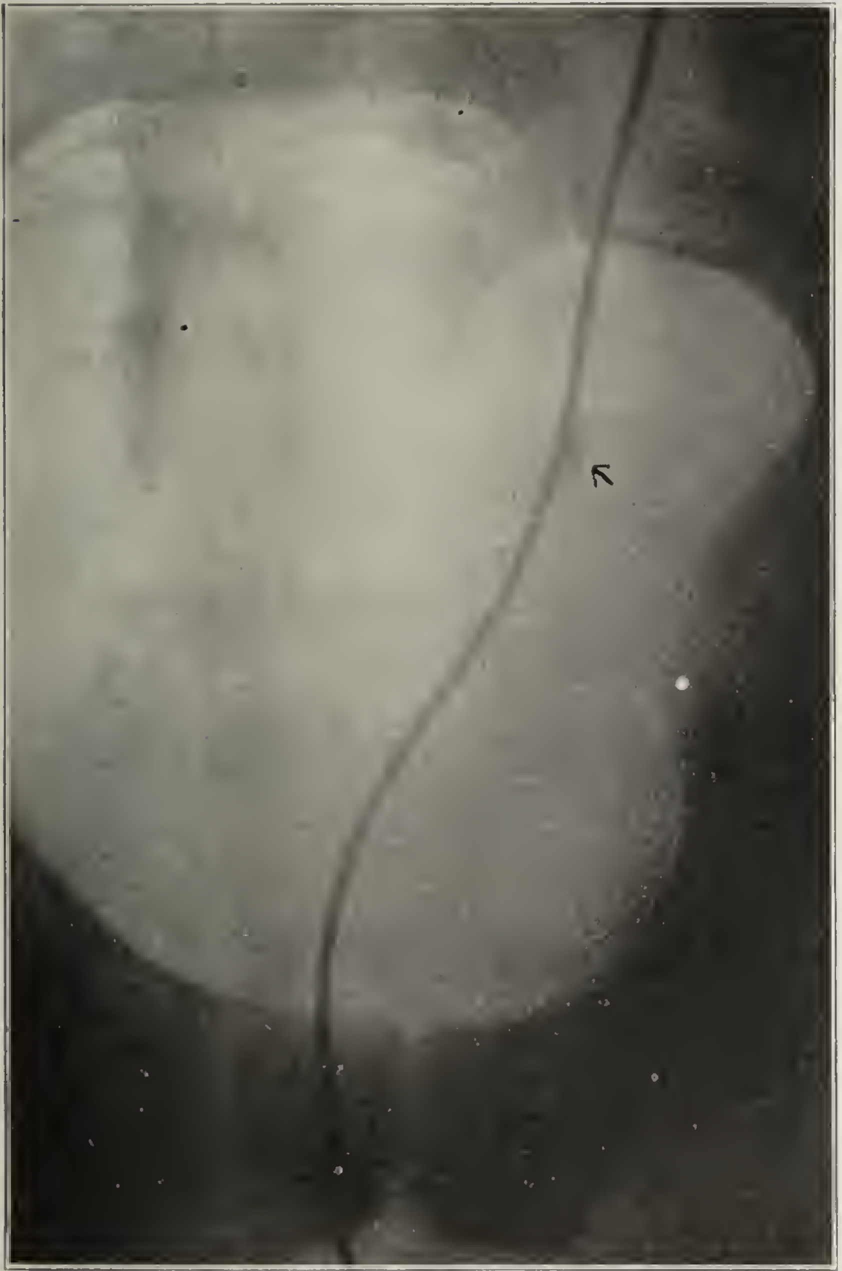
REPORT OF CASE

Present History.—The patient states that he had always been well until February, 1911, at which time he passed bloody urine for about two days. The urine then remained clear until April, 1911, when he had a second attack of hematuria which lasted for twenty-four hours. These are the only two attacks of hematuria which he has had. The blood was well mixed with the urine. The hematuria was painless. There were no urinary symptoms, no frequency, no pain.

Pain in the back had been present only for the past eight hours. The pain was localized in the region of the right kidney, mostly posteriorly, and it did not radiate into the bladder, testicles, scrotum or penis.

Previous History.—At the age of 17 he lifted a heavy weight which was followed by pain in the back on the right side. This was not very severe and remained localized in the right kidney. At the age of 21 the patient entered the Greek army, and during his stay in the army he was taken ill with what was diagnosed as kidney trouble by the army physician. He was sent to the baths for two weeks, after which time he went back to the army and completed his service. There is a doubtful history of his having passed gravel during this illness. He has never had any subjective symptoms referable to the left kidney or to the left ureter.

Physical Examination.—This was completely negative with the exception of tenderness over the right kidney elicited by palpation and percussion. Cystoscopically the bladder and the ureteral orifices were negative. In double ureteral catheterization the catheters easily entered both ureters and passed, without meeting any obstruction, all the way into the pelves of the kidneys. The urine collected by the catheters showed the following:



Skiagram showing a small shadow in the pelvis on the right side. The arrow points to the shadow, which is to one side of the catheter.

Right Kidney: Three c.c. of urine, clear; albumin + + +; neutral reaction; no casts; few pus-cells.

Left Kidney: Fifteen c.c. of urine, clear; albumin + +; no casts; no pus cells.

Phenolsulphonephthalein Functional Test: Right kidney: Dye appeared in three minutes; excretion 55 per cent. Left kidney: dye appeared in three minutes; excretion 6 per cent.

Skiagraphic examination showed a shadow in the region of the left kidney about the size of a dime. The right kidney was negative. A week later a second set of pictures was made. This showed, in addition to the previously mentioned shadow in the left kidney, the presence of a small shadow, about the size of a pea, in the pelvis on the right side. In order to determine the origin of this shadow-producing body, a shadowgraph catheter was passed and the accompanying skiagram was taken with the catheter *in situ*. This shows the catheter passing along the side of the previously mentioned shadow. Diagnosis, stone in the right ureter, pelvic portion; stone in left kidney.

Operation.—Ether anesthesia, assisted by Dr. L. E. Schmidt. It was decided first to remove the stone from the ureter. An incision about 5 inches long was made on the right side in the lower quadrant of the abdomen. The incision was carried down through skin and musculature to the peritoneum. The peritoneum was pushed forward and the ureter isolated. Previous to beginning the operation, a shadowgraph catheter, black in color, had been passed into the ureter to aid in locating the ureter during the operation. The stone was found about an inch from the bladder. An incision an inch long was made into the ureter and the stone removed with a pair of artery forceps. The ureter was allowed to fall back into place without suturing. A cigaret drain was passed down to the ureter and the wound closed with interrupted catgut sutures. A left-sided nephrectomy was then carried out. The usual oblique incision was made and the kidney exposed. This proved to be a mere shell with only a thin layer of secreting tissue. In one of the large dilatations were found many small stones which had produced the shadow in the skiagram. From the above-mentioned functional findings we had no hesitation in removing this badly diseased kidney.

Postoperative Course.—The drain in the ureteral wound was removed in thirty-six hours, and for forty-eight hours urine leaked through the wound. This closed and has given no further trouble. On the right side the wound remained open for six weeks on account of a slight catgut infection.

2218 Clifton Avenue.

THE OCCASIONAL CLINICAL RESEMBLANCE OF BLASTOMYCOSIS AND SYPHILIS TO SPOROTRICHOSIS

RICHARD L. SUTTON, M.D.
KANSAS CITY, MO.

Prior to the publication of the classical studies of Schenck and Smith[1] in 1898, the cutaneous lesions of sporotrichosis were usually ascribed to syphilis, tuberculosis or coccic cellulitis, and even at this time the true nature of the condition often is not recognized.

Blastomycetic dermatitis seldom simulates either sporotrichosis or syphilis, although its resemblance to tuberculosis verrucosis cutis is often so close as to require cultural differentiation.

Of the following histories, that of sporotrichal infection is quite typical, and the one of syphilis fairly so; but the distribution and character of the lesions in the case of blastomycosis are somewhat unusual, and the entire clinical picture rather a puzzling one.

Case 1.—E. W., housewife, colored, aged 46, was admitted to the skin clinic of the University of Kansas in November, 1911. The cutaneous history of the family was negative. The patient was a native of Alabama, and a resident of Kansas City. Her health had always been good. Nine months prior to the time of consultation, while raking some straw and other litter in her dooryard, she sustained a slight punctured wound of the forefinger of the right hand. Little attention was paid to the injury, and only household remedies were applied, although the wound did not heal for several weeks. In the meantime, a chain of hard, pea-sized, oval nodules developed on the dorsal surface of the hand and wrist, and on the outer side of the forearm and arm. In the course of four or five months, the majority of these tumors became soft and fluctuant, although the overlying skin remained unbroken. The lesions, which were violaceous in color, were painless, and there was no involvement of the epitrochlear or axillary lymph-nodes. One of the abscesses was aspirated with a sterile syringe, and Dr. C. C. Dennie, of the Department of Pathology, secured pure cultures of the *Sporothrix schenckii* from the brownish, syrupy contents. Under the routine potassium iodid treatment, the patient made a gradual but complete recovery.

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[1] Schenck and Smith: Bull. Johns Hopkins Hosp., 1898, p. 286.

The probable source of infection in this instance is of particular interest, inasmuch as de Beurmann[2] has recently shown that the organism is encountered in a saprophytic state in nature in the French Alps. Vegetables frequently serve as a medium of contagion, a sporotrichum having been found on the salad sold by a market woman who was the subject of the disease.

Case 2.—G. S., male, single, laborer, aged 26, was admitted to the skin clinic of the University of Kansas in December, 1911. The family and personal cutaneous histories were negative. The patient was a Bulgarian, and had been in America since May, 1909. With the exception of the present illness, his health had always been excellent. In April, 1911, he first noticed a small carbuncular growth on the posterior surface of his right forearm. The affected part was swollen and the seat of considerable pain. At about this time the patient was transferred from Toledo, Ohio, where he had been working on section, to Watertown, N. Y., and, in June, 1911, a local surgeon excised the affected area. A few days later a second lesion, similar to the first, appeared on the left elbow. The patient was sent back to Toledo, and there underwent another operation. The condition recurred, however, on both limbs, and since that time the diseased area has gradually extended, despite treatment.

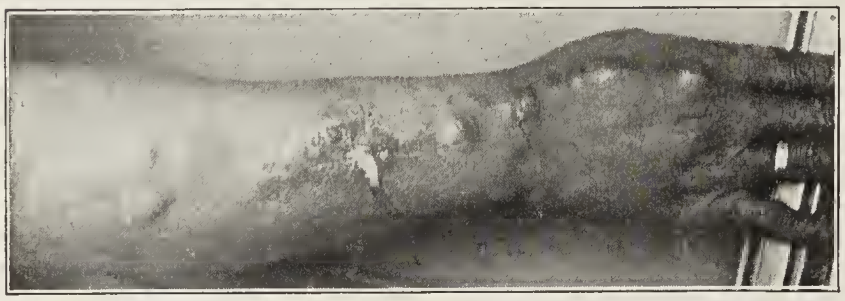
Fig. 1.—Case 1. Sporotrichosis of the right arm and hand.

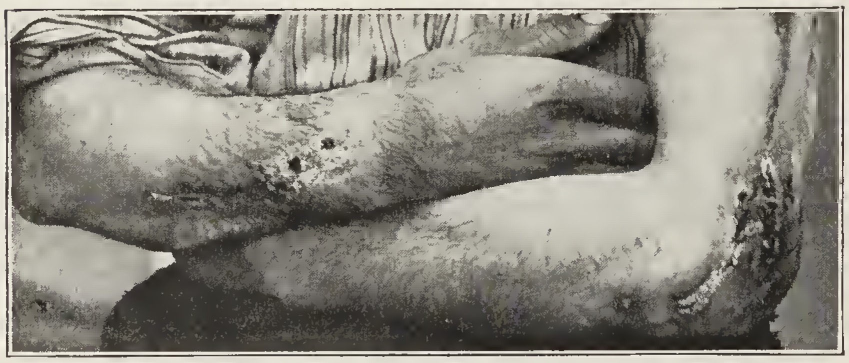
Fig. 2.—Case 2. Blastomycosis affecting both arms.

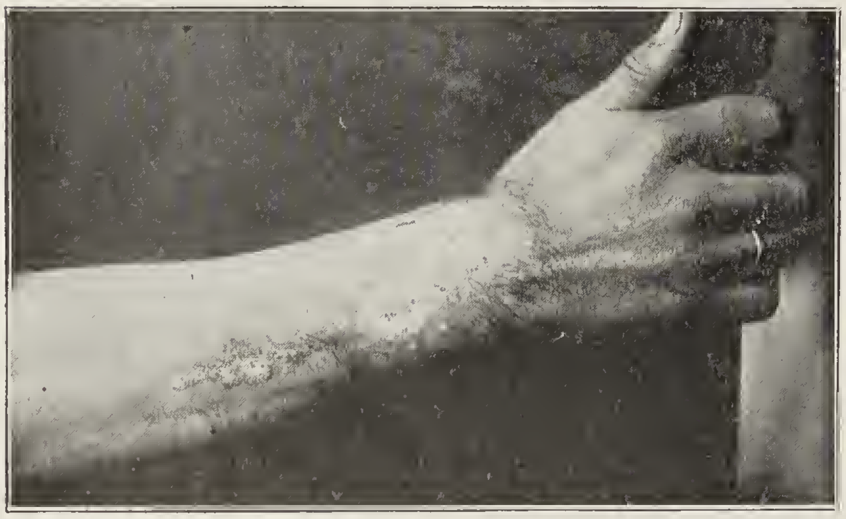
Fig. 3.—Case 2. Blastomycosis of forearm, after ten weeks of treatment.

The patient was found to be a well-nourished, muscular individual, apparently physically normal in every respect except for the lesions on his arms. The epitrochlear and axillary glands were palpable. The buccal mucosa was normal. A Wassermann test gave a negative result. The right forearm was the seat of four subcutaneous abscesses, three of which communicated with the surface by means of tortuous sinuses. The cavity nearest the elbow drained through the old incision made at the first operation. The limb was considerably swollen and quite tender. The middle portion of the left arm (the upper half of the forearm and the lower half of the upper arm) was the seat of numerous abscesses and sinuses, together with the depressed scars of healed lesions. The edges of some of the operation wounds were everted and inflamed, and considerable quantities of pus could be squeezed from the openings. The borders of the lesions were purplish red, but the characteristic papillary, wart-like growths of blastomycetic dermatitis were absent, and the skin appeared to be much less affected than the deeper structures. Examination of fresh material from both the abscesses and the ulcerated cutaneous margins failed to reveal the presence of a fungus, but cultures on agar and glucose-agar, planted by Professor W. K. Trimble and Dr. Dennie, showed abundant numbers of blastomyces. Sections made from tissue which was excised from the edges of the lesions on the right wrist and the left elbow exhibited the characteristic pathologic picture of the disease.

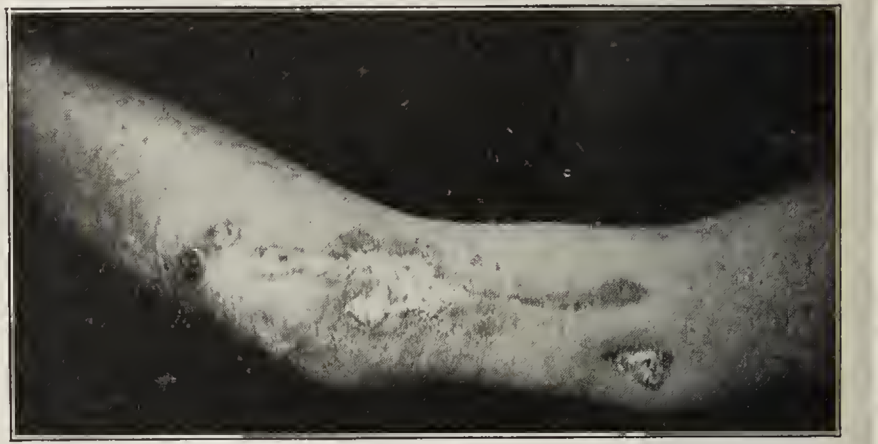
Fig. 4.—Case 2. Blastomycosis of forearm, after ten weeks of treatment.

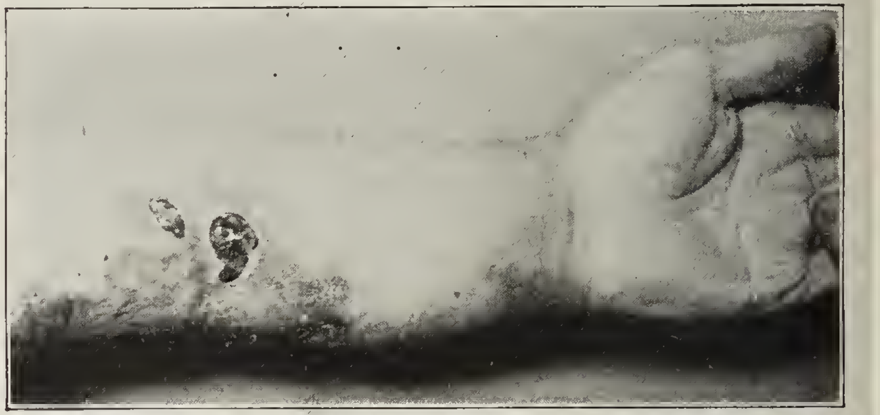
Fig. 5.—Case 3. Ulcers on forearm (tertiary syphilis).

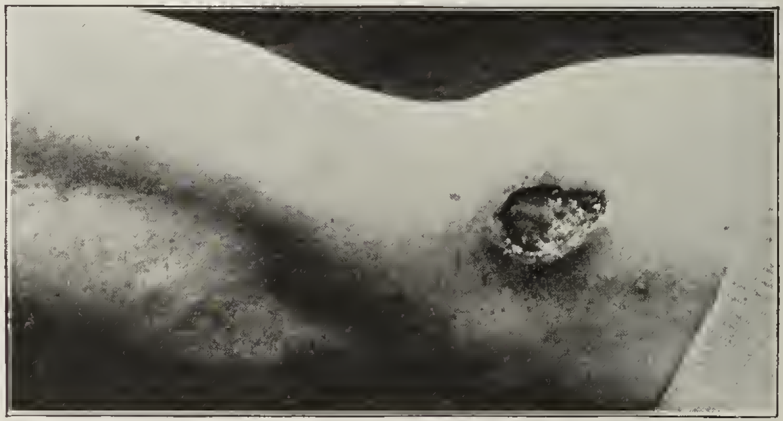
Fig. 6.—Case 3. Ulcer on upper arm (tertiary syphilis).

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[2] De Beurmann: Brit. Jour. Dermat., 1912, p. 333.

The condition did not prove very amenable to treatment, probably because of the patient's carelessness in following out the instructions given him. Potassium iodid, in gradually increased doses, was given internally, and moist dressings of copper sulphate and of a soluble iodin preparation were applied locally. At first, *x*-ray treatments also were employed, but the patient failed to report regularly, and these were discontinued. The patient was under observation for about three months, a portion of the time being in the Bell Memorial Hospital, in Rosedale. When last seen, the condition of both limbs appeared to be greatly improved, although not all of the lesions were completely healed.

CASE 3.—R. M., male, single, clerk, aged 38, was referred to me by Dr. E. L. Stewart of this city. The family and personal cutaneous histories were negative. Two years prior to the time of consultation, a large ulcer developed on the radial side of the left forearm, and persisted, despite treatment, for several months. Finally it gradually disappeared under the use of a popular "blood purifier" and antiseptic dressings, leaving a soft, pliable, slightly depressed, white scar. Eighteen months afterward three new ulcers appeared, each following a localized induration of the skin which developed without apparent cause. On examination, no scars or lesions of any kind were to be found on parts other than the left upper limb. There was no perceptible adenopathy. On the anterior surface of the left forearm were two irregularly oval, sharply outlined ulcers, with concave walls and soft margins, and on the outer side of the upper arm was a third similar lesion.

A Wassermann serum test, performed by Dr. Stewart, proved positive, and healing was prompt and complete under the usual antisyphilitic treatment.

610 Commerce Building.

THE ROENTGEN RAY IN INTRATHORACIC GOITER AND THYMUS HYPERPLASIA *

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By an intrathoracic goiter, we understand a goiter that lies within the thorax. It may be totally intrathoracic, or partially so. Theoretically we should call partially intrathoracic any goiter extending below the superior opening of the thorax and lying more or less deeply in the mediastinal space. According to this a goiter whose inferior limits lie behind the incisura sterni would be called an "intrathoracic goiter." Following Kocher, however, we do not call such cases "partially intrathoracic," but "struma profunda" or "deep goiter," and reserve the term of "partially intrathoracic goiter" for goiters whose greater part lies in the mediastinal space, or to goiters with an intrathoracic prolongation large enough to cause symptoms.

These intrathoracic goiters originate in the lower pole of one lobe or in the isthmus, or in an accessory thyroid gland. In the majority of cases, however, the intrathoracic goiter is developed in a preexisting goiter, localized in the isthmus or one or both lobes of the thyroid gland, which has gradually become intrathoracic.

An intrathoracic goiter developed in the isthmus will lie in the middle line and be called a median intrathoracic goiter. A goiter developed in one of the lobes will lie laterally of the middle line and will be called a lateral intrathoracic goiter.

The intrathoracic goiter is located in the superior portion of the mediastinal space, which is limited in front by the manubrium sterni, clavicle and first three ribs; behind by the first three dorsal vertebrae; laterally by the apices of both lungs, and below by the arch of the aorta and the heart.

With a median goiter, pressure develops anteroposteriorly; with a lateral goiter, pressure develops laterally. If the windpipe is compressed laterally by two nodular goiters situated at about the same level on either side, the compression may be so marked that the two walls of the trachea may come in contact with each other and form the so-called sable-sheath trachea. If the two nodular goiters are at different levels, the trachea assumes an S shape, analogous to scoliosis of the spinal column.

Information of great importance is given by the *x*-ray examination. Normally in the dorsoventral skiagram the shadow may be divided into three parts: a supraclavicular, an infraclavicular and a cardiac shadow.

In intrathoracic goiter the shadow of the supraclavicular and of the infraclavicular portion is much increased. Laterally the shadow may reach the inner third or half of the clavicle. Downward it may cover entirely the base of the heart, extending to the middle of the manubrium sterni and to the cartilage of the third rib. Upward, when the goiter is partially intrathoracic, it extends and fuses with the shadow of the supraclavicular goiter. The contour of the shadow of the intrathoracic goiter is sharply marked as a rule, because of the contrast with the shadow of the lungs, which is clear. The tone of the shadow, as a rule, is regularly distributed, dark and opaque. Its contour is sharply limited and convexed laterally; instead of being regular and convexed, however, the contour may be undulated and irregular, indicating in such cases a nodular goiter or a malignant tumor. The shadow of the aorta and of the vena cava may be absolutely covered by the goiter, but often the arch of the aorta is displaced toward the left side and downward.

The shadow of the intrathoracic goiter may be median or lateral. The median intrathoracic goiter lies in the middle of the mediastinal space; its contour is regular and sharp. The trachea is absolutely covered by the goiter and no shadow of the windpipe is seen in the skiagram. In the lateral intrathoracic goiter the shadow may be mostly developed on the right side or on the left side of the mediastinal space, according to the position of the goiter. In that case the shadow is more or less irregular on its inferior portion; the irregularity is then caused by the shadow of the large vessels, the superior vena cava and especially the aorta, which may be displaced toward the left side. The windpipe may be seen, more or less, in its entire course, but is displaced or compressed or both together. In a few instances the trachea may be followed to its bifurcation.

In intrathoracic goiter not only skiagraphy but fluoroscopy is of the utmost importance. A fluoroscopic examination will reveal the pulsation and up-and-down movement of the goiter on inspiration and deglutition. The shadow of the goiter is not infrequently seen pulsating. This pulsation is transmitted by the neighboring large vessels, especially the aorta.

There is an up-and-down movement synchronous with the act of swallowing. This up-and-down movement is pathognomonic of a tumor developed in the thyroid gland. It never fails, except in an abnormally large intrathoracic goiter or in malignant degeneration of a goiter. The goiter is clearly seen rising with the trachea and larynx, but the aorta remains immobile. In a few instances the aorta is seen rising with the goiter. This does not mean that the aorta is adherent to the goiter, but only that when the pressure from the goiter on the aorta is released, the normal elasticity of the aorta brings this large vessel into its normal position again. In some cases, too, the intrathoracic goiter may become incarcerated at the superior opening of the thorax; in this case the up-and-down movement will not occur. The best way to observe this up-and-down movement is to have the patient swallow water or take the deepest inspiration possible, hold his breath for a few seconds and then perform the second act of respiration, which is an expiration. In so doing, the intrathoracic goiter goes downward during deep inspiration and comes upward with expiration. Sometimes a small intrathoracic goiter located behind the manubrium sterni or sternoclavicular articulation may not be seen in the skiagram but becomes detectable only with fluoroscopy, while the patient is taking a deep inspiration. In this case the nodule emerges laterally from the shadow of the sternum.

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* Read by Invitation at the National Meeting of the American Roentgen-Ray Society at Niagara Falls, September, 1912. Dr. Bowen, Grant Hospital, Columbus, Ohio, demonstrated the skiagrams, and I am greatly indebted to him for his skilful, technical work.

The difficulty sometimes is to decide whether we have to deal with an aneurysm or an intrathoracic goiter, because sometimes the symptoms may be much the same in both cases, pulsations being transmitted to the intrathoracic goiter by the innominate or the arch of the aorta. Here the physical and the skiagraphic examination will be of great help. If the shadow is located more or less to the left of the mediastinal space, the diagnosis between the aneurysm and intrathoracic goiter is most difficult; but if it is located to the right, and if the sympathetic and inferior laryngeal nerve symptoms are present on the right side too, the chances are great that we have to deal with an intrathoracic goiter. Each of the other symptoms above mentioned should be given careful attention, and its relative value considered, in order to arrive at a safe diagnosis.

The shadow of an intrathoracic goiter differs from the shadow of an aneurysm by the fact that there is an angle between the shadow of the vessel and the tumor, and that at the fluoroscopic examination, in the act of swallowing, these two shadows separate from each other in cases of goiter. A large and flat aorta may give the impression that there is a tumor in the mediastinal space, but in that case a lateral view of the patient will clear up the diagnosis.

The malignancy of an intrathoracic goiter may be suspected when the shadow is irregular and shows diffuse limits, and when in the hilum of the lungs there is an increased number of lymph-nodes.

In the last three years I have operated on 150 goiters. Out of this number eighteen were partially intrathoracic and six totally so. One patient with malignant intrathoracic goiter died.

I made a practice of taking systematically, in every goiter case, a skiagram of the chest, in order to determine if there was a thymus enlargement, and at the same time to corroborate my clinical findings. My investigations, as far as the thymus was concerned, had been fruitless, and although I had been reading attentively what was written on the subject of thymus, I concluded that this complication in goiter cases must be a rare one; lately I have had a few cases of thymus hyperplasia, which made me change my mind. I shall report these cases briefly.

REPORT OF CASES

Case 1.—In June, 1912, Miss E. R., aged 19, consulted me for a parenchymatous goiter, with very slight thyrotoxic symptoms. Her general condition was excellent and this case seemed to me ideal for operation. Heart and lungs normal; few small lymphatic glands developed in both cervical regions. No dulness over the sternum. The skiagram showed nothing abnormal.

The blood examination revealed the following:

Blood-pressure	98
Hemoglobin	86 per cent.
Erythrocytes	4,888,000
Color index	96/97 = 0.9
Leukocytes	10,400
Polynuclears	68.8 per cent.
Small lymphocytes	23.0
Large lymphocytes	5.2
Eosinophils	0.03

Löwi reaction, no epinephrin content in the blood.

The operation was made under morphin-scopolamin-ether anesthesia. Both superior poles were ligated. The isthmus and two-thirds of both lobes were removed.

Iodin content in thyroid tissue expressed in milligrams per gram of dried thyroid gland, 1.2150.

After the operation the patient came out of the anesthetic nicely and spoke to me frequently. Her voice was normal and her pulse 90, regular and strong. Four hours after the operation, at 1 p. m., the patient had a choking spell and became blue and cyanotic. The nurse thought it was due to a too tight dressing and cut the bandages. I saw the patient five minutes after this happened; she was breathing normally; color of the skin good; the pulse regular and strong and she remained in this condition until 3 o'clock. At that time, while sleeping, the patient suddenly woke up and said, "I am choking," and became suddenly blue and cyanotic again; she put her hand to her throat and indicated that something was choking her. In spite of anything that could be done by the nurse and the intern, she died. When I saw her a few minutes after this choking spell, respiration had stopped; she was white and pupils were largely dilated. Massage of the heart, traction of the tongue and everything else was useless.

The autopsy was performed three hours afterward, before embalming by the undertaker; the field of the operation showed nothing abnormal, except a few clots of blood. There was no sable-sheath trachea, but in the mediastinal space an enormous thymus, composed of two lateral lobes and a median lobe, congested and thick. It covered the upper part of the pericardium and lay on top of the large vessels and trachea. Windpipe was compressed between the innominate and common carotid. The thymus weighed 100 gm.

I was much surprised at these findings and went back to see if I had not properly read the skiagram. There, with Dr. Bowen, I found something that I had entirely overlooked: a shadow, triangular in shape, superimposed on the shadow of the heart like a cap, which corresponded to the size and shape of the thymus. The base of this triangle was 8 cm. The region of the left auricle was bulging on the right side, 1.5 cm. outside of the right sternal edge. The shadow of the mediastinal space measured, under the arch of the aorta, 6 cm.; at the arch of the aorta 4.5 cm.; conus arteriosus 8 cm.; transverse diameter of the heart 13 cm.; right ventricle of the heart extended 1.5 cm. outside of the right sternal edge; left ventricle of the heart extended 5.5 cm. outside of the left sternal edge. The microscopic examination of the thymus did not reveal anything in particular.

This was my first case of typical thymus death.

Case 2.—Miss A. M., aged 33, came to me in October, 1911, with a serious and far-advanced exophthalmic goiter, quite large and with marked vascular symptoms; heart showed pericarditis and a chronic endocarditis. Over the sternum there was a decided dulness, on the left half of the manubrium sterni and over the sternoclavicular articulation. This dulness extended downward and fused with the cardiac dulness. The patient was irrational at times and refused to eat.

Blood examination revealed the following:

Blood-pressure	110
Hemoglobin	81 per cent.
Erythrocytes	4,520,000
Color index	91/90 = 0.1
Leukocytes	6,200

Polynuclears	65.8
Small lymphocytes	28.0
Large lymphocytes	5.0
Eosinophils	1.02

Epinephrin content in the blood, Löwl reaction about 5 parts per hundred thousand.

Skiagraphic examination, Feb. 20, 1912: On top of the heart there is a triangular shadow, its base measuring 11 cm. It is situated on top of the heart like a cap and extends upward to both clavicles. The region of the right auricle of the heart bulges 3 cm. outside of the right sternal edge, and the left auricle 4 cm. outside of the left sternal edge. Shadow is transparent and thinner than the shadow of the heart. The shadow of the mediastinal space measures, under the arch of the aorta, 9 cm.; at the arch of the aorta, 6 cm.; conus arteriosus, 13 cm.; transverse diameter of the heart, 18 cm.; right ventricle of the heart extends 3.5 cm. outside of the right sternal edge, left ventricle of the heart extends 8 cm. outside of the left sternal edge. Diagnosis, suspected thymus enlargement.

After a preliminary treatment, both superior poles were ligated and the patient left the hospital much improved, with the understanding that she would come back after two months for the radical operation, which she did; but at that time her heart condition was so bad that an operation was not advisable, and for five months every medical treatment known to me was applied, including *x*-rays. At the end of five months her general condition and her heart condition were much improved.

Skiagraphic examination, June 18, 1912: The shadow of the thymus is considerably reduced and measures at its base 8 cm. The shadow of the mediastinal space measures, under the arch of the aorta, 6 cm.; at the arch of the aorta, 6 cm.; conus arteriosus, 9 cm.; transverse diameter of the heart, 13.5 cm.; right ventricle extends 2 cm. outside of the right sternal edge; left ventricle extends 6.5 cm. outside of the left sternal edge.

The radical operation was attempted with morphin-scopolamin-ether anesthesia, and the right lobe, isthmus and one-third of the left lobe removed. The operation was exceedingly difficult, owing to adhesions, due to the hard consistency of the gland. The goiter was absolutely immovable and fixed to the neighboring tissues and had the same lack of mobility as a malignant tumor. This condition was due to the *x*-ray treatment.

Iodin content in thyroid tissue expressed in milligrams per gram of dried thyroid gland, 0.8151.

After the operation the patient woke up and spoke with her natural voice, her pulse being 120. Two hours after, she suddenly became very restless, and pulse-rate increased enormously, ranging between 180 and 200. General tremor set in and patient died in spite of everything that could be done.

Autopsy showed that so far as the field of the operation was concerned, everything was all right; but in the thorax there was an enlarged thymus covering the base of the heart, pressing the heart downward and compressing the aorta and the superior vena cava, and confirming the skiagraphic findings. The windpipe was not compressed. The thymus was removed aseptically, weighed 4 ounces, was white, soft and in squeezing gave out a thick, white, milky fluid. The heart showed a dilatation of the right ventricle and dilatation and hypertrophy of the left. Chronic endocarditis was present.

Fifteen gm. of this thymus were injected into the peritoneal cavity of a dog. About fourteen hours afterward, the dog became very nervous, showing an intense and general tremor, so that he could hardly stand up. The eyes were brilliant and seemed to protrude slightly. Pulse was increased to 104, temperature varied between 102 and 103. (In dogs, normal temperature varies between 101 and 102.) The dog did not take any nourishment. These symptoms lasted for three days and then subsided gradually until the dog became normal again.

In this case the dog showed the same symptoms as the patient: general great nervousness, general tremor and increased heart action. In the dog it was undoubtedly due to the absorption of the thymus, so that by analogy it may be concluded that the same symptoms observed in the patient were due to a thymotoxic effect of the hyperplastic thymus. The myocarditis may have been due to the chronic pressure on the ganglion of the heart, by the thymus.

Case 3.—Miss D. J., aged 19, colored, July, 1912. Patient had had a goiter all her life. Lately she began to have dyspnea and choking spells at night. In the last two weeks the choking spells had been so marked that she became cyanotic and nearly died. Patient was in strong physical condition otherwise; lungs normal; heart was increased in size, but there was no organic trouble. In the neck a large colloid goiter developed in both lobes. Over the sternum there was a dulness extending 2.5 cm. outside of the right sternal edge and 1 cm. outside of the left. This dulness extended upward to the episternal notch; downward it fused with the dulness of the heart.

Blood examination revealed the following:

Blood-pressure	124
Hemoglobin	84
Erythrocytes	4,736,000
Color Index	94/94
Leukocytes	9,800
Polynuclears	74.6 per cent.
Small lymphocytes	19.8
Large lymphocytes	4.4
Eosinophils	1.2

Epinephrin content in the blood, Löwl reaction less than 0.1 part per hundred thousand.

Skiagraphic examination, July 8, 1912: In the superior portion of the mediastinal space there is a shadow with round sharp limits, extending downward 6 cm. behind the sternum. The tone of the shadow is dark and dense. The trachea is seen in the upper portion and is slightly displaced toward the right side and compressed. This shadow is due to an intrathoracic goiter. Between the shadow of the intrathoracic goiter and the shadow of the heart there is another shadow extending 2.75 cm. outside of the right sternal edge, and 1.5 cm. outside of the left sternal edge. This shadow is very much thinner and transparent than the cardiac and goiter shadows; its edges are linear and sharp. On the left side, in the region of the arch of the aorta, there is a nodule granular in surface, irregular in shape, more or less diffused in its contour. This is very likely a calcareous ganglion. Diagnosis, thymus hyperplasia.

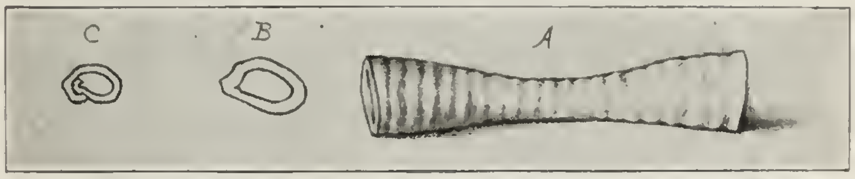


Fig. 1.—Case 3. *A*, compression of the trachea by a hyperplastic thymus; *B*, cross-section of the trachea above the compression; *C*, cross-section of the trachea at the point of compression.

Operation was performed under morphin-scopolamin-ether anesthesia. Both superior poles were ligated. The right lobe, isthmus and half of the left lobe resected.

Iodin content in thyroid tissue expressed in milligrams per gram of dried thyroid gland, 0.4306.

After the operation the patient came out of the anesthetic nicely. Her voice was clear; she was resting quietly and breathing naturally. Five hours after the operation, while sleeping, the patient woke up suddenly, with a choking sensation, became cyanotic, and a loud inspiratory and expiratory stridor developed, lasting only a minute; a few minutes after she had another choking spell of the utmost severity. Patient fought for breath and four nurses could hardly hold her on her bed, and before I had time to get the necessary instruments, etc., to perform a tracheotomy, the patient was dead.

Post-mortem showed an enormous thymus pressing on the base of the heart, the right lobe being considerably more developed than the left. This corroborated the findings found on the plate. The aorta, the superior vena cava and the base of the heart were manifestly compressed. The portion of the windpipe situated between the innominate and the common carotid was flattened and showed a marked compression. Cut transversely, it showed that the intercartilaginous membrane was folded up and that the size of the lumen of the windpipe was considerably reduced (Fig. 1). The upper part of the trachea, where the goiter was located, was absolutely normal. The flattening of the windpipe must have been of long standing, because after being taken out and relieved from the compression, the windpipe remained flattened. This condition explained the previous choking spells. Tracheotomy would not have saved the patient, because the compression was too low down to be reached by a tracheal tube. On the left side, behind the left lobe of the thymus, a calcareous bronchial gland was found, confirming the findings in the skiagram. Thymus weighed 170 gm.; 110 gm. of the thymus were injected into the peritoneum of a dog soon after the autopsy. No symptoms were observed.

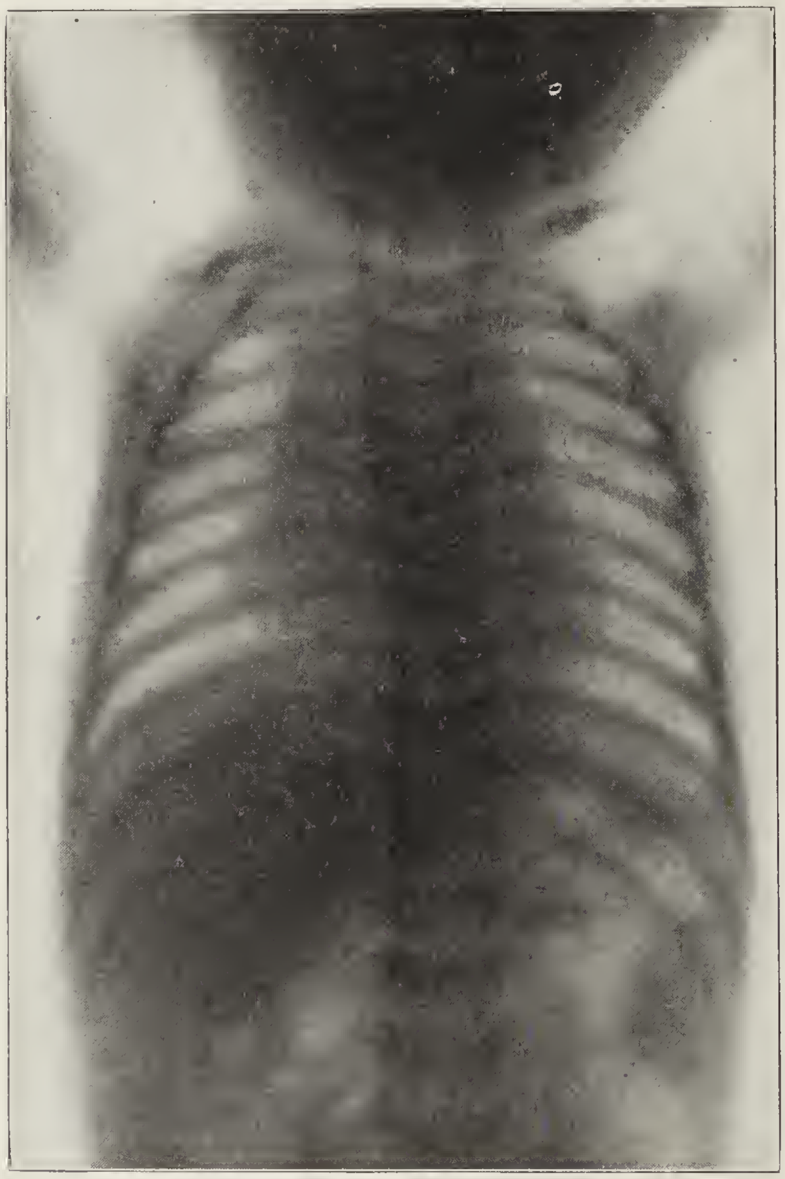


Fig. 2.—Case 5. Marked enlargement of the thymus.

In that case, death was due to compression of the windpipe by a hyperplastic thymus.

Case 4.—Miss M. H., aged 19. July 1912: Patient has a parenchymatous goiter, with slight thyrotoxic symptoms; has been treated medically without success. Her general condition is good, heart and lungs normal, pulse 100. On the base of the heart there is a triangular shadow, 8 cm. at its base. The regions of both auricles are bulging more than normally, the left auricle 3.5 cm. outside of the left sternal edge and the right auricle 1.5 cm. outside of the right sternal edge. The shadow is superimposed on the base of the heart like a cap. Trachea is normal. Under the arch of the aorta, the shadow of the mediastinal space measures 8.5 cm., at the arch of the aorta 6.5 cm., conus arteriosus 11 cm.; transverse diameter 15 cm.; the right ventricle extends 1.5 cm. outside of the right sternal edge; the left ventricle extends 9 cm. outside of the left sternal edge.

The blood examination reveals the following:

Blood-pressure	110
Hemoglobin	85
Erythrocytes	4,720,000
Color index	95/94 = 1.0
Leukocytes	8,800
Polynuclears	71.8 per cent.
Small lymphocytes	21.0
Large lymphocytes	4.2
Eosinophils	3.0

Epinephrin content in the blood, Löwi reaction less than 0.1 part per hundred thousand.

The diagnosis of thymus enlargement was made and Roentgen treatment of this condition advised. Patient was treated for six weeks. At the end of this time another picture was taken. The shadow of the thymus had much more diffused limits than before and seemed to be reduced in thickness. The shadow of the thymus still measured 8 cm. at its base; bulging on both sides of the auricles was much less marked. In comparing the two plates the conclusion could be reached that the thymus was reduced in size; consequently the operation was performed a few days after, under morphin-scopolamin-ether anesthesia. Both superior poles were ligated. The right lobe, isthmus and one-third of the left lobe were removed.

Iodin content in thyroid tissue expressed in milligrams per gram of dried thyroid gland, 1.661.

Patient took only 10 gm. of ether, and half of the operation was performed without ether. The patient remained under the anesthetic perfectly.

The patient recovered promptly and was in excellent condition; pulse regular, strong, never above 100, voice normal. At 6 p. m., the same day, patient while sleeping suddenly woke up, saying, "Something is filling up my chest, I am choking." Her pulse went up at once to 150 and she became very nervous. The bandage was loosened at once and when choking spell was over, patient was taken down to the *x*-ray room, where a plate was taken and Roentgen treatment in the thymus region was applied at once. The skiagram shows in the mediastinal space, extending upward from the base of the heart toward both clavicles, a diffuse rectangular shadow measuring 8 cm. in its transverse diameter. This shadow, much larger than the one taken in the previous plate, has sharp limits and its edges are linear; the tone of the shadow is transparent and thin and regularly distributed. This shadow is due to an acute swelling of the thymus gland. The patient made an uneventful recovery.

Case 5.—A baby aged 8 weeks, born normally. Mother had quite a large goiter, with some thyrotoxic symptoms. At the birth, Dr. Rogers noticed that the baby had a diffuse parenchymatous goiter of quite a large size. At the same time the respiration was labored and a loud inspiratory stridor was heard when the child cried. The examination showed that the thyroid was about 5 by 3.5 by 2.5 cm. for each lobe, and 2.5 by 2 cm. for the isthmus. The surface of the goiter was finely granular and goiter was normally mobile, firm in consistency, and moved up and down with the larynx. When the child cried, an abnormally marked filling up of the veins of the neck and superior portion of the throat took place; an inspiratory stridor, resembling much the "rooster's cry" was present. At the same time, aspiration of the epigastric hollow and of the supersternal fossa occurred. A finger placed above and behind the episternal notch felt the impact of a body with round edges, coming up when the baby cried. At the same time this maneuver caused an immediate choking spell. Between choking spells, respiration was labored. Percussion revealed an area of dulness located over the mediastinal space but extending laterally to the middle of each clavicle and fusing below with the dulness of the heart. Ascultation of this area showed a rough inspiration and a prolonged expiration with tubular breathing. Smith symptom was present. A skiagram (Fig. 2) confirmed the limits of the dulness found by percussion. Filling entirely the mediastinal space and extending laterally to about the middle of the clavicle on both sides was a shadow uniformly distributed, transparent, with sharp linear limits and fusing below with the shadow of the heart. Upward it extended to both clavicles and behind the manubrium sterni. Diagnosis, thymus enlargement.

Operation was performed Sept. 9, 1912. Slight ether anesthesia. Transverse incision 2 cm. above the sternum. Division of the muscles in the middle line and incision of the middle cervical fascia; the thymus was seen bulging upward from the thorax, with each expiration extending into the cervical region above the sternum about 2 cm., and disappeared into the thorax with each inspiration. The apex of this thymus was round, firm in consistency, grayish, and belonged to the left lobe. The right lobe was not seen. As soon as the capsule of the thymus was opened, the gland bulged out as if under pressure and the gland was dissected out without difficulty, with a blunt dissector. Only one hemostat was used for the thymothyroid ligament. No hemorrhage.

During operation, as soon as the upper part of the left lobe of the thymus was lifted out of the thorax, respiration became more easy and as soon as the left lobe was entirely removed, the respiration of the child became absolutely normal. One-third of the right lobe was also excised. Suture of the muscles and skin. The thymus weighed 80 grains. The patient made an uneventful recovery. Since then, his breathing has been absolutely natural and normal. A skiagram (Fig. 3) taken five weeks after the operation shows a slight enlargement of the right side of the mediastinal space; on the left side, it is normal. His parenchymatous goiter has been treated with an iodid ointment and has entirely disappeared.

I have briefly reported five cases of thymus hyperplasia, three controlled by autopsy and one by operation. I could not believe that this was the result of chance only, and concluded that thymus hyperplasia in combination with goiter must be more frequent than I expected; so, with Dr. Bowen, I went over the plates of my last sixty cases. In many instances we found, according to the plates, that goiter was complicated with thymus hyperplasia; this fact had entirely escaped our attention. Since then, in my daily practice, several patients with similar cases of goiter complicated with thymus hyperplasia have come to me for operation. In such cases operation is systematically postponed and Roentgen treatment is applied at once for an indefinite period of time, until the subsequent skiagram shows a marked diminution of the thymus.

The diagnosis of thymus hyperplasia, contrary to all that has been written, is possible in a great majority of the cases. The clinical examination must be accompanied by the skiagraphic examination.

Normally, on a skiagram, the mediastinal space measures from 2.5 to 3.5 cm. under the arch of the aorta, from 3 to 3.5 cm. at the arch of the aorta and from 5 to 6 cm. at the conus arteriosus. The shadow of this region is dark, opaque and regularly distributed and has definite limits.

In thymus hyperplasia there is a shadow, which overlaps, laterally, this normal mediastinal shadow. The hyperplasia may affect one lobe more than the other, or both lobes in the same proportion. The shadow is more or less triangular; it extends upward from the region of the auricle in a straight line, or follows to some extent the contour of the mediastinal shadow. The region of one or both auricles bulges, as though this auricle would be overdistended and form an angle between the ventricle and the auricle. The base of the heart is enlarged, and this enlargement is not in proportion with the size of the heart. This shadow, in some cases, is superimposed on the base of the heart like a cap, which would fit right over the base of the heart. The character of this shadow differs extremely from the cardiac and mediastinal shadows. It is thin, transparent, soft and regularly distributed. The edges are, as a rule, sharply limited and linear.

CONCLUSIONS

1. Roentgen-ray examination must become a part of the routine in goiter work. It is of the utmost necessity in intrathoracic goiter. As a thymus hyperplasia is liable to be found as a complication in any kind of goiter, especially in hyperthyroidism, and as this complication may prove fatal to the patient the Roentgen-ray examination should be applied in every goiter case.

2. The diagnosis of a thymus hyperplasia is possible in the great majority of cases. Roentgen-ray and clinical examinations must be combined to reach the correct diagnosis.

3. When the diagnosis of thymus hyperplasia complicating a goitrous condition is made, the operation should be postponed and the Roentgen-ray treatment should be applied in the region, until a marked diminution of the size of this gland is reached. We know, according to Lang, that the thymus gland is very sensitive to the Roentgen rays, especially in children.

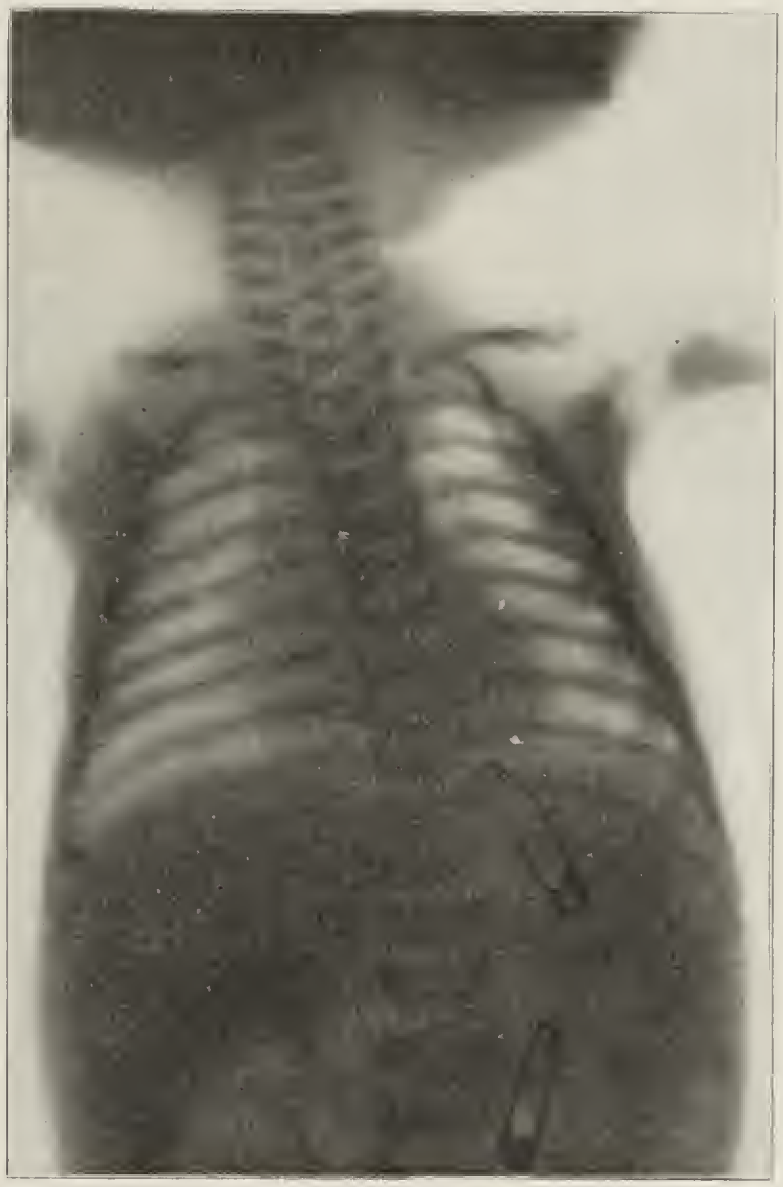


Fig. 3.—Case 5. Same lobe as in Figure 2, seven weeks after operation. Thymus shadow considerably reduced. Babe has grown remarkably since the operation.

151 East Broad Street.

Prognosis in Cases of Acute Pleurisy.—I suppose we shall all agree that patients who have had one attack of acute pleurisy with effusion and have been tapped once or twice, or not tapped at all, usually leave the court without a stain on their characters. They are admissible by insurance companies at normal rates, and the only record that remains (and that not always) is a slight departure from the normal physical signs, and perhaps of the mobility of the side that has been affected.—Rickman J. Godlee, in *Clin. Jour.*

A COMBINED BED AND EMERGENCY COT

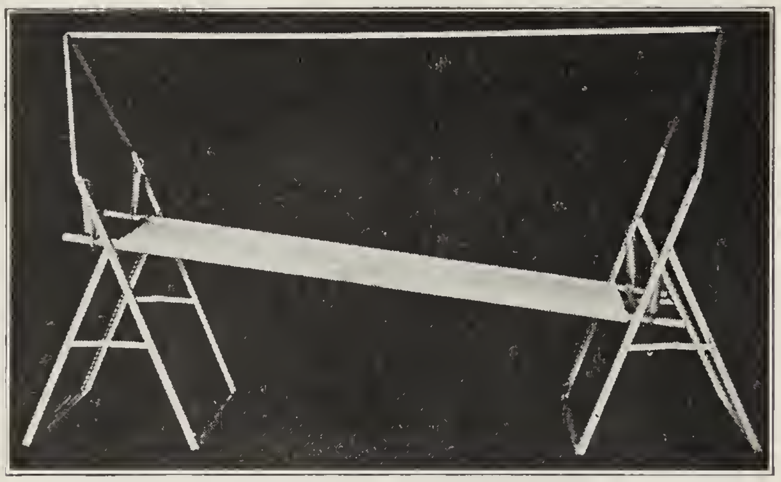
Gustavus M. Blech, M.D., Chicago

The accompanying illustration shows a separable cot-bed, primarily constructed for the humane transportation of sick and disabled on railroads, improvised ambulances, etc. Experiments with this bed have shown it to have a distinct value in hospital practice as well.

In the institution under my control we maintain such a bed for the reception of patients who have met some injury on the street or in the workshop. Usually these patients have soiled clothing and in spite of rubber sheeting, the linen and bedding are apt to become soiled. Should this happen on one of these beds, washing of the iron stand and laundering of the duck material is all that is necessary.

With this in mind we have used the bed also in a small number of cases of suppurating extremities, empyema of the chest, etc., and especially for patients who have lost sphincteric control. As already said, soiling of the entire bed would not ruin it.

The material on which the patient is to rest is put on very taut; at the same time it has sufficient resiliency to make it comfortable. The springs serve in this respect as an additional aid. We have noted that the tendency to decubitus is considerably lessened by this bed, which is probably explained by the ability to prevent wrinkling of the linen.



Adjustable spring cot with attachment for holding a canopy or a netting.

Convalescents, or patients suffering from medical and surgical diseases requiring open-air treatment, have been placed in good weather in the hospital yard on one of these cots. When not needed the bed is folded in a few seconds and put in some corner until needed again. The bed is made by the Comfort Spring Cot Co., Chicago, and costs less than the average hospital bed and a trifle more than the old-fashioned folding cots. The illustration shows an attachment for holding a canopy or a netting. This is not a part of the cot proper.

7 West Madison Street.

EARLY OPERATION FOR PERFORATION IN TYPHOID FEVER

Clarence L. Cole, A.B., M.D., Washington, D. C.
Captain, Medical Corps, U. S. Army

The patient who forms the subject of this communication was treated for typhoid fever at the Post Hospital, Fort Logan, Colo., in May and June, 1911, a positive Widal reaction being obtained on the tenth day. The course of the fever was mild and the patient was returned to duty, June 27, no typhoid bacilli being found in the urine or stools at that time. He was apparently well during the month following his discharge from the hospital.

The patient was readmitted to the hospital, July 26, with a fairly high temperature and pulse, but without abdominal symptoms. He was restless and uncomfortable during the entire day of August 1, and at about 6 p. m. of this day he complained of a sudden, very sharp pain in the right lower abdomen. He was suffering severely when seen by a medical officer a few minutes later. The features were drawn and anxious, the abdomen was retracted, very rigid, extremely tender throughout, and dull on percussion over the epigastrium. The leukocyte counts showed a rapidly progressing leukocytosis. A diagnosis of intestinal perforation was made and the abdomen was opened at midnight, six hours after the perforation. With but little difficulty a perforation of a diverticulum of the small intestine was found.

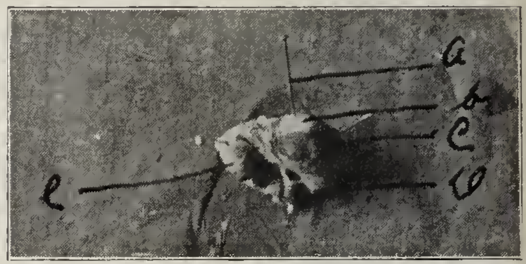


Fig. 1.—Diverticulum: *a*, pin inserted in perforation; *b*, pearly white area immediately surrounding perforation; *c*, dirty gray exudate surrounding base of follicle; *d*, one of the smaller nodules; *e*, one of the smaller nodules. From a photograph made from the preserved specimen; less than one-half actual size.

This diverticulum was about 1 inch in diameter and 1¼ inches in height, arising from the side of the bowel between the free margin and the mesenteric attachment. It was united to the bowel by a short pedicle, slightly constricted. Its dome was irregular in outline, studded with a number of irregular, indurated masses or bosses. From the center of the largest of these gas was escaping, and here an opening about one-sixteenth inch in diameter was found.

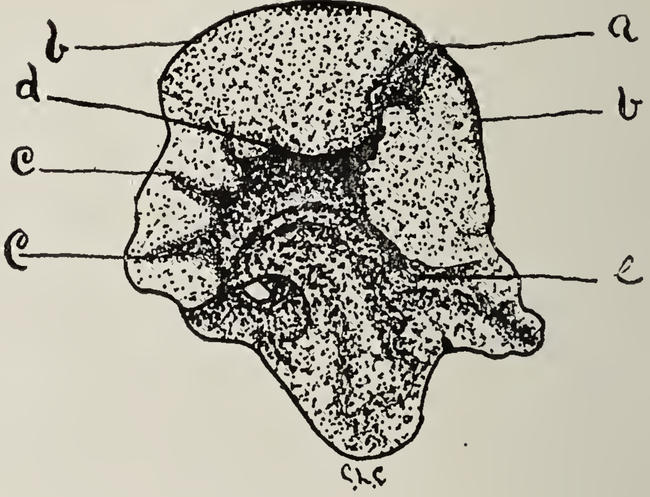


Fig. 2.—Section of lymphoid follicle showing perforation: *a*, perforation; *b*, infiltrated tissue; *c, c*, rugae in which the normal lining of the intestinal tract is intact; *d*, a recess beneath the infiltrated tissue which protrudes into the lumen of the diverticulum. From a drawing; twice actual size.

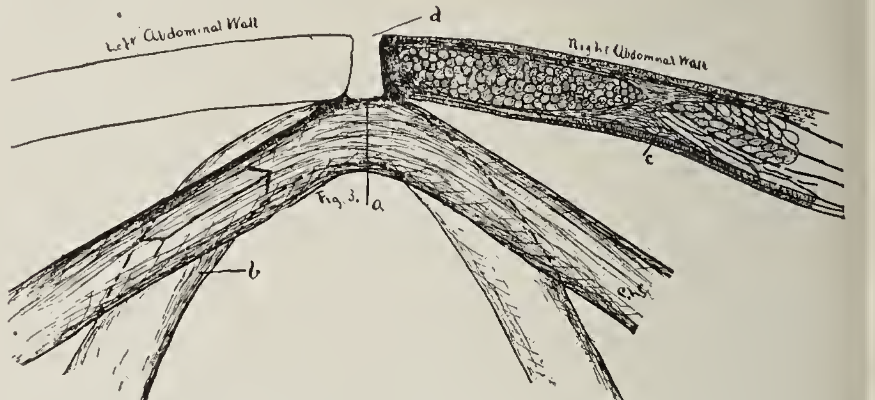


Fig. 3.—The adherent intestine with the enterotomy wound, opening on the abdominal wall; *a*, wound in intestine resulting from enterotomy; *b*, loop of intestine adherent in lower angle of original laparotomy wound; *c*, abdominal parietes; *d*, unhealed wound in abdominal parietes at center of a median incision, 4 inches in length below umbilicus (from a drawing). No obstruction closing either limb of the adherent loop of intestine was found to exist, yet removal of the occlusive dressings in the wound was followed by profuse discharge of intestinal contents.

The diverticulum was removed *en masse* and the wound in the bowel closed by a continuous suture with Lembert sutures. Ordinary peritoneal toilet. Three large wicks of gauze were introduced, one overlying the sutured intestine, one in the left flank, and one to the pelvis. The immediate course was good.

Thirty hours after operation there was a voluntary bowel movement. Forty hours after operation definite evidences of acute intestinal obstruction came on, for the relief of which the small intestine, lying at the bottom of the original wound, was opened. Immediate relief followed this enterotomy.' On December 12 a persistent fecal fistula at the site of the enterotomy opening was closed in the usual way. This procedure was followed by recovery.

Pathologic examination of the diverticulum leads to the conclusion that it was of the false or pulsion variety. Acute perforation of such a diverticulum is sufficiently uncommon to warrant a report of the case. If it serves no other purpose it will at least call attention again to the supreme importance of an early resort to operative interference.

LONGITUDINAL FRACTURE OF THE LOWER EXTREMITY OF THE RADIUS

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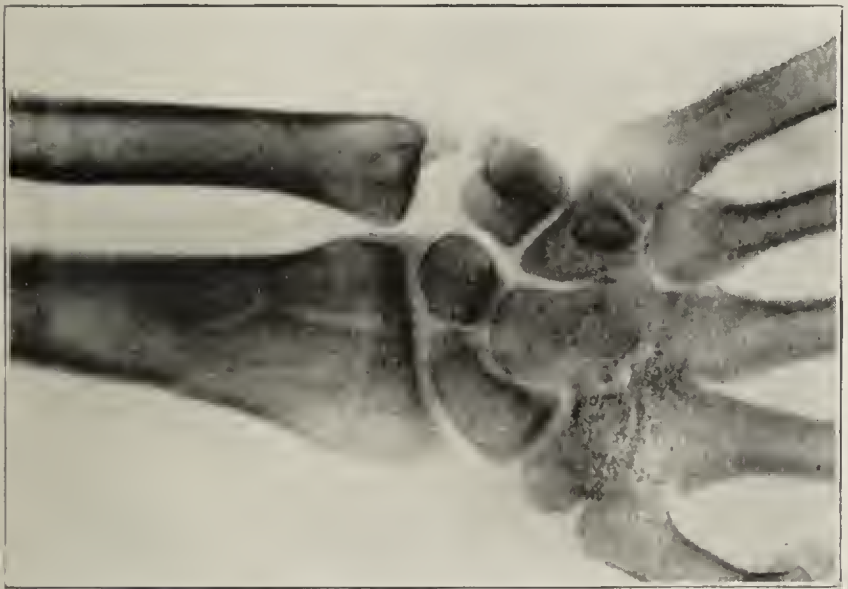
While transverse fracture of the lower end of the radius is the most frequent of all fractures, longitudinal fracture is an uncommon injury.

In 1858 at a meeting of the Boston Society for Medical Improvement, Bigelow[1] showed the lower extremity of a radius which presented on its articular surface a stellate crack, with longitudinal fissures running up the shaft for a distance of more than an inch. The patient had sustained other injuries which ultimately proved fatal. At first he complained only of lameness of the wrist, but after several days the wrist was swollen, and persistent tenderness led to a diagnosis of fracture.



Skiagram showing longitudinal fissures in fracture of the radius.

Dr. Bigelow also reported having seen a similar case two years previously, in which the cracks were not so extended.

Cotton[2] says of this type of fracture, "So far as we know they are the result of direct violence by crushing. They are very rare; three specimens constitute the total of the evidence. The writer has not seen such a fracture shown in the *x*-ray." Two of the cases referred to are the Bigelow cases. No reference is given for the third.

Stimson[3] refers to the Bigelow cases and states that he has seen one shown by skiagram.

Carl Beck[4] and Thompson and Miles[5] mention longitudinal fracture of the lower extremity of the radius, but do not quote any cases.

The case that I have to report occurred in the service of Dr. Morris Booth Miller at the Philadelphia Polyclinic, and had the following history:

T. G., aged 33, machinist, June 12, 1912, while engaged in repairing a compressed air apparatus, was struck on the wrist by a heavy piece of machinery, known as an accumulator, which fell from a height of about nine feet. The wrist was found to be slightly swollen and discolored, painful and decidedly tender over the lower extremity of the radius. There was no deformity, but the extreme localized tenderness suggested the probability of fracture, which was confirmed by the *x*-ray. The patient was treated on a Bond splint for three weeks, at the end of which time the wrist was in a normal condition, without stiffness or limitation of motion.

The lines of fracture are fairly well shown in the accompanying skiagram.

Dr Miller has seen another case of this type of fracture in which there was a single longitudinal fissure. This fracture was caused by a window-sash falling on the wrist.

5301 Chester Avenue.

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[1] Bigelow, H. J.: Boston Med. and Surg. Jour., 1858, lviii, 99.
[2] Cotton: Dislocation and Joint Fractures, p. 337.
[3] Stimson: Fractures and Dislocations, Ed. 5, p. 296.
[4] Beck, Carl: Fractures, p. 142.
[5] Thompson and Miles: Manual of Surgery, i, 499.

OTHYGROMA NEPHRITICUM

A HITHERTO UNDESCRIBED DISEASE OF THE EAR-LOBE *

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While the auricle consists of elastic fibrocartilage covered with perichondrium and skin, the lobule is made up of skin only. The subcutaneous tissue of the lobule, although highly developed, contains within its meshes only a few vessels and nerves and many fat cells. Thus, on account of its poor vitalization, the restorative power of the lobule is rather weak.

Hypertrophy of the lobule may be congenital or acquired. If acquired, it may be caused by certain diseases or brought about artificially. Congenital hypertrophy of the lobule is frequently encountered among the negro races. This portion of the auricle is artificially elongated by some savage tribes; for instance, the Botokudes introduce into the perforated lobule wooden disks of increasing size, until the lobule almost touches the shoulder. In civilized countries too an elongation of the lobule is sometimes produced in women of the poorest and richest classes by wearing large and heavy earrings.

Among pathologic conditions causing elongation of the lobule, othematoma has to be considered first. Othematoma may develop spontaneously, but is usually due to trauma. In spontaneous othematoma blood extravasates between perichondrium and cartilage of the auricle, oozing down, in some instances, into the lobule. Elongation of the lobule may also be due to elephantiasis of the entire auricle,[1] or to tumor, sebaceous cyst and horny growth at this locality. Davis[2] published a report of a case of bilateral edema of the entire auricle of unknown cause. The disfigurement was similar to that of perichondritis of the auricle. Only a slight elongation of the lobules was present. A relatively frequent disease of the ear-lobule that causes its elongation is the so-called tuberculosis of the ear-lobule, first described by Haug.[3] In these cases no ulceration is present. Their histologic structure is that of an epithelioid tubercle. The ear-lobules are elongated to the size of a walnut and show in most instances a livid discoloration. This disfigurement occurs mostly in young persons; it may be bilateral. In the center of an angioma of the lobule of twenty-two years' duration, Haug[4] found a caseous nodule the size of a walnut.

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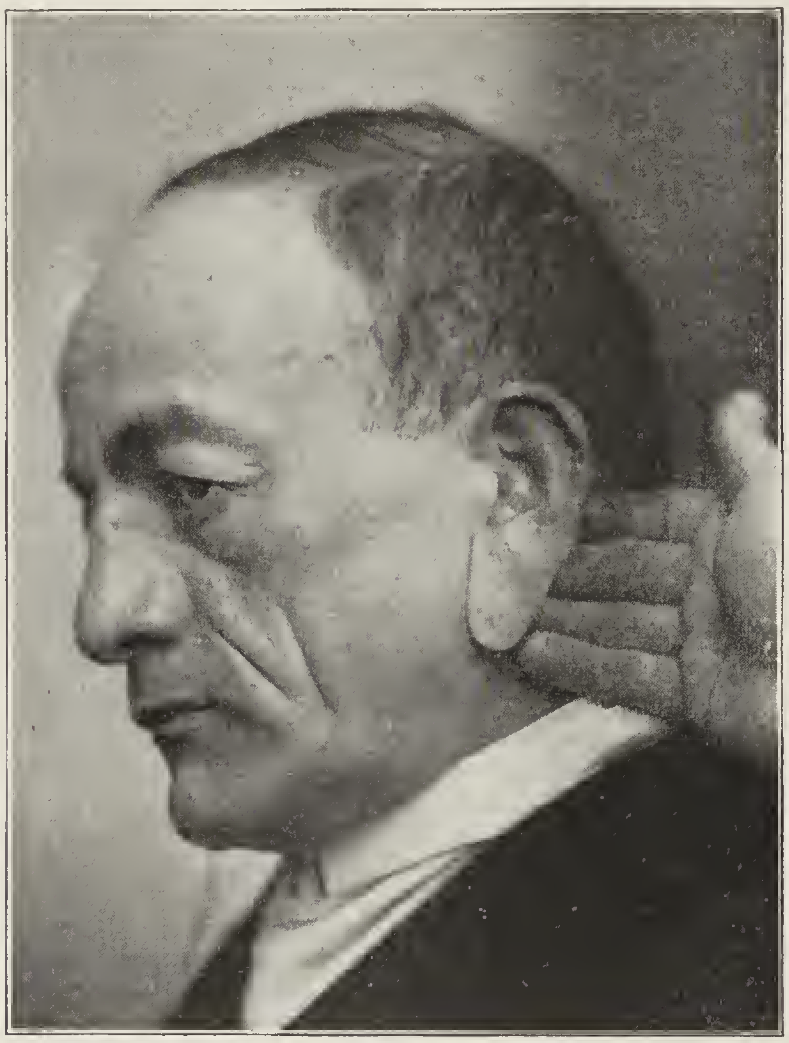
* Read at the Seventeenth Annual Meeting of the American Academy of Otolaryngology, held at Niagara Falls, Ontario, Aug. 20-22, 1912.

[1] Haug: Arch. f. Ohrenh., xliii, 15.
[2] Davis: Tr. Roy. Soc. Med., otol. section, 1911.
[3] Haug: Arch. f. Ohrenh., xxxii and xxxvi, 176.
[4] Haug: Arch. f. Ohrenh., xxxii, 158.

The following case represents a hitherto undescribed cause of elongation of the lobule:

History.—The patient, Mr. N. N., aged 30, about ten years ago was suffering from acute nephritis. Within the first days of the disease, disfiguring edema of the upper lids and nasolabial folds occurred. One week after the onset of the disease there appeared over night a pear-shaped elongation of both lobules. The lobules were then about 8 cm. long, and when the head was held straight, reached down to the level of the chin. The elongated parts contained some translucent fluid. After thorough antinephritic treatment the pear-shaped elongation became flat and somewhat reduced in size; but having reached the size it now has, it has remained permanent for the last ten years.

Present Condition.—The patient, on account of his disfigurement, looks much older than he really is. The upper lids and nasolabial folds are slack and hypertrophied. The most conspicuous feature is the elongation of the ear lobules. As the cartilage of the antitragus is wanting, both lobules start at the level of the incisura intertragica and when the head is held straight, reach down to the level of the lower lip. The vertical diameter of the elongation is 4.5 cm.; its horizontal diameters, measured below, in the middle and above, are 1 cm., 2 cm. and 3 cm. By pulling the ear-lobules downward, the elongation may be increased for 2.5 cm. further. The anterior surface of the thin translucent ear-lobules is smooth, while the posterior is greatly wrinkled.



Othygroma nephriticum or expansion of the ear-lobule due to acute nephritis.

Lung, heart and other organs are normal. The urine does not show any pathologic changes; this is due to the fact that the nephritic condition was cured after the acute attack, ten years ago. That the disease that had brought about this elongation of the lobules was really an acute nephritis was confirmed by the physician treating the patient at that time.

The patient refused to be operated on for cosmetic purposes and would not permit the removal of a piece of tissue for microscopic examination. The pathologic-anatomic changes of this condition are therefore hypothetic. I believe that there exists some analogy between this nephritic edema of the lobule and the extravasation of blood in spontaneous othematoma. L. Meyer, Parcidt, Haupt, Leubuscher, Simon, Virchow, Foerster and J. Pollak are quoted by Politzer in his text-book as considering degeneration, softening, formation of fissures and cavities, vascular exuberation and new formation of the auricular cartilage predisposing factors of spontaneous othematoma. The experiment of Brown-Séquard, showing that a hemorrhage occurs in the auricle of animals after the restiform body has been severed, points to factors even more centrally situated that seem to predispose to what looks like a spontaneous othematoma. In Davis' case of bilateral edema of the auricle, pathologic changes of the auricular cartilage are evidently the underlying condition. In the case which I have reported the cartilage of the antitragus was found wanting.

The fact that this kind of disfigurement of the ear-lobule has not hitherto been described seems to indicate that in a normal auricle nephritic changes occur with extreme rarity. In this case the cartilage of the antitragus had probably undergone some degenerative changes previously; these changes in turn were preparing the way for a nephritic edema which filled up and expanded the lobule to its utmost capacity. As a result of the pressure of the fluid, the cartilage of the antitragus was destroyed by colliquifaction, similar to the destruction of the cartilaginous menisci in hygroma of the knee-joint. Before absorption had been completed, the tissues of the lobule also became affected by these pathologic influences and lost their restorative power. Another explanation of the pathologic processes might suggest itself. The edema within the subcutaneous sac of the lobule might have occurred primarily, destroying the cartilage of the antitragus secondarily by colliquifaction. Histopathologic examination in any future case of this condition will decide the question.

In analogy to othematoma, in which there is extravasation of blood into the auricle, I propose to term this extravasation of serum into the lower part of the auricle, with reference to its etiology, "othygroma nephriticum."

1320 Madison Avenue.

Therapeutics

DISTURBANCES OF THE HEART

(Continued from page 49)

THE RESORT TREATMENT OF CHRONIC HEART DISEASE

In line with the continued growing popularity of special resorts and special cures for different types of disease, resort or sanatorium treatment for chronic heart disease has grown to considerable popularity during the last twenty years or more. The most popular of these resorts owe their success to the personality of the physicians, who have made heart disease a life study.

Perhaps the most noted of these resorts for the cure of heart disease is that at Bad Nauheim, Germany, which was inaugurated by Dr. August Schott and Prof. Theodore Schott, and is now conducted by the latter, Dr. August Schott having died about twelve years ago. Hundreds of patients and many physicians have testified to the value and benefit of the treatment carried out at this institution.

The method of treatment largely employed at these heart resorts is to withdraw all, or nearly all, of the active drugs that the patient may be taking, and to substitute physical and physiologic methods of therapy. These include bathing, regulation of the diet, and exercise. This exercise consists of two varieties: exercise of the muscles against the resistance of an attendant, and exercise by walking on inclined planes or up hills. The treatment is aimed at chronic heart disease, to develop a greater cardiac reserve strength; the whole object of the treatment is to strengthen the myocardium, either in conditions of its debility or in conditions of diminished compensation in valvular disease. Any treatment that will develop a reserve heart strength to be called on in emergencies, more or less similar to the reserve strength of a normal heart, tends to prolong the patient's life and health.

Patients with acute heart failure or acute loss of compensation, with more or less serious edemas, should rarely take the risk of traveling any distance to be treated at an institution. As a general rule they are better treated for a few weeks or months at home. After the broken compensation is repaired, a reserve strength of the heart may well be developed by a visit to one of these institutions, if the patient can afford it.

The Oertel treatment consists chiefly in diminishing the fluids taken into the body, and in graduated mountain-climbing. By diminishing the fluids taken, the work of the heart is diminished, as the blood-vessels are not overfilled and may even be underfilled. The diet is carefully regulated with the object of removing all superfluous fat from the body. The third leg of the tripod of the Oertel treatment is the gradually increasing hill and mountain-climbing to educate the heart by graded muscular training to become strong, perfectly compensatory, and later to develop a reserve strength. This particular cure is especially adapted to the obese, who have weakened heart muscles.

At Nauheim, under the direction of Dr. Theodore Schott, baths form an important part of the treatment. These baths are of two kinds, the saline and the carbonic acid. The medicinal constituents of the saline bath are sodium chlorid and calcium chlorid, the strength of each varying from 2 to 3 per cent. The baths at first are given at a temperature of 95 F., and as the patient becomes used to them and can take them without discomfort, the temperature is gradually reduced. The patient remains in the bath from five to ten minutes. After the bath he is dried with towels and rubbed until the cutaneous circulation becomes active. He must then lie down for an hour. These baths are repeated for two or three days, and are omitted on the third and fourth days, to be resumed on the following day. After a few baths have been taken, the carbon dioxid baths are commenced, beginning with a small quantity of the gas, which is later gradually increased. This course of baths should be continued from four to eight weeks. Unless there is some special reason for taking them at some other period of the year, they are taken more advantageously during the warm months.

Besides the baths, an important part of the treatment at Nauheim consists in the exercises against resistance. These are usually given an hour or more after a bath, and are taken with great deliberation; their effect is carefully watched by an intelligent attendant so that no harm may be done by the exercise.

During this treatment the food is, of course, carefully regulated with the aim of giving a mixed, sufficient, easily digestible and easily assimilated diet. All highly seasoned dishes, all effervescent drinks and anything that tends to cause gas in the stomach and intestines are prohibited. Coffee and tea are not allowed, except the "dekofa," which is coffee without its caffein; and it may be noted that it has recently been shown that caffein is one of the surest of drugs to raise the blood-pressure, and is therefore generally not desirable when the heart muscle requires strengthening. Because of its tendency to raise blood-pressure and weaken cardiac muscle, tobacco is entirely forbidden at Nauheim, except in a few individual instances, and then the amount allowed is a minimum one. Large amounts of liquid are not allowed because they distend the stomach, raise the blood-pressure and increase the pumping work of the heart.

One of the greatest advantages of the treatment at an institution like Nauheim is the general hopeful spirit instilled into the patients, who are so many times seriously depressed by the knowledge of a heart weakness and the realization of their physical inability to do what other persons are able to do. Also, it is of great value to send a patient to a resort where the climate is good and the scenery is lovely and soothing. No disease, perhaps, needs cheerfulness and pleasantness and lack of anxiety or frets more than does cardiac weakness. A tuberculous patient may sit on a mountain-top with snow blowing about him, and recover; a heart patient must have sunshine and comfort.

The results of such sanatorium treatment of heart disease are often evident not only to the patient by an increase of general muscle strength, the ability to do ordinary things and perhaps even sustain muscular effort without dyspnea and cardiac discomfort, but also to the physician by the physical signs. The contraction of the heart becomes stronger and the normal sounds more decided; murmurs which were entirely due to dilated ventricles and insufficiency disappear, while the permanent murmurs may become louder from a more forceful, normal action of the heart muscle. The pulse becomes slower, and the blood-pressure, from being too low, becomes normal for the age of the individual. The heart will often also actually decrease in size, and the apex-beat become localized rather than diffuse. The liver becomes reduced in size; the urine is less concentrated, and if there were traces of albumin after exertion, these disappear.

It should perhaps be emphasized that not a little benefit from these resort treatments may be due to the withdrawal of unnecessary drugs. Many heart patients are overdrugged.

This sort of treatment is contra-indicated in some kinds of heart disease, as heart weakness due to arteriosclerosis with high blood-pressure, to aneurysm of the thoracic or abdominal aorta, and to nephritis.

So many heart patients have been improved by the Nauheim treatment that the question arises as to whether the treatment can be conducted at home or in a sanatorium near home, when the patient is unable to go to this resort; that is to say, Can we establish this treatment for the majority of patients who have chronic heart disease? Of course, even at home, the sodium chlorid and calcium chlorid baths may be given, and one may obtain the salts with which to make the carbon dioxid bath; the exercises may be given, and walking on various ascending grades may be inaugurated. All patients will be more or less benefited, provided they will carry out the treatment. Unfortunately, the surroundings at a patient's home are generally adverse to perpetuating these treatments long enough to develop the muscular strength of the heart to the reserve desired. If a patient appears pretty well, especially if he is stimulated by his family to believe that he is well, he thinks the continuation of the treatment entirely unnecessary, and unless he goes to a resort where he sees other patients with similar conditions able to do what he is not able to do, and therefore is stimulated to acquire their ability by the treatment outlined, he will not follow his physician's directions. There are several sanatoriums in this country where the diet, hydrotherapy and exercise necessary for developing heart strength are carried out, and patients are sent to some of them with great advantage.

It has been found that these stimulant baths do not act well in mitral stenosis, if the left ventricle is small. If the left ventricle is unable to receive and therefore send out into the systemic circulation sufficient blood to dilate the peripheral capillaries under the irritation of the baths or the vasodilator effects of the baths, the bath treatment does harm instead of good. A patient who has mitral stenosis and also a small left ventricle will be found to be poorly developed, badly nourished, and to have poor peripheral circulation.

As elsewhere stated, the improvised carbon dioxid bath, to stimulate the skin so as to reduce the blood-pressure, is not satisfactory. Other methods of reducing blood-pressure, when it is too high, are much more effective.

HEART DISEASE IN CHILDREN

A common characteristic in a large proportion of middle-aged or old patients with heart disease is the presence of degenerative changes in the myocardium, the valves, or the arteries of the heart. In children, on the other hand, the most common disturbances of the heart are acute inflammations affecting its different structures, and due in most instances to acute infections. Myocarditis and endocarditis occur frequently, and pericarditis occasionally. As in adults, rheumatism is the most common cause of inflammation of the structures of the heart, but rheumatism causes inflammation of the heart much more frequently in children than in adults. Besides this infection, the most frequent causes of inflammation of the heart in children are diphtheria, scarlet fever, typhoid fever, measles and influenza, with the frequency, perhaps, in the order named. Diphtheria frequently gives rise to myocarditis, which results in dilatation of the heart. This may occur in the second or third week of the course of the disease, and even up to the eighth and tenth week from the beginning of the disease. The myocarditis due to diphtheria is not always the cause of sudden death occurring during the disease, as such a fatal result may be due to paralysis of nervous origin. In scarlet fever inflammation of the heart may be due directly to the poison of the disease, or it may be secondary to a nephritis which is so frequent a complication of scarlet fever. It is probable that the inflammation of the skin in scarlet fever, preventing normal secretion, may be a cause of a sometimes increased blood-pressure and also of the nephritis, both of which conditions may predispose to the cardiac complication. Erysipelas may cause acute inflammation of the heart, perhaps for the same reasons.

A certain proportion of cardiac diseases in children, especially endocarditis, seems to be due to a general septic infection which results in the so-called septic, infectious or malignant endocarditis. There is sometimes a tendency in certain children, and perhaps in certain families, for the heart to become readily infected during an infectious disease, more than in other children who suffer from the same disease. Sometimes the heart becomes inflamed in rheumatic children without any joint affection occurring; the inflammation in the heart may be the only manifestation of the disease.

This etiology of cardiac affections of children indicates the directions in which therapeutic efforts should be aimed. In children who are under the more or less constant care of the family physician, the possibility of the occurrence of some cardiac affection should be borne in mind, especially in children in families who are known to be affected with what may be called a rheumatic diathesis — families in which several members have suffered from rheumatism. It is reasonable to suppose that children who are delicate and feeble, who do not have sufficient fresh air, who do not take sufficient exercise, and who are not properly fed are more likely to be affected with cardiac complications in the presence of infectious diseases than children who have had plenty of fresh air, an abundance of exercise and a sufficient amount of proper food.

At the present day it is hardly necessary to insist on the importance of giving every child an adequate amount of fresh air. It is possible, however, that this gospel has been overworked, and it is not infrequently necessary to caution some parents that there is danger of impairing their children's health by too much exposure. The old ideas of the influence of exposure to cold and dampness in the production of rheumatism have not yet been so far abandoned that we can entirely neglect the possibility of rheumatism being developed, at least, by the exposure to cold winds and dampness of children who are otherwise predisposed to this disease. It is possible that the enormously increasing number of children with adenoids and enlarged tonsils, who need operative measures for their removal, may have these conditions aggravated by too much exposure to the inclemency of variable, harsh weather.

It is not necessary to state that proper exercise develops the heart, as it does all the other muscles; but at the same time it is necessary to caution parents against allowing their children to indulge in too violent and too prolonged exercise. Young children probably stop often enough in their play not to overwork their hearts. Older boys and girls, especially boys, are inclined to take too severe athletics, such as long-distance running, competitive rowing, violent football and rapid cycling. It should be emphasized to schoolmasters, gymnasium teachers and athletic trainers that a boy who is larger than he should be at his age has not the circulatory ability that the older boy of the same size has. The overgrown boy has all he can do to carry his bulk around at the speed of his age and youth. The addition of competitive labor overreaches his reserve heart power, and he readily acquires a strained, injured heart. On the other hand, moderate indulgence in walking, baseball, swimming, rowing and golf should be commended. It is not exactly the exercise that does him the harm, it is the competitive element in it. Until a boy is well developed in his internal reserve strength, he should not compete with other boys who are better developed. His pride makes him do himself injury.

Dietetic fads are so prevalent to-day that there is danger that many children will not receive an adequate amount of nutriment, that they will be fed an excess of such foods as are likely to produce damage to their constitutions, or that they will be given food that does not contain all the different elements of nutrition to satisfy their economy and their growth. While it is now generally acknowledged that an excess of meat is not beneficial to any one, on the other hand a moderate amount is necessary for individuals who are working or are mentally active, especially for growing children. Also a too great limitation of the child's diet to farinaceous foods, and especially the allowance of too much sugar and sugar-producing food, is likely to encourage the development of rheumatism. A mixed diet, not excessive in amount, and prepared so that it will be digested without difficulty is most useful, and it should include in suitable proportions meat, milk, eggs, vegetables, starches and fruit. These should all be taken at regular intervals, thoroughly chewed, and should not be taken in excess.

If a child has had an attack of heart inflammation, a myocarditis or an endocarditis, greater care should be taken of him not only when he is well but especially when he becomes ill of any other disease. If the child has had a rheumatic inflammation of the heart, or has had rheumatism without such a complication, it is considered by some clinicians wise to give a week's treatment with salicylates at intervals of three or four months, for two or three years, perhaps. It is hard to determine how much value this prophylactic treatment has. If the child's surroundings cannot be changed and he is subjected to the same conditions of possible reinfection, it may be a wise precaution, much like the prophylactic administration of quinin in malarial regions. If a child has developed a cardiac inflammation during any disease, the treatment is that previously outlined.

An important part of prophylaxis and treatment of a cardiac affection during the course of any disease is the prevention of serious anemia. During sickness the patient is likely to become more or less anemic, but the administration of iron, in the manner previously suggested, during the course of the disease, and especially during rheumatism, will prevent the anemia becoming rapid or severe.

CARDIAC DISEASE IN PREGNANCY

It is so serious a thing for a woman with a valvular lesion or other cardiac defect to become pregnant that no young woman with heart disease should be allowed to marry. Perhaps every normal heart during pregnancy hypertrophies somewhat to do the extra work thrown on it, but it may easily become weakened and show serious disturbance as its work grows harder and the distention of the abdomen and the upward pressure on the diaphragm increase. This pressure perhaps generally displaces the apex of the heart to the left and causes the heart to lie a little more horizontal. If the patient is normal, there may be a gradually increasing blood-pressure all through the months of pregnancy, and if the kidneys are at all disturbed this pressure is increased, and there is, of course, much increased resistance to the circulation during labor. The better the heart acts, the less likely are edemas of the legs during pregnancy. It is thus readily seen that pregnancy is a serious thing for a damaged heart. The reserve strength of the heart muscle, as has been previously stated, is much less in valvular compensation than that of a normal heart, and this reserve force is easily overcome by the pregnancy, and loss of compensation occurs with all of its usual symptoms.

The most serious lesion a woman may have, as far as pregnancy is concerned, is mitral stenosis. An increased abdominal pressure interferes with her lung capacity, and her lungs are already overcongested. The left ventricle may be small with mitral stenosis, and therefore her general systemic circulation poor. For these two reasons mitral stenosis should absolutely prohibit pregnancy. While many women with well-compensated valvular disease go through a pregnancy without serious trouble, still, as above stated, they should be advised never to marry. If they do marry, or if the lesion develops after marriage, warning should be given of the seriousness of pregnancies.

If a woman becomes pregnant while there are symptoms or signs of broken compensation, there can be no question, medically or morally, of the advisability of evacuating the uterus. The same ruling is true if during pregnancy the heart fails, compensation is broken, and the usual symptoms of such heart weakness develop, provided that a period of rest in bed, with proper treatment, has shown that the heart will not again compensate. Under such a condition delay should not be too long, as the heart may become permanently disabled. If during pregnancy in a patient with a damaged heart albuminuria develops and the blood-pressure is increased, showing kidney insufficiency, there can be no question of delay from every point of view, labor must be precipitated; the uterus must be emptied to save the mother's life.

If a pregnant woman is known to have a degenerative condition of the myocardium, or arteriosclerosis, the danger from the pregnancy is serious, and the pregnancy should rarely be allowed to continue.

Even if no serious symptoms occur during the term of the pregnancy and the heart continues to compensate sufficiently for its defect, labor should never be allowed to be prolonged. The tension thrown on the heart during labor is always severe and has not infrequently caused acute heart failure by causing acute dilatation, and in these damaged hearts tediousness and severe, intense exertion should not be allowed. Proper anesthetics and proper instrumentation should be inaugurated early.

Patients who have successfully passed through the danger of pregnancy with cardiac lesions, possibly relieved by radical treatments, should be warned against ever again becoming pregnant. If this warning does not prevent future pregnancies, the family physician and his consultant must decide just what is proper to do. It is to be understood that no uterus should ever be emptied until one or more consultants have approved of such treatment.

Sometimes serious heart weakness develops during the later weeks of pregnancy, requiring the patient to remain in bed and receive every advantage which rest, proper care and well-judged medicinal treatment will give the circulation.

If the heart is weak and there have been signs of myocardial weakness or loss of compensation, the sudden loss of abdominal pressure after delivery may allow the blood-vessels of the abdomen to become so overfilled as to cause serious cerebral anemia and cardiac paralysis. Therefore in such cases a tight bandage must immediately be applied, and it has even been suggested that a weight, as a bag of sand weighing several pounds, be placed temporarily on the abdomen. The greatest possible care should be given these women during and after labor.

Acute dilatation is not an infrequent cause of death during ordinary labor, and is more likely to occur in these cardiac patients. If signs of acute dilatation of the heart occur, with associated pulmonary edema, venesection (especially if there has not been much uterine hemorrhage), with the coincident intramuscular injection of one or two syringefuls of aseptic ergot, will often be found to be life-saving treatment.

Septic infections after parturition are prone to cause endocarditis and myocarditis, and a malignant endocarditis may develop from uterine infection or uterine putridity.

(To be continued)

Heredity and the Unfit.—In the instance of primary dementia of adolescence, there is a strong correlation between members of the same cofraternity. There is also a decided tendency indicated for the brothers and sisters of imbeciles to be also imbeciles.—Edward Shuster and Henry A. Cotton in *Am. Jour. Insan.*

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NUTRIENT POSSIBILITIES OF THE POTATO

In contrast with the ordinary animal foods, most dietary products of vegetable origin, especially those which still retain much of the structural form and character in which they exist in the plant, are regarded as being poorly utilized in the human alimentary tract. In many cases this is due to the peculiar texture of the food materials. The real nutrients are packed away in more or less impervious structures and cellulose walls, or enveloped in resistant, branny coverings which render them less exposed to the solvent agencies of the digestive juices. Accordingly many of the familiar plant products such as the highly albuminous legumes, peas and beans, are liable to escape through the alimentary tract in part unabsorbed and unutilized. Meanwhile they become exposed to the attacks of the bacteria in the gastro-intestinal region, giving rise to objectionable products of putrefaction in place of wholesome digestion derivatives. Many of the ordinary culinary methods and modern devices in food manufacture tend to improve the texture and thereby lend an added digestibility to such vegetable products. Hulled beans, decorticated cereals and finely ground dried legumes represent steps in this direction, all of them furnishing products physiologically more economical from the point of view of the yield of digestible energy which they contain.

An added factor in lowering the comparative utilization of the vegetable products is their large content of indigestible cellulose and residues of a similar nature — the crude fiber of the analyst — which give a peculiar bulk to the alimentary contents and thereby exercise a mechanical stimulus on the intestinal wall. This influence tends to cause a more speedy movement of the contents along the digestive tract and a consequent more rapid evacuation of the contents, possibly limiting the opportunity for more complete utilization. A further charge is sometimes made, involving the unusual amounts of carbohydrates which vegetable products tend to incorporate in the diet. It is maintained that the concentration of these may readily induce fermentations accompanied by the formation of acid products which also stimulate peristalsis and lead to a more speedy emptying of the bowel than is customarily the case. This speedy evacuation tends to accentuate the poorer utilization which the comparative shortness of the human alimentary tract of itself conditions.

Compared with familiar animal products, such as meat, the majority of the vegetable foods are low in their protein content. So long, therefore, as the older notions regarding the protein standards in the diet prevailed and the individual was expected to be supplied with from 125 to 150 gm. of albuminous foodstuff per day, the quantity of vegetable food necessary to furnish this became unduly large. For example, ten pounds of potatoes or nearly four pounds of rye bread are requisite to furnish the same amount of protein as a pound of lean meat. Experimental attempts to provide exclusive vegetable dietaries have usually failed because of the impossibility of inducing persons to consume, or at any rate to digest adequately, the bulky portions of such rations from plant sources as were assumed to be called for to preserve the protein nutritive equilibrium.

In late years, however, our ideas respecting the protein minimum or optimum have been distinctly modified in the direction of a somewhat lower requirement. In view of the clearly demonstrated possibility of existence on a daily protein intake decidedly below the conventional hundred grams we can better appreciate the experience which Hindhede has lately gathered in Denmark in regard to the use of potatoes in the dietary.[1] The "coefficients of digestibility" of potatoes ordinarily quoted from Rubner's researches indicate losses of nitrogen amounting to one-third of the ingested quantity. Hindhede observed a subject who, for more than a month, subsisted on potatoes and fats of various description without other additions to the dietary. The average daily protein intake was equivalent to less than 40 gm. The actual ingestion of nitrogen was never more than 7 gm.; but it should be recalled that perhaps one-third of this was in forms other than true proteins. During this experimental period the subject consumed about 5 pounds of potato per day along with 120 gm. of butter or "margarin." The utilization was excellent; the calorific needs were apparently supplied; the body weight remained unchanged; and at the end of the five weeks nitrogen equilibrium was established. Trials on other subjects have likewise indicated the satisfactory utilization of the foodstuffs of the potato. In every case stress was placed on the need of adequate mastication; and the overloading of the digestive tract at any one time was carefully avoided.

It will surprise many who have been inclined by tradition or otherwise to minimize the nutrient possibilities of the potato in any direction except as a convenient source of starch, to learn of these newer findings. It is commonly overlooked that the potato, in contrast with some of the legumes and cereals, is not unduly rich in cellulose in a form which interferes with the satisfactory digestive attack of other foodstuffs. The most striking feature, however, is the apparent adequacy of the nitrogenous components of the potato to supply a liberal fraction of the requisite protein, in trials not only of brief duration, but also over periods of sufficient length to give some assurance of their success. The attempt to allot to the potato a worthy rôle in the dietary of to-day is a justifiable step in the direction of lowering the cost of living.

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[1] Hindhede, M.: Untersuchungen über die Verdaulichkeit der Kartoffeln, Ztschr. f. diätet. u. physik. Therap., 1912, xvi.

FEEBLE-MINDEDNESS AND IMMIGRATION *

In a previous editorial,[1] in commenting on the investigation of feeble-minded children in New York by the New York Society for the Prevention of Cruelty to Children, we said: "Census statistics show that 30 per cent. of the feeble-minded children in the general population of the United States are the progeny of aliens or naturalized citizens. According to this at least 3,000 of the feeble-minded children of New York are the offspring of the 9,000,000 immigrants of the past decade."

Different conclusions on this important question are reached by Dr. Henry H. Goddard in a recent article.[2] He says: "There seems to be a rather prevalent idea that an undue percentage of immigrants are mentally defective, or to put it the other way, an unduly large percentage of our mental defectives have come from foreign countries." He goes on to say that in his opinion this is greatly overestimated and that the actual number, if it could be learned, would be far less than is supposed. With a view of ascertaining to what degree the foreign-born contribute to the population of the feeble-minded he caused an inquiry to be made among sixteen institutions which care for this class. The result showed that only about 4.5 per cent. of 11,000 inmates were foreign-born.

Dr. Goddard, besides being a recognized authority on all questions dealing with the problem of mental defectives, is the director of the research laboratory of the Training School at Vineland, N. J., probably the foremost institution of its kind in this country. Anything he may say on this subject will undoubtedly be given great weight, and it is to be feared that his conclusions on the relation of immigration to the prevalence of feeble-mindedness may be misconstrued and made into political capital by interested parties. It is worth while, therefore, once more to examine the subject and the validity of the various conclusions thereon.

In the first place, when we look into the locations of the institutions from which were compiled the statistics quoted by Dr. Goddard, we are forced to conclude that they do not give a fair idea of the prevalence of feeble-mindedness throughout the United States. For instance, the states of New York and New Jersey with their immense foreign population are represented by only two institutions each, and Illinois, Pennsylvania and Massachusetts by one each. Out of the total of 508 of foreign birth these states contribute 311. The question naturally arises, What would be the result if the nationality of all the feeble-minded in these states with their large population of foreign birth could be ascertained?

Many investigators have independently arrived at the conclusion that the foreign element does in reality contribute more than its share to the feeble-minded. For example, Anna Moore found that all but forty of 317 mentally defective children selected at random from thirty-two ungraded classes in the New York public schools were either foreign-born or the children of foreign parents.[3] The reports of the census of the insane and feeble-minded in institutions in the United States in 1903 showed that the proportion of feeble-minded was four times as great for the foreign-born as for the native.[4] Moreover, since the examining physicians at Ellis Island with manifestly inadequate facilities and by the most cursory sort of inspection are able to pick out on an average from forty to fifty cases of mental defect each month, it seems highly probable that large numbers of the higher grades of mental defect must pass unobserved.

Thus the validity of Goddard's general conclusion that the foreign-born do not contribute more than their share to the feeble-minded stock is at least doubtful. But even granting the correctness of this conclusion, it by no means follows that our efforts to keep out alien defectives should be relaxed or diminished. In the words of Prof. Robert DeCourcy Ward[5] of Harvard: "It is no argument against practicing eugenic ideals in the selection of our alien immigrants to say that the New England country towns are full of hopelessly degenerate native Americans who are inferior mentally, morally and physically to the sturdy peasants of Europe. The degeneracy of our country native stock is probably chiefly due to the drawing off of the stronger and more capable men and women to the cities, to prolonged inbreeding and to the continued reproduction of feeble-mindedness, which is rife in many of our country districts. It will not help to reduce the number of our native degenerates if we admit alien degenerates."

DISTRIBUTION OF PELLAGRA IN THE UNITED STATES

The occurrence of from thirty to fifty thousand cases of pellagra in the United States within the last six years with a death-rate of about 39 per cent. calls attention to this disease as one of national importance. The fact that the figures given above constitute only a rather

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* In connection with this subject the papers in this issue of Dr. H. A. Knox, p. 105, and Dr. C. P. Knight, p. 106, will be of interest.

[1] Mental Disorders and Immigration, editorial, THE JOURNAL A. M. A., March 30, 1912, p. 938.

[2] Goddard, Henry H.: The Training School, October, 1912.

[3] Moore, Anna: The Feeble-Minded in New York, a Report Prepared for the Public Education Association of New York, N. Y. State Charities Aid Association, 1911.

[4] Special Reports of the Census Office, Insane and Feeble-Minded in Institutions, 1904.

[5] Ward, Robert DeCourcy: Our Immigration Laws from the Standpoint of National Eugenics, Scient. Am. Supplement, May 4, 1912.

rough estimate of the number of cases again directs attention to the very defective machinery for securing vital statistics in this country.

Although it is outside the province of the United States Public Health Service to collect such statistics, Lavinder,[1] of that service, has attempted to gather figures concerning the prevalence and distribution of pellagra in the United States. The pellagra area lies to a large extent outside the registration area of the country and the figures obtainable through the United States Census Bureau are almost a negligible quantity. Lavinder, therefore, endeavored to secure figures from state authorities, from public institutions and from private sources, and though this method of securing information is never accurate or satisfactory, yet he believes that it may be said with some degree of assurance approximately how much pellagra there is in the United States and where it is to be found. A map is given showing that pellagra has been reported from every state in the union except New Hampshire in the east and the group of western and northwestern states comprising Idaho, Minnesota, Montana, the two Dakotas, Utah, Wyoming and Nevada. The greatest prevalence is found in the group usually spoken of as the Southern states, which group of states, with the exception of Kentucky, is practically all outside the registration area. In only one state is the disease reportable by law.

Many interesting facts concerning pellagra are given in Lavinder's report but, as emphasized by him, although pellagra cannot be compared in prevalence with such a disease as typhoid fever, for example, yet the large number of cases and the high mortality-rate together with its wide and apparently increasing distribution make it a disease of national importance, and afford an additional strong reason why every state not already having adequate vital statistics laws should at once enact such laws. The aid which accurate figures and facts concerning the epidemiology of this important disease would give in the solution of the problem of pellagra should alone be sufficient to demand the enactment of such laws in the coming legislatures of every state not now within the registration area.

THE INFECTIOUS-DIETETIC HYPOTHESIS OF PELLAGRA

Generally speaking, there are two divergent views as to the nature of pellagra, the zeistic and the antizeistic. According to the zeistic view, pellagra is essentially a dietetic disease depending on an undue preponderance of maize in the diet or on the use of spoiled maize. This view consequently places pellagra in the same class with beriberi and scurvy. There is no experimental evidence, however, to support the zeistic hypothesis which is especially prevalent in Italy. According to the antizeistic view pellagra is an infectious disease, the infecting agent being as yet unknown. From a consideration of the facts at hand in regard to the occurrence of pellagra in general, Sambon felt warranted in asserting that certain species of *Simulium* — black fly, sand-fly — are carriers of the virus, but so far no convincing evidence of experimental nature has been obtained to support Sambon's view.

Recently the idea has been advanced that pellagra may be due to an infection of the intestinal canal and that a diet insufficient in animal protein may predispose to the development of the disease (Illinois Pellagra Commission[1]). This conception rests on the frequent occurrence in pellagra of marked gastro-intestinal symptoms associated with inflammation and ulceration of the intestinal lining, on evidences, clinical as well as anatomic, of a general intoxication, and on the fact that the diet in hospitals for the insane in which pellagra has developed, and of the Italian peasantry which has suffered so greatly from the disease, has been rather low in animal protein. This view constitutes a combination of the zeistic and antizeistic hypotheses and would seem to possess elements of value as a working hypothesis because it indicates definite but broad lines along which to direct preventive efforts. If this infectious-dietetic hypothesis is adequate, pellagra can be prevented by means of proper diet or by the prevention of the infection, whatever its nature may be, and most effectively by the combination of these methods. So many foci of pellagra have been discovered in the insane hospitals of the United States during the last few years, and it is so difficult to control the diet of the individual insane patient, although the dietaries of such hospitals may leave nothing to be desired, that it would seem clearly indicated that measures to prevent the hypothetic infection must not be neglected. In its report the Illinois Pellagra Commission is silent on this point. If pellagra is infectious, then one source of the infection, and probably the most important, is the pellagrous patient, so that the necessity for preventing the spread of the infection by direct and indirect means needs no emphasis.

It is doubtful if conditions here permit sufficiently practical tests of the infectious-dietetic hypothesis of pellagra to give conclusive results; but when the means of prevention of this disease are considered on the basis of an infectious hypothesis, then the most likely source of infection should not be overlooked.

AMERICAN MEDICAL MEN IN DANGEROUS POSTS

During the unparalleled epidemic of pneumonic plague by which Manchuria was ravaged in the winter of 1910-1911, Drs. Richard P. Strong and Oscar Teague of the Bureau of Science in Manila were hastily sent, at the instance of the U. S. War Department and the American National Red Cross, to assist in combating the dread disease. The details of their experiences, both personal and scientific, have lately been published.[1] The story is one that reflects great credit on the investigators who undertook this dangerous and self-sacrificing mission, and must fill the hearts of their professional colleagues with pride. It is only another instance of the intrepid devotion to duty and to science of which American medicine has furnished conspicuous examples. With only the crudest hospital facilities, with a hastily gathered laboratory outfit, without suitable assistance and cooperation, in the depths of a Manchurian winter, they encountered a situation in which numbers of the afflicted were brought to a hospital to die and removed each morning to the dead-house. The great fear of contracting the disease made it practically impossible to secure medical attention for the sick. Patients were not separated one from another in any way. Walls and floors covered with bloody sputum, temperature below freezing in the wards at least during the night, sputum frozen solid in the cups, no other foreign physicians in attendance, a number of the native staff of the hospital infected and dying — such were some of the conditions that confronted the American physicians.

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[1] Lavinder, C. H.: Pub. Health Rep., Dec. 13, 1912.

[1] Pellagra in Illinois, Arch. Int. Med., August, 1912, p. 123.

By observing the strictest personal precautions against contracting the plague Drs. Strong and Teague remained entirely healthy, although they worked in the wards each day until the end of the epidemic and were often with patients for several hours continuously. They were protected by proper masks, by goggles, rubber gloves and a cotton uniform; but it has since been demonstrated by special experiments[2] that the type of mask used by them is not entirely bacteria-proof, and the question of efficient safeguards to diminish the danger of contracting infection in pneumonic plague epidemics deserves careful consideration.

In view of the fact that no elaborate scientific investigations had previously been pursued during an extensive outbreak of pneumonic plague, the studies of the American scientists on the pathologic anatomy of the disease are unusually important. The extreme sensitiveness of the Chinese people and the reverence with which they regard the bodies of the dead made it seem likely that necropsies would never be permitted and that personal harm might befall those who attempted them. This situation was also overcome by skilful diplomacy, and the first post-mortem examinations ever permitted in Mukden were successfully performed under unusual difficulties. It is related that the water in the buckets would sometimes freeze while the necropsy was being performed, and that the blood formed icicles as it flowed over the edges of the tables.

The investigations of Strong and Teague on the mode of transmission of pneumonic plague make it evident that the droplet method furnishes the most conspicuous opportunity for infection. During the normal and dyspneic respiration of patients with primary pneumonic plague, plague bacilli are not usually expelled by means of expired air. During the coughing of such patients, even when sputum visible to the naked eye is not expelled, plague bacilli may become disseminated into the air surrounding the patients. The idea that infection of attendants in plague hospitals is caused entirely by visible particles of expectorated sputum is erroneous. Whatever may have been the primary source of the Manchurian epidemic, its dissemination occurred entirely independently of tarbagans, rats, monkeys or any other animals, and the disease was evidently spread directly from man to man by droplet infection and by the more or less intimate contact of healthy individuals with an infected person. The number of plague bacilli expelled in droplets from pneumonic plague cases is probably far greater than the number of bacilli ever expelled by patients afflicted with tuberculosis, croupous pneumonia, diphtheria or influenza. It is therefore apparent how dangerous an infective agent a pneumonic plague patient is. In no other disease does the danger from droplet infection approach that which exists in pneumonic plague. No bacteriologic evidence has yet been produced of the existence of healthy carriers of the disease with plague bacilli in their sputa.

We compliment our Manila colleagues on the exhibition of personal fortitude, ambitious research and scientific good judgment which has resulted in materially enriching our knowledge of a most important disease.

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[1] Studies on Pneumonic Plague and Plague Immunization, Philippine Jour. Sc., B, Philippine Jour. Trop. Med., 1912, vii, No. 3.

[2] Barber, M. A., and Teague, Oscar: Some Experiments to Determine the Efficacy of Various Masks for Protection Against Pneumonic Plague, Philippine Jour. Trop. Med., 1912, vii, 255.

A FURTHER REPORT ON ATHLETICS AND HEALTH IN THE NAVY

In his annual report as chief of the Bureau of Medicine and Surgery to the Secretary of the Navy for the fiscal year 1912, which has just been issued, the Surgeon-General has collected the statistics of the subsequent health of 580 non-athletic midshipmen who were in the Naval Academy during the twenty years from 1892 to 1911 inclusive. These statistics were gathered for the purpose of comparison with a corresponding set secured last year with regard to the subsequent health of 622 men who had represented the Naval Academy in the crew, on the football team and in other forms of strenuous athletic contest for the same period. We reviewed the report[1] of the Surgeon-General last year, and our comment that it was a severe arraignment of the effect of strenuous athletics in our schools and universities aroused considerable discussion in school and athletic circles. Owing to the fact that he is able to obtain definite data as to the subsequent health of the great majority of the naval cadets, the Surgeon-General of the Navy is probably in a better position to come to a correct conclusion in the matter than any one else who has so far studied the subject.

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[1] Effects of Strenuous Athletics in the Navy, editorial, THE JOURNAL A. M. A., Jan. 6, 1912, p. 40

The commonly accepted opinion has been that athletics make for the health of the student body. In recent years comparisons have been made more than once, especially by university directors of athletics, between the health of graduates who as students had worn the university "letter" on their sweaters as a reward for having been successful in some intercollegiate contest, and the health of those students who had not taken part in athletics to the same extent. It is almost needless to say that in these comparisons the subsequent health of the first group proved much better; but there are many sources of error in any such comparison. The second group is much larger, and those in the first group are what insurance actuaries call "selected lives." They are those who have fine physical constitutions, who have no physical defect, either congenital or acquired, and whose expectancy of life is much longer and of health much better. Among those who did not take part in competitive athletics at the universities are to be found many natural weaklings, many who have vicious habits of various kinds and many whose general habits of life, especially as regards air and exercise, are not conducive to good health. A comparison between the same two groups at the Naval Academy, however, is much fairer; indeed, scarcely any objection can be urged against it. Every one of the cadets has an excellent physical constitution to begin with and no defect of any importance, or his application would be rejected.

Any comparison between the two groups in this matter should of course result in favor of the athletes, for they are not only picked men, but as the Surgeon-General says, twice selected picked men. They are the men who, it would reasonably be supposed, would be best able to resist the real effects of overtraining and overstraining and who should, other conditions being equal, possess a comparatively greater expectation of health and longevity. After a careful collation of the data, however, this has not proved to be the case. It has been found that from those diseases to which athletics have a possible or probable causative relation there has been but one death among non-athletes as compared with six for the athletic group. Of the men still in the service whose records show abnormal physical conditions, 187 are non-athletes as against 198 athletes.

As noted in the previous report, probably the most striking arraignment of the ill effects of strenuous competitive athletics is to be found in the degenerative diseases of the heart, arteries and kidneys which in recent years in spite of all our advance in sanitation have greatly increased, though the contagious diseases have been reduced in a remarkable way. The Surgeon-General says:

"The following conditions or disabilities show an excess amounting to 50 per cent. or more among the athletes: arteriosclerosis, valvular disease of the heart, cardiac irregularity, cardiac dilatation, cardiac hypertrophy, gastric disturbances, albuminuria, general poor health, obesity and tuberculosis, and various traumatic lesions as well. It seems reasonable to suppose that the disabilities among the athletic class are largely due to spectacular athleticism and would not have been acquired had the overstraining and overtraining not been indulged in."

With these data before them it will be rather difficult for university faculties to justify the tolerance and encouragement which they now give to intercollegiate contests and the training for them. They hurt scholarship, which has always been admitted, but there seems no room for doubt that they also hurt health. Their alleged hygienic value was the chief excuse for their being.

SOME FOODS AND DRUGS IN 1912

That the forces devoted to the maintenance of high standards in American food and drug products are still alert and progressive is shown by the latest annual report of the Connecticut Agricultural Experiment Station[1] which has long been devoted to the dissemination of the truth in regard to these matters of public concern. The need of a continuation of the "police system" now in operation to secure the enforcement of the law and, what is far more important, the improvement of the goods offered for sale to the public, is best shown by the statement that "of 757 samples taken by the commissioner under the law, 372 were found to be either adulterated, misbranded, or below standard." It will be interesting to watch the operation of the net weight and measure law recently enacted in Connecticut. A preliminary study of the present status of the foods sold in package form shows a tendency to short weight in a not inconsiderable number of the brands. Even a statement of net weight may be quite misleading if quality is not considered; for the addition of water to canned vegetables, fruits or fish will bring up the net weight without giving much information as to the food present. For example, the juice present in canned tomatoes varied from 47 to 71 per cent. in different brands which compete in price; and the unsuspected operation of the present mode of package distribution is shown in the fact that plain crackers dispensed in this way bring as much as 20 cents per pound, a rather high price for the advantages of sealed contents.

Mr. Street's report indicates that the character of the gluten foods which are sold principally for the use of diabetic patients is still, as it long has been, far from satisfactory. That it is quite possible to furnish food products of suitable character, reasonably free from carbohydrates, is shown by the analysis of a number of reliable brands which include wheat gluten, soy bean and casein as their basis. Physicians should become familiar with the dependable products and not withhold their condemnation of the undesirable brands, many of which are legally entitled to the names they bear, owing to the utter inadequacy of the present low "standard" for gluten flours. As the Connecticut report remarks, the preparation of foods containing much gluten and little starch is an expensive process, and high prices must be charged for the resultant foods. But when a diabetic patient pays a high price for a food which is claimed to meet his particular needs, and analysis shows that the food is utterly unfitted for his requirement, he is defrauded, and, depending on the manufacturer's claim, pays his good money for a food which will work actual harm on him.

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[1] Street, John Phillips: Seventeenth Report on Food Products and Fifth Report on Drug Products, 1912, of the Connecticut Agricultural Experiment Station, New Haven, pp. 95-208. This bulletin is distributed free to residents of the state and others.

In connection with what we have at various times had to say in regard to modern milled rice and the etiology of beriberi, the character of this cereal as it appears in the markets of the eastern United States is of some interest. Partly in response to a popular demand for a perfectly white product, and partly to make a low-grade article appear of superior quality, the practice of "facing" or "polishing" rice has become general. Formerly the polishing was effected by shaking the rice in a bag. Of late, however, the polishing has been accomplished either by the use of paraffin oil or by talc in connection with a small amount of glucose. The demand for white rice is a "whimsical fancy" of the purchaser, to satisfy which a part of the nutriment in the grain is removed; but if polishing must be practiced there are less objectionable methods than the use of talc or similar polishing materials. The amount of foreign mineral matter left is sometimes enough to affect the weight materially, which is fraudulent. Insoluble mineral matter in the alimentary tract is not an unmixed advantage. It is quite probable that nearly all of the polished rice shipped in interstate commerce is so branded as to declare the presence of foreign mineral matter; but the retail purchaser is seldom advised thereof when he buys the rice in bulk.

In the drug market abuses likewise still exist. It happens too often that actively poisonous substances are dispensed by druggists who neglect to affix a poison label. It is an easy matter for a perfect stranger to purchase the dangerous habit-forming diacetyl-morphin (heroin) without a prescription, so that some cities have passed an ordinance forbidding its sale except on prescription or for purely professional or scientific purposes. Among more familiar products turpentine is found to be extensively adulterated, especially with mineral oil.

Many of our old acquaintances of the proprietary remedy family receive a deserved exposure in the Connecticut report. There is Gouraud's Magical Beautifier, Spiro Powder, Poslam, Doctor Franck's Grains of Health coated with real silver and selling at $33 per pound, Pink Pills for Pale People, Kargon, Schenck's Pulmonic Syrup, Thialion, Ely's Cream Balm, Cubanos, Dr. Pierce's Golden Medical Discovery made from a veritable botanic garden, Peruna and the A. D. S. tribe, Rheumatogen, Pinex, and the dignified Sanatogen. One cannot suppress a smile at finding the various preparations known as syrup of figs — a "purely vegetable laxative"— enriched with Epsom salt. The labels have for some time admitted the presence of "elixir of senna" and now "compound synergists" appear to give efficiency to the "fruit laxatives."

The psychology of objectionable nomenclature would furnish a readable story. The A. D. S. preparations bear the usual statement: "This is not a patent medicine," leading the Connecticut chemists to inquire whether a preparation made by a druggist or a group of druggists may not be quite as much a "patent medicine" as if made by a quack doctor or a seemingly reputable house.

Current Comment

IMPROVING HOUSING CONDITIONS IN THE CITIES

The problem of improving the health of the low-wage portion of the population of large cities by securing better housing conditions is one that is receiving earnest attention. We commented[1] recently on the apparent failure of efforts to improve the housing conditions of the poor in New York through the medium of model tenements. This failure was due, it was said, to the investment of too great sums of money in providing what were really luxuries in these model tenement structures, involving the necessity of charging too high rents. In connection with a housing exhibition to be held in Chicago in March, 1913, the City Club of Chicago has prepared a program of a prize competition for the procuring of a scheme of development for a theoretical quarter-section of land within the limits of the city of Chicago. This scheme contemplates the development of an open section of land with houses instead of apartment structures, and the conditions of the competition require the submission of plans showing the streets proposed to be laid out in respect to direction, width, gardens, trees, size and arrangement of lots, and the location of dwellings on them, the provision of public open spaces other than streets, and the designation of spaces for business and for recreational, educational, religious, administrative and other social requirements. The plans are to provide for a population not greater than 1,280 families for the quarter-section. Competitors are to be furnished by the City Club with literature concerning similar projects and the housing of wage-earners in this and other countries, and an effort will be made to secure through this competition the best practical plans for the housing of the working portion of the community, conforming to modern standards of hygiene and sanitation without involving so large an investment as to require excessive rentals. The plan involves the development of a tract eight miles from the business center of the city, requiring forty-five minutes of transportation. The tendency of the modern large industrial plants in cities is and should be to locate in the out-skirts where land values and rentals are lower and where more space can be utilized, and it would seem to be desirable in this scheme of housing to encourage the location of such projects in the vicinity of industrial plants so that the time and expense of long transportation would not be required and the undesirable congestion of the central portions of the city might be relieved, to the immense hygienic advantage of the people. One of the vices of conditions in all large cities is the concentration of business and industries in a comparatively small space. This is particularly true of Chicago and is fostered by defective transportation arrangements which inhibit, or at least do not encourage, the wider distribution of establishments in which large numbers of people are employed. The scheme of the City Club is a good one and will no doubt be productive of many new and practical ideas concerning the housing problem; but, what is equally important, it will call the attention of a wider circle of the people to the fact that there is a housing problem and that it has an extremely important bearing on the health and welfare of the community.

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[1] Is the Model Tenement a Failure? editorial, The Journal A. M. A., Jan. 4, 1913, p. 52.

THE HIGH COST OF LIVING AND THE COST OF GOOD LIVING

Two statements have appeared in the newspapers recently regarding the ever-interesting subject of the present high cost of living. One was that, under present conditions, the cost of conveying six dollars' worth of food from the producer to the consumer is seven dollars. The other was a statement from the Department of Agriculture that one of the factors in producing higher prices is the agitation for pure foodstuffs and the enactment and enforcement of pure food laws. These statements are typical of two most important forces at present influencing living conditions. One has to do entirely with management and administration. If it is true that it costs seven dollars to market six dollars' worth of food, and that the housewife is paying thirteen dollars for six dollars' worth of nourishment, the seven dollars' difference going to pay middlemen, railways, etc., this need cause no dismay. It simply means that our commerical machinery is receiving more than its just due, and that it needs overhauling and simplifying, a task to which the American people are fully equal. But the other statement, instead of causing any apprehension, should really be a reason for congratulation. That the American public is sufficiently alive to the importance and value of pure foodstuffs for this knowledge to have an influence on prices is a most gratifying sign of progress and of higher and better standards of living. The fact that the initial cost is greater has no bearing on the ultimate value of the food product. A modern printing establishment, with its linotypes, its power presses and all the rest of its intricate and delicate machinery, costs immeasurably more than a quill pen and a bottle of ink; but does anyone imagine that it would be cheaper to have our newspapers and books reproduced by quill pens in the hands of scribes? The wealth of a Rockefeller would scarcely pay for a single edition of a metropolitan daily newspaper put out by such means. Certified milk costs more than ordinary dirty disease-carrying milk, but is it more expensive? When one considers the cost of medical services, nursing, medicines and loss of time and life caused by diseases transmitted by dirty milk, it becomes evident that the first cost is not a fair criterion, and that clean, pure milk is far cheaper in the end, even though its initial cost is a few cents higher. This is true of all pure foods. The demand for pure food materials and the increase in living expenses from this cause can account for only a small part of the present increase in prices, but so far as it goes it is a welcome sign, since it means better and purer foods and less sickness. Let us not pay more than is necessary for any food, but let us have pure foods, no matter what they may cost.

SUCCESSFUL BUSINESS AND PATENT MEDICINES

One of the many remarkable phenomena that have been brought to light by the propaganda against fraudulent "patent medicines" is the difference in the degree of interest shown by the layman as compared with the relative indifference exhibited by the medical profession. In its fight against fraud in medicine during the last six or eight years, The Journal has been supported much more vigorously by lay publications than it has by medical journals. Hardly a day passes that a letter is not received from some newspaper or magazine enclosing the "copy" for an advertisement of some medicinal product with the request for an expression of opinion as to the objectionableness or admissibility of such advertisement. One day this week a single mail brought in letters from a country newspaper in New Mexico, a religious journal in Wisconsin and a monthly magazine in the East, each asking for an opinion on various advertisements of a medicinal nature. To the disgrace of medicine it must be said that lay publications going to the intelligent portion of the public are freer from fraudulent medical advertising than are medical journals going to the more intelligent portion of the medical profession. The editors and publishers of high-class lay journals show a more sincere desire to clean up their advertising pages than do the editors and publishers of many medical journals that are editorially of a high grade. The day is coming in this country, as it has already come in Great Britain, when public opinion will force the medical profession to clean its own Augean stable — fraudulent advertising. The most telling blow that the "patent medicine" interests have been able to deal the medical profession in Great Britain, before the parliamentary commission that is looking into the subject, has been the taunt that the medical profession itself is guilty of prescribing nostrums that are just as bad as the "patent medicines" against which they would warn the public, and that medical journals have shown no general disposition to throw out advertisements that are every whit as fraudulent as the "patent medicine" advertisements in the newspapers. All this by the way. The thoughts are suggested by the matter that appears in the Propaganda Department in this issue, showing once more the change of attitude of intelligent laymen on the nostrum question. One of the largest mail-order houses in the world has discontinued the sale of "patent medicines"; this, too, in spite of the fact that its "patent medicine" department had brought in an annual revenue of many thousands of dollars. Huge business concerns, such as mail-order houses, are operated on the principle that what is best for their customers is, in the long run, best for them. The company in question does not claim to have discontinued the sale of "patent medicines" for any moral reason. It takes the attitude that an enlightened selfishness alone is sufficient to explain its action. We can think of nothing that shows more clearly the awakening of the public conscience toward some of the great evils of the day than this step taken by hard-headed business men in relegating to the scrap-heap a business that has brought in large financial returns, for no other reason than that it is good policy to abandon questionable business, no matter how profitable.

THE METRIC SYSTEM IN THE "MIDDLE WEST"

One of our esteemed weekly contemporaries in the East has lately asserted that the metric system of weights and measures is becoming less instead of becoming more universally used among physicians in prescription-writing. The reason assigned for the alleged fact is the difficulty of translating the weights and measures into the ordinary tables, and the danger of making errors in the decimal system. The opinion is expressed that the cumbersome system of fractions and of drams, ounces, grains, scruples, etc., is much simpler and more easily grasped, though the admission is made that the decimal system is more scientific and better adapted for laboratory purposes. An explanation for this fossilized, reactionary opinion is given by a reference in the editorial to the letter of a correspondent published in the same issue. The editor says: "A letter in this issue . . . points out the ignorance in the Middle West of pharmacists themselves concerning the metric system." The letter is from Hazelton, Pa., less than a hundred miles west of New York. The editor's information concerning the pharmacists of the Middle West, his familiarity with the fact that the metric system is being used more and more by physicians, and his knowledge of geography west of Hoboken seem to be about on an equality.

Medical News

CONNECTICUT

Personal.—Dr. Joseph H. Potts, New Britain, fell December 24, fracturing his right leg.——Dr. Stella Q. Root, Stanford, is ill with diphtheria.——Dr. W. G. Steadman, Southington, is ill and confined to the house.

Hospital News.—The new shack for incipient tuberculosis in women at Undercliff Sanitarium was opened, November 11. It cost $10,000 and will accommodate twenty-four patients.——Charter Oak Private Hospital has been incorporated at Hartford with a capital stock of $50,000.——There is urgent necessity of a new contagious disease hospital at Hartford caused by the recent refusal of the Hartford Hospital to receive patients with contagious diseases.

GEORGIA

Personal.—Dr. John H. Steed, Dalton, has succeeded Dr. Charles H. Fields, Marietta, as a member of the Board of Eclectic Medical Examiners.——Dr. T. W. Causey has purchased the property of the late Dr. Richard J. Nunn, Savannah, for about $50,000.

Protection from Tuberculosis Infection.—An ordinance was adopted by the Board of Health of Atlanta, October 7, and approved by the city council, October 9, providing that persons infected with tuberculosis must comply with the rules laid down by the Board of Health to prevent the spread of the disease to other people; that the Board of Health shall have power and authority to send to the hospital or quarantine any person or persons in the state who may be infected with tuberculosis when under the judgment of the Board of Health or its agents such isolation is deemed necessary for the protection of the public; that the State Board of Health shall have authority to subject all persons whom they suspect of spreading the contagion or infection of tuberculosis to an examination by the superintendent of the state tuberculosis hospital (known as Battle Hill Sanatorium) or his assistants. If, after proper examination of such persons they shall be found free from any evidence of infection with tuberculosis they shall be supplied with certificates to this effect signed by the medical examiner; and that any person found using a certificate fraudulently or with intent to deceive, shall be subject to a fine not exceeding $100 or imprisonment of not more than thirty days or both, at the discretion of the board.

ILLINOIS

Scarlet Fever at State School.—Scarlet fever is reported to be epidemic at the St. Charles State School for Boys, where eleven cases have occurred, with two deaths.

Kane County Leads.—The board of supervisors of Kane County has voted an appropriation of $5,000 to purchase four acres of land and a building for a county tuberculosis sanatorium.

Personal.—Dr. J. E. Coleman has been appointed surgeon in chief of the Canton Plow Company and Drs. W. T. Zeigler and W. E. Shallenberger have been made assistant surgeons.——Dr. S. Horwitz, city physician of Peoria, is reported to be seriously ill with typhoid.——Dr. E. W. Stubbs, Aurora, physician of Kane County, was seriously injured in a collision between his buggy and an automobile, December 26.——Dr. A. A. Fitts, Batavia, is reported to be seriously ill with pulmonary hemorrhage.

Pass State Hospital Test.—The successful candidates of the promotional examination for physicians of state hospitals, held October 12, are as follows: Drs. Clifford C. Ellis, Robert H. Rea, K. M. Hanougian and Barnet Lemohen, Chicago; Drs. Henry T. Krafft, George W. Brock and Thomas G. McLin, Peoria; Drs. Charles Rocksher, Samuel L. Gabby, Earl B. Jewell, James T. Brooks, Charles R. Lowe, Drury L. Fish and Elizabeth D. Carroll, Kankakee; Drs. William R. Tull, Anthony G. Wallman and Olive F. Hughes, Elgin, and Drs. Esther H. Stone and William H. Gambill, Watertown.

State Board Recommendations.—In the annual report of the State Board of Health made to the governor, January 3, a strong plea is made for the establishment of a state hospital for consumptives such as have been created in a majority of the states of the Union, including all those bordering on Illinois. The board has recommended annually for twelve years the establishment of such an institution. A better system of registration of deaths is also asked for as the board states that not more than 80 per cent. of the deaths that occur, are registered, and registration is not compulsory throughout the state. The board asks also for an increase in general appropriations for sanitary purposes with especial reference to the purchase of diphtheria antitoxin for free distribution among all classes of people. A special appropriation is also asked for the inspection of dairies.

Chicago

Iroquois Memorial Meeting.—At the annual meeting of the Iroquois Memorial Association, December 30, Dr. Egil T. Olsen, of the health department, praised the work of the hospital, stating that the public did not know the free service which the institution was giving and that in many cases, hydrophobia in particular, lives have been saved of persons who had not the means to take the Pasteur treatment elsewhere. Dr. George J. Tobias was elected president of the association.

Personal.—Dr. S. J. Beeson has started on a trip to Australia, New Zealand and South America.——Dr. Rosalie M. Ladova has resigned as women's physician in the Northern Hospital for the Insane of Wisconsin, and has returned to the Hyde Park Hotel for the winter.——Drs. Edward A. Fischkin and Julius Grinker have returned from Europe.——Dr. Roy H. Cox, who was operated on for appendicitis, December 22, at St. Joseph's Hospital, is convalescent.——Dr. Alfred L. Cole has been elected president of the Empire State Society.

Birth Registration Demanded.—Accurate registration of births and deaths in Illinois was demanded at a dinner given to Miss Julia Lathrop at the City Club, December 30. The following committee was appointed to urge the passage of a state law for the registration of births and deaths in Illinois: Miss Jane Addams, Dr. George T. Palmer, Mrs. F. A. Dow, Dr. George W. Webster, Mrs. John F. Bass, Mrs. Ella Flagg Young, Dr. F. R. Green, Mrs. Anna Nichols, R. M. Sweitzer, Rev. P. J. O'Callaghan, Miss Minnie Low and Sherman C. Kingsley.

Requirements for Cure of Tuberculosis Patients.—The Chicago Tuberculosis Committee has submitted to the Public Service Committee of the Board of Cook County Commissioners the following list of requirements to be considered in connection with the care of advanced cases of tuberculosis in the Cook County institutions, namely: the Tuberculosis Department of the Cook County Hospital and the tuberculosis hospitals at Dunning and Oak Forest. In conformity with this request, the committee unanimously voted the recommendation to the county board that the annual budget for 1913 include an appropriation to cover the cost of the improved service.

1. Increased medical service for the tuberculosis patients; at least one resident physician for each seventy-five to one hundred patients.
2. Increased and improved nursing service; at least one nurse for each thirty to forty ambulant cases and at least one nurse for each fifteen to twenty bed patients; of these nurses at least one for each fifty patients should be a graduate nurse. A sufficient number of attendants.
3. An adequate, well-prepared and well-served dietary of a standard set by recognized authorities in the treatment of tuberculosis.
4. The appointment of a staff of recognized tuberculosis experts, to serve without pay, who shall advise and cooperate with the board of county commissioners in the establishment and maintenance of these standards.

IOWA

Church to Build Hospital.—Officials of the Congregational Church of Iowa have secured a site for a hospital at Fourteenth and Clark Streets, Des Moines, on which a hospital, built on the cottage plan, is to be erected. Dr. Erwin Schenk is in charge of the campaign for funds.

Personal.—The automobile of Dr. T. P. Bond, Des Moines, was wrecked in a collision with another automobile, December 22, but neither Dr. Bond nor his assistant was injured.——Dr. Guy P. Reed, Lamoni, sailed for Europe, January 7.——Dr. J. L. Tamisiea, Missouri Valley, has been appointed a member of the State Board of Health.——Dr. H. L. Saylor has been appointed city physician of Des Moines.——Dr. A. L. Yocum, Chariton, has been appointed local surgeon for the Rock Island System.——Dr. and Mrs. R. H. Sutton, Shenandoah, have gone to California where they expect to remain several months.

New Officers.—Iowa County Medical Society at Marengo, December 27: president, Dr. Thomas McMahon, Victor; secretary-treasurer, Dr. Ira N. Crow, Marengo.——Fremont County Medical Society at Sidney, December 18: president, Dr. H. J. Piper, Randolph; secretary, Dr. A. E. Wanamaker, Hamburg, both reelected.——Grinnell Physicians' Club: president, Dr. J. R. Lewis; secretary, U. M. Hibbetts.——Greene County Medical Society at Jefferson: president, Dr. Charles Enfield, Jefferson; secretary-treasurer, Dr. George W. Kester, Grand Junction.——Des Moines County Medical Society, at Burlington, December 11: president, Dr. C. H. Magee; secretary-treasurer, Dr. Bertha S. McDavitt, both of Burlington.——Mills County Medical Society at Glenwood, December 5: president, Dr. G. M. Agan; secretary-treasurer, Dr. J. M. Donelan, both of Glenwood.——Johnson County Medical Association, December 4, at Iowa City: president, Dr. C. S. Grant; secretary-treasurer, Dr. Zella White Stewart, both of Iowa City.——Monroe County Medical Society at Castana, December 3: president, Dr. E. C. Carhart, Mapleton; secretary-treasurer, Dr. F. S. Spearman, Whiting.——Poweshiek County Medical Society at Grinnell, December 4: president, Dr. E. S. Evans; secretary-treasurer, Dr. E. E. Harris, both of Grinnell.

KANSAS

Appropriation for State Charities.—The state auditor has published the estimated needs of the state charitable institutions as appropriated by the State Board of Control. The total amount asked for is $2,849,120.

Scarlet Fever Epidemic.—Scarlet fever is reported to be epidemic in Larned and LaCrosse where churches, Sunday schools and schools have been ordered closed, and children are not allowed in theaters or moving picture shows.

New Officers.—Reno County Medical Association at Hutchinson, December 27: president, Dr. H. H. Heylmyn; secretary-treasurer, Dr. W. F. Schoor, both of Hutchinson.——Butler County Medical Society at Eldorado, December 26: president, Dr. F. A. Garvin; secretary, Dr. J. R. McCluggage, both of Augusta.——Cherokee County Medical Society at Columbus, December 16: president, Dr. R. C. Lowdermilk; secretary, Dr. A. A. Shelly, both of Galena.

Swelled Canned Goods.—The November *Bulletin* of the Kansas State Board of Health contains an exhaustive study made by Professor Jackson on swelled canned goods. The result of this investigation appears to warrant the statement that swelled canned goods of either fruit or vegetables not only indicate the presence of fermentation and decomposition of their contents, but uniformly indicate the presence of an amount of tin in the contents of the can in excess of that permitted by law.

MASSACHUSETTS

Protests Against Contagious Hospital.—The board of trustees and other citizens of Lowell have protested publicly against the use of the new contagious disease hospital at the Chelmsford Street Hospital for scarlet fever patients.

Boston's Mortality.—The death-rate of Boston for 1912 is said to have been 14.2 per 1,000. Among the deaths from communicable diseases were 109 from diphtheria, 104 from measles, 30 from scarlet fever, 57 from typhoid and 1,080 from tuberculosis. Not a single case of ophthalmia neonatorum was sent to the eye and ear infirmary during the year.

Personal.—Dr. Edward M. Pease has been appointed a member of the medical staff of the Kalamazoo (Mich.) State Hospital, vice Dr. Melvin J. Rowe, resigned.——Dr. George B. Sargent has been reelected secretary of the Lawrence Medical Club.——Dr. W. D. Walker, Andover, spent the month of December in the Canal Zone.——Dr. James T. Gallagher, Charlestown, was operated on for appendicitis at Carney Hospital, Boston, December 27, and is reported to be doing well.

Department of Dangerous Diseases.—A petition has been presented by Mayor Fitzgerald of Boston to the incoming legislature providing that the State Board of Health shall create a department to be known as the "Department of Diseases Dangerous to the Public Health," to take such steps as may be necessary to prevent the spread of such diseases, and to have charge of all hospitals and other institutions maintained by the state for the care and treatment of said diseases as are declared by the State Board of Health to be dangerous to the public health.

MARYLAND

Baltimore

Small-Pox in Baltimore.—According to the assistant health commissioner there are now nine cases of small-pox in the city and about fifty suspects at quarantine. Cases continue to develop in the northwest section of the city. All cases are of a mild type.

Widows' and Orphans' Home.—The Home for Widows and Orphans of Physicians has recently received several applications for admission, some coming from New York and Georgia. The inmates were given a special Christmas dinner followed by a Christmas tree. The home is now completely furnished, but a permanent endowment fund is much needed.

Personal.—Dr. John C. Hemmeter is reported to be ill at his home.——Dr. John W. Ebert has settled in practice at Winchester, Va.——Dr. James Bosley, health commissioner, is reported to be critically ill with pneumonia.——Dr. Ira Remsen, until recently president of Johns Hopkins University, was operated on December 31 in Johns Hopkins Hospital.——Dr. George A. Lassman sails for Europe this month.——Dr. Li Bi Cu of Nyucheng, China, is taking a post-graduate course in Johns Hopkins Hospital. She addressed the Women's Foreign Missionary Society on January 2 on "The New China and the Old."——A dinner was given to Health Commissioner Bosley by the employees of the City Health Department, December 30. Dr. William Royal Stokes officiated as toastmaster.

NEBRASKA

Resignations From Faculty.—Drs. C. Bryant, John P. Lord, C. O. Rich and F. E. Coulter have resigned from the faculty of Creighton Medical College, Omaha.

Personal.—Dr. Newell Jones, Central City, has returned after several months abroad and will locate in Omaha, limiting his practice to pediatrics.——Dr. M. L. Hildreth, Lyons, has started on a trip to Panama, returning by way of Portland.——Dr. J. Fred Langdon, city physician of Omaha, has resigned and will locate in Butte, Mont.

New Officers.—Richardson County Medical Society at Falls City, December 5: president, Dr. C. T. Burchard, Falls City;

secretary-treasurer, Dr. C. L. Hustead.——York County Medical Society at York, December 5: president, Dr. H. L. Vradenburg; secretary-treasurer, Dr. J. N. Plumb, both of York.——Adams County Medical Association at Hastings, December 3: president, Dr. J. V. Beghtol; secretary, Dr. J. P. Riddie, both of Hastings.

NEW YORK

Scarlet Fever Epidemic.—There is an epidemic of scarlet fever in Westbury, a section of Hempstead, L. I., in consequence of which both day schools and Sunday schools have been closed.

Plans for Letchworth Village.—Contracts are soon to be let for the buildings of Letchworth Village, the state institution for the segregation of epileptics and feeble-minded. The first group of buildings will include four dormitories, an attendants' home, a dining hall, laundry, power plant and storehouse.

Hospital Staff Meeting.—At the annual meeting of the medical staff of the Utica General Hospital, December 17, Dr. J. D. Jones was elected president; Dr. M. J. Davies, vice-president, and Dr. W. B. Roemer, secretary-treasurer. Drs. J. E. Gage and F. M. Miller were elected members of the staff, vice Drs. T. H. Farrell and William Beattie, resigned.

Personal.—Dr. C. H. Benson has been reelected secretary and registrar of the Syracuse Free Dispensary.——Dr. Mary C. Fulton, in charge of the hospital work of the Presbyterian Missions of South China, Canton, is visiting in Syracuse.——Dr. B. O. Murphy, Syracuse, is under treatment at the Hospital of the Good Shepherd.——Dr. G. C. Madill, Ogdensburg, has been elected first vice-president; D. A. Ferguson, Hammond, treasurer, and Dr. Lucia E. Heaton, Canton, secretary of the St. Lawrence County Tuberculosis Society.

Hospital News.—The extensive addition to St. Mary's Hospital, Amsterdam, is nearly completed, and is already being equipped.——The local lodge of Elks has announced its intention of equipping a room in the new Ithaca City Hospital.——Dr. W. J. McFarland, Syracuse, is treasurer of the finance committee for the People's Hospital to be established in Syracuse.——The twelve-day campaign to raise $100,000 for the Nassau Hospital at Hempstead, L. I., ended with only $55,000 subscribed. It is stated that a new campaign will be begun to raise the remaining $45,000 needed by the hospital.

Street Deaths in 1912.—Accidents in the streets and highways of the state resulted in the death of 234 persons; of these automobiles caused the death of 127, wagons 28, and trolleys 79. Railroad grade crossing accidents on Long Island show a decrease of 50 per cent., but an increase throughout the state, 107 being killed and 127 injured as against 88 killed and 108 injured in 1911. Automobile accidents increased 38 per cent. In New York City there were 532 persons killed in the city streets during the year, 230 of them being children. Of the total number 201 were killed by automobiles (of which 93 were children), 121 by trolleys, and 164 by wagon. The total number of persons injured was 2,363, of these 1,342 were injured by automobiles, 704 by trolleys, and 317 by wagons. In London during the year 1911, 410 persons were killed by street vehicles of whom 103 were killed by automobiles. In Paris the number killed during that year was 236 of whom 103 were killed by automobiles. In Berlin the fatalities numbered 120, those chargeable to automobiles being 28. The total for all these cities was 417 while in New York City alone 201 persons were killed. The National Highways Protective Association suggests in its report that when a fatality results from an automobile accident the license of the chauffeur should be automatically suspended and should be reissued only when due cause for so doing is shown.

New York City

Medical Inspection for Rapid Transit Line.—The Brooklyn Rapid Transit has established a bureau of medical inspection, December 20, in charge of Dr. H. Stearns, chief physician of the Employers' Benefit Association.

Public Health Lectures.—A series of lectures will be given by the Medical Society of the County of New York Public Health Committee at the New York Academy of Medicine on alternate Wednesday evenings and Thursday afternoons from January 8 to March 27.

City Hospitals Show Deficit.—Bellevue and the Allied Hospitals have balanced their household accounts for the year 1912 and find a deficit. While there were some supplies which cost less than in previous years, the cost of many of the principal foods was greatly increased. The net increase for 1912 over 1911 was 2.71 per cent., prices being figured on the same quantities. The board of estimate has decided that there must be a sale of special revenue bonds for the benefit of these hospitals.

Diphtheria in Brooklyn.—The records of the Health Department show that diphtheria is spreading in certain sections of Brooklyn, 350 cases having been reported since the first of this month with thirty deaths. It is stated that there is no fear of an epidemic and that the situation is well in hand.

Hospital Stops Ambulance Service.—Beginning January 1, the Presbyterian Hospital stopped its ambulance service. This hospital is getting ready to move from its present quarters and will resume its ambulance service later. In the meantime the territory which has been covered by the Presbyterian Hospital will be served by the Flower Hospital.

Free Typhoid Inoculation.—The Health Department announces that beginning on Jan. 1, 1913, inoculation against typhoid will be performed by the department free of charge. All requests for immunization must be made or approved by the attending physician. Inoculations will be made at the home of the applicant or at the central offices of the department.

Asks Large Appropriation for Quarantine Station.—Dr. J. J. O'Connell, health officer of the port of New York, has asked an appropriation of $2,000,000 for the reorganization of the quarantine service of the port and entire reconstruction of the equipment. Of the amount asked for, $657,000 is for Swinburne Island and $612,000 for Hoffman Island, for the enlargement of the respective stations.

Associated Out-Patients Clinic.—The Associated Out-Patients Clinics of the City of New York have organized with Dr. S. S. Goldwater secretary-treasurer and E. H. Lewinski-Corwin executive secretary. Constructive studies of the existing dispensaries' facilities have begun. The work of the society, which has thus far been limited to Manhattan, is to spread to other boroughs of the city by the New York Foundation of which Mr. Alfred Heinsheimer is president. He has contributed $5,000 toward the organization work.

Columbia Needs Millions for Medical School.—According to the annual report of the dean of the College of Physicians and Surgeons of Columbia University, six million dollars will be required for its proper development. An additional million is required for a medical division, similar to the surgical hospital division, made possible by the Harkness fund. The best interests of the school demand that it should join with the Presbyterian Hospital in establishing a center of medical education with laboratories for research, proper dispensary equipment and hospital wards covering every specialty in medicine.

New Course for Prospective Medical Students.—New York University announces that a one-year collegiate course will be given, commencing February 3 and continuing until September 19, which will prepare students to meet the entrance requirements of the medical school which now requires a year of collegiate work. This will enable high school graduates who finish their work in January to save a year's time. Details of the course may be obtained from the secretary of the University and Bellevue Medical College, Twenty-Sixth Street and First Avenue, New York City.

Personal.—Dr. George T. Jackson, for thirty-one years a member of the faculty of the College of Physicians and Surgeons, has resigned the professorship of dermatology in that institution.——Dr. Walter Timme has gone abroad for a year of neurologic research work.——Dr. Maurice J. Lewi of New York City, who for more than twenty years has been secretary of the State Board of Medical Examiners, has resigned and Dr. Otto Von Huffman has been selected to fill the vacancy on the Board of Regents.——Dr. A. H. D. Salt, surgeon of the Cunarder *Pannonia*, was washed from his steamer chair during his last voyage and fractured his left wrist.

New Record in Baby-Saving.—The week ended December 14 broke all previous records so far as infant mortality was concerned. There were only 175 deaths of babies under one year of age while for the corresponding week of 1911 there were 260 such deaths. The next lowest number recorded in any week was for the week ending November 30, when 207 babies died. While no money has been voted to the Division of Child Hygiene of the Board of Health for the establishment of new milk stations, Dr. Josephine Baker, chief of the division, announces that she will be glad to have nurses and doctors of the division assist in any educational centers that private agencies may establish.

Mortality Rate Decreases.—According to a statement given out by the Commissioner of Health there were 2,415 fewer deaths reported during the year 1912 than 1911. The number of deaths reported during the year was 73,008, equivalent to a death rate of 14.11 per 1,000 of the population. The death rate for 1911 was 15.13, for 1910 it was 15.98, and for 1909 it was 16. The past year's death rate is the lowest that the city had ever experienced. The infant mortality, 10 per cent., was the lowest ever recorded in the city. The birth rate for the year is 26.22 which is the lowest since the year 1906. On the other hand the marriage rate was 10.13, or the highest marriage rate in five years.

Defective Vision in School Children.—An examination of forty children from two public schools which has been made by Dr. William Martin Richards leads him to the conclusion that there are 78,000 children in the public schools of this city who have defective vision and that 80 per cent. of these defects could be remedied. The forty pupils which Dr. Richards examined were the worst that could be found in these schools; eighteen of them being so stupid that they were in ungraded classes, eleven were so stupid that it required three terms to do the work of one term and eleven were delinquent. All of the forty children had defective vision. They were fitted with proper glasses and after six months it was found that thirty-two of them had made astonishing progress. These thirty-two were under as many different teachers. Dr. Richards had submitted a report of his work to the Board of Education in which he recommends that the entire care of the school children, mental, moral and physical, be vested in one department with a single head and that that should be the Board of Education, that a sufficient number of doctors be trained to deal with all defects of school children who are at present in the category of ungraded, backward or disciplinary cases; that any child whose work is unsatisfactory for one term should be examined by one of these men and all defects of structure and habit corrected as far as possible.

OKLAHOMA

Fever Closes Schools.—On account of the prevalence of scarlet fever at Hammon, the public schools were ordered to be closed for two weeks, from December 16.

Sanatorium Burns.—Fire, November 27, in the Monte Carlo building, Sulphur, occupied as a sanatorium, destroyed the building with a loss of $20,000 on which $3,000 represented the books and instruments of Drs. Slover and Tucker.

Personal.—Dr. P. A. Smithe, Enid, was operated on at the Enid General Hospital, November 27, for perforating duodenal ulcer.——Dr. E. H. Troy, McAlester, was operated on for appendicitis, November 11, in Mercy Hospital, McAlester.——Dr. E. D. Morrison, Muskogee, was seriously injured in a runaway accident, recently.

New Officers.—Oklahoma County Medical Association at Chickasha, December 5: president, Dr. Walter Penquite; secretary, Dr. Martha Bledsoe, both of Chickasha.——Caddo County Medical Association at Anadarko, December 27: president, Dr. P. L. McClure, Fort Cobb; secretary-treasurer, Dr. C. R. Hume, Anadarko.——Tulsa County Medical Society at Tulsa, December 16: president, Dr. W. E. Wright; secretary, Dr. P. R. Brown, both of Tulsa.——Garfield County Medical Society at Enid, December 6: president, Dr. Walter Jones; secretary-treasurer, Dr. J. M. Cooper.

PENNSYLVANIA

Diphtheria Epidemic.—All the churches in Red Lion borough were closed December 29 by order of the Board of Health because of the prevalence of diphtheria.

New Officers.—Physicians' Protective Association of Easton and vicinity: president, Dr. Victor S. Messinger; secretary-treasurer, Dr. W. Gilbert Tillman, both of Easton.

Small-Pox at Chester.—On January 4, a third death occurred from small-pox at Chester and two hundred persons were vaccinated. The assistant deputy coroner is ill with the disease.

Sanatorium Opening Postponed.—The opening of the State Tuberculosis Sanatorium, Cresson, has been deferred on account of unexpected delays in the completion of the building.

Epileptic Colony to Be Rebuilt.—The ruins of the burned building formerly occupied by the children of the epileptic colony and farm, Oakbourne, are being removed and a new building will be erected in the early spring.

Detention Hospital Requested.—An effort will be made at the coming session of the legislature, to secure an appropriation for the erection of a building at the quarantine station near Philadelphia, where persons suffering from communicable diseases, or suspected thereof, may be detained until all danger of infection is passed.

Clinic for Babies and Young Children.—A clinic and dispensary for the free treatment of babies and young children and for the instruction of mothers is to be opened at the Chester Hospital, December 27, under the personal direction of Dr. D. W. Jefferis, chief of the medical staff of the hospital. The dispensary is in charge of Drs. M. A. Neufeldt, A. V. B. Orr and Bullock.

Personal.—Dr. Theodore E. Teah, Renovo, while cranking his automobile, December 22, fractured his right arm.——Dr. and Mrs. Henson F. Tomb, Johnstown, celebrated their silver wedding anniversary, December 28.——Dr Samuel G. Dixon, health commissioner, was reelected president of the Academy of Natural Science, December 14.——Dr. Philip Y. Eisenberg, Norristown, was thrown from his automobile in a collision with an auto truck and sustained serious injuries.

Children's Bureau Starts Inquiry.—This state has been chosen by the Children's Bureau of Washington as one of the states in which to start an inquiry into the causes of the infant death-rate. During the coming week, women will make house-to-house canvass and will talk to mothers on their methods of caring for their little ones. Pennsylvania was chosen as it was recognized by the census bureau as having birth-records, which can be used for statistical purposes.

Result of Sale of Christmas Seals.—In Pennsylvania, exclusive of Pittsburgh, 3,300,000 Christmas seals were sold for the benefit of the Pennsylvania Society for the Prevention of Tuberculosis. Carl de Schweinitz, secretary, expects that the receipts will amount to $15,000; 28 per cent. goes to the White Haven Sanitarium; 32 per cent. to the Kensington Dispensary for the Treatment of Tuberculosis; 8 per cent. to the Day Camp for the Treatment of Tuberculosis and 22 per cent. to the Philadelphia office of the society.

Small-Pox in State.—On December 26, five cases of small-pox were reported from Conemaugh, Cambria County, and Associate Medical Inspector Hunt of the State Department of Health, who has been making an investigation of the small-pox situation in Wayne County, where forty-one cases have been quarantined, believes the epidemic started from the postoffice at Hale's Eddy, N. Y., just across the Pennsylvania state line, as the postmaster there held mail two weeks after he was stricken with small-pox and the carrier who took the mail from that office into Wayne County is now sick with the disease. Three more cases of small-pox were reported to the Board of Health of Chester, December 23.

Philadelphia

New Officers.—Germantown (Northwestern) Branch of the Philadelphia County Medical Society: chairman, Dr. Howard D. Geisler; clerk, Dr. C. C. Watt, Jr.

Furness Memorial Meeting.—Plans have been completed for the memorial meeting to be held at the College of Physicians, January 17, in honor of the late Dr. Horace Howard Furness, the eminent Shakespearean scholar.

Disease Prevalence.—During the week ending January 4, there were ninety-four deaths from pneumonia, nearly one-sixth of the total number of deaths reported. Scarlet fever is still prevalent, 125 new cases, sixteen more than the week previous, having been reported.

Scarlet Fever Still Prevalent.—One hundred and nine new cases of scarlet fever were reported to the Bureau of Health during the week ended December 29, but only two deaths were reported from this cause. There was also a decided increase in the number of cases of diphtheria and ten deaths from this cause.

Death-Rate in 1912 Low.—The total number of deaths in the past year was 24,215, less by 1,877 than in 1911. The average for 1912 is 15.08 per cent. per thousand as compared with 16.5 per cent. per thousand in 1911. The decrease for the year is in preventable diseases. Gradual improvement in the housing conditions and the food-supply of the congested districts is doing much to cut down infectious diseases.

Germantown Tries Model Housing Plan.—The Octavia Hill Association has just remodeled twenty-five houses, including several two- and four-room model apartments for laboring men and their families in one of the most sordid courts of Germantown. The association, backed by the financial support of residents of that section of Germantown, have built a row of orderly houses, facing a court with asphalt walks. Fourteen families are living in comfort and cleanliness and pay rents ranging from $6.50 to $11 a month.

Personal.—Dr. Lawrence F. Flick has been elected president of the American Catholic Historical Society.——Dr. William J.

Nealon has inherited $30,000 by the will of Philip Sheridan of California to whom he gave advice several years ago. Half of the amount Dr. Nealon announces he will give for the erection of a building in which the blind may have the service of skilled masseurs.——Dr. James Longo, resident surgeon of St. Mary's Hospital, who was operated on in November, for appendicitis, is convalescent and has returned to his home in Shepton.——Provost Edgar F. Smith, Dr. J. C. McCracken, Canton, China, and Mr. Henry Phipps were the guests of honor at a reception given by the alumni of the University of Pennsylvania in New York, January 8.——Dr. L. S. Cohen, resident pathologist at Jefferson Hospital, has typhoid.——Dr. R. B. Mann, Jefferson, 1912, has been appointed resident pathologist at the Philadelphia General Hospital.

GENERAL

Personal.—Dr. and Mrs. Martin Edwards, Shanghai, have returned to Chicago on a visit.——Dr. Allen F. Higgins, who has been surgeon of a mining company in Mexico for eight years, has purchased an interest in a hospital in Tampa, Fla., and will make that city his home.

Care of Alien Insane.—The states most affected by the problem of the alien insane have accepted an invitation to cooperate with New York state in an effort to have congress enact legislation to relieve the states of the burden of caring for the mental defectives committed to their care.

Northwestern Surgeons Elect Officers.—At the sixth annual meeting of the Surgical Association of the Chicago and Northwestern Railway, held in Chicago, December 19-20, Dr. A. L. Wright, Carroll, Ia., was elected president; Dr. A. B. Bowen, Maquoketa, Ia., first vice-president, and Dr. C. W. Hargens, Hot Springs, S. Dak., second vice-president. The next meeting will be held in Chicago.

Potters to Fight Tuberculosis.—On January 1, the United States Potters' Association and the National Brotherhood of Operative Potters will cooperate to improve working conditions in all potteries. Workers, suffering with tuberculosis, will be offered a course of treatment in one of several sanatoriums, the charge to be nominal; in every pottery there will be a committee on health; each plant will be equipped with shower baths and vacuum cleaning plants to reduce the danger of infection among workers.

Child Labor Day.—The six thousand clergymen who, during 1912, observed Child Labor Day are being asked to speak on that subject on Sunday, January 26, or Saturday, January 25. For seven years the work of the National Child Labor Committee has raised such interest that there has been a general demand for the passing of the federal children's bureau bill. Improved child labor laws have been passed in ten out of fourteen states holding legislative sessions, and there has been an increasing use of lecture slides and exhibits regarding child labor.

Infectious Diseases.—In the latter part of December, 1912, an epidemic of cerebrospinal meningitis broke out on a plantation near Midville, Ga., chiefly among the negro employees, with a few additional cases in the neighborhood. Altogether there have been about twenty cases reported, with twelve deaths, one of them a white person, the others being negroes. In a report to the governor of Georgia, Dec. 24, 1912, Dr. S. C. Benedict, president of the state board of health said that there had been eighteen cases, and that the situation was under control, quarantine being established and antimeningitis serum being furnished for treatment. During the height of the epidemic many persons left the community, and the railroads were criticized for carrying passengers from the epidemic district after being warned of the danger of the spread of the disease to other communities. Cerebrospinal meningitis in a small epidemic is also reported from Lepanto, Ark., and from the country districts of western Tennessee.——Trachoma has been found by the medical inspectors of the health department among the school children of Louisville, Ky., and those affected have been excluded from the schools.——Forty-one cases of small-pox have been reported from Wayne County, Pennsylvania, near the New York line. The epidemic was said to have started from the postmaster at Hale's Eddy, N. Y., who was afflicted with the disease and held up the mail two weeks. When it was released the mail carrier took the disease.——The health officer at Keyser, W. Va., has issued an order requiring all persons coming to that place from Cumberland, Westernport and Piedmont, where small-pox has been prevailing in epidemic form, to furnish a certificate of vaccination. The epidemic in this section, though not of the malignant form, has been deemed of sufficient importance to ask for the services of a government expert in its control.

FOREIGN

From the Seat of War.—A letter from F. Rusca of Berne, now in Servia (*Corr.-Bl. f. schweiz. Aerzte*), relates that more nurses are urgently needed on the firing-line in the Balkan states; that "a trained nurse is worth more at the seat of war than a newly fledged medical man." He says that the firearm wounds display a remarkable tendency to heal, even complicated fractures and wounds of the lungs. Infectious complications are rare. Abdominal wounds form the exception to this, and men wounded in the abdomen are treated so conservatively that they are not even allowed to be moved to the hospitals. Ten men in Rusca's care with a bullet through the lungs have all entirely recovered. Even neglected wounds on the feet heal without complications, while washing the wounds and applying a moist dressing seems to be invariably followed by infection. In one group of thirty wounded men, fifteen had been treated in this way and all developed infection. Another group of 160 had had their wounds merely painted with tincture of iodin and a dry dressing applied; in this group infectious complications developed in only three. Injury of the radial nerve as the humerus was fractured is frequently observed. There have been no cases of tetanus in the hospital (Saidschar) in Rusca's charge, but he has heard that there have been many cases in the Bulgarian army. He saw one soldier who had been shot through the lungs and hand and had his chin grazed, and yet he kept on fighting until a shot in the foot felled him. Contusion of the thorax or chest was a frequent accident in soldiers near an exploding bomb, but the hospital does not know whether the contusion was the result of the air-pressure or of flying objects. Rusca adds that the men in the present war are writing the most glorious page in the history of Servia while the women are making a record for self-sacrificing devotion to the wounded. He comments also on the remarkable way in which the severely wounded are able to find their way to the hospitals, their fear of the enemy in their wounded condition giving them strength to go miles apparently oblivious of pain.

LONDON LETTER

(From Our Regular Correspondent)

LONDON, Dec. 21, 1912.

The National Insurance Act

The poll taken by the divisions of the British Medical Association—both of members and non-members—to decide whether to work the insurance act or not, has been declared. By a majority of about five to one it has been decided to refuse to work the act. The figures are: for refusal, 9,331 members and 1,888 non-members; against, 1,963 members and 445 non-members. Though the voting has thus been overwhelmingly for refusal, the question has been raised as to whether it represents the opinion of the whole medical profession, which numbers 31,000. Of these, not half have voted. It must be remembered, however, that on a question of momentous importance it is difficult to get all the physicians in an area to attend a meeting, especially in rural districts. Every effort is now being put forward by the two parties in the profession—those who will stand by the decision of the association and those who are willing to work the act—to gain or retain supporters. The British Medical Association has sent out a special circular to those physicians who are not members, pointing out that a special representative meeting will be held in London on December 21 to receive the reports of the votes taken by the divisions. Pending the decision of this meeting, it asks that no negotiations should be entered into with insurance committees to work the act. The fact is pointed out that 27,400 physicians have signed the undertaking not to enter into any agreement for treating insured persons, except such as shall be satisfactory to the medical profession and in accordance with the declared policy of the association. Those who have signed this undertaking are held to be in honor bound to abide by it. The circular concludes with the statement that "if the profession continues to exhibit the same solidarity and determination for the next few weeks as it has during the past eighteen months, the conditions of medical practice under the act lie not with the government, the insurance commissioners or the insurance committees, but with the profession itself." On the other hand, the view is put forward by those in favor of working the act that the undertaking was given at a time when the conditions of service were much less favorable to the profession than those now offered and that, therefore, it is no longer binding.

The complaint is made that at the divisional meetings of the association moral intimidation has been exercised against those in favor of working the act and it is asserted that if the voting were by ballot or if a referendum were sent to the whole profession the present small minority in favor of working the act would be swelled to a large one and possibly turned into a majority. Thus it will be seen that the crisis on this momentous question is still to come.

Establishment of a Diploma in Psychologic Medicine at the University of Cambridge

The University of Cambridge has established a diploma in psychologic medicine. Candidates must be registered medical practitioners of not less than two years' standing and must have had twelve months' clinical experience in some lunatic asylum. The examination will include the anatomy and physiology of the nervous system, psychology, neurology, psychiatry, lunacy law and asylum administration. Since 1875 an examination and a diploma in public health, and since 1904 an examination and a diploma in tropical medicine and hygiene, have been established. These examinations have proved successful in the highest degree. They have created opportunities for training in research; they have improved materially the efficiency of those engaged in these special departments of medicine; and the possession of a diploma in public health or tropical medicine has come to be regarded as almost essential for holders of official posts in sanitary science at home or in our colonies and dependencies abroad. But as regards the study of mental disease and the care of the insane—subjects which, together with public health and tropical medicine, may be regarded as forming the main branches of state medicine—no examination or diploma exists. The inadequacy of the ordinary medical curriculum for the training of those who intend to devote themselves to psychologic medicine cannot be disputed. At present the newly qualified physician enters on asylum service with insufficient knowledge alike of psychology and the physiology of the nervous system on which psychiatry and neurology depend, and of the modern methods of research in mental and nervous disorders. Once having engaged in asylum work, he rarely has opportunity of learning more of these subjects.

The university authorities believe that an examination in psychologic medicine and its cognate subjects will raise the present standard of efficiency in applicants for asylum posts, and lead to the provision of appropriate courses for the training of those who wish to advance psychiatry. They believe that the legislature would quickly recognize the diploma as a qualification which must be held by all medical officers of public institutions for the insane and as desirable in candidates for medical appointments connected with education, the poor law and the prisons, and that thus after a very few years there would be a satisfactory number of candidates for the diploma. That a general desire for the establishment of a diploma in psychological medicine exists among those best qualified to form an opinion on the subject is shown by the fact that last year the Medico-Psychological Association of Great Britain and Ireland—a body comprising about 700 physicians, nearly all of whom are engaged in this special department of medicine—addressed a letter to the universities and other examining bodies of the United Kingdom, setting forth the advantages which a special examination and diploma would confer in stimulating research and in advancing our knowledge of the nature and treatment of mental and nervous disorders.

The Mortality of Middle Life in Great Cities

Dr. C. B. Newsholme, medical officer to the local government board, has submitted an important report on the comparative death-rates at the present day and those prevailing about seventy years ago. The figures show for males between the periods of 1841 and 1845 and 1906 and 1910 respectively a reduction of mortality which reaches a maximum of 64 per cent. between the ages of 5 and 10 and gradually declines to 3 per cent. between the ages of 45 and 55, changing in the next two decades of life to a rate increased by 9 and 8 per cent. respectively. For females the figures are somewhat better, the decrease of death-rate between the ages of 45 and 55 being still equal to 15 per cent., and a very small decrease continuing until 85 is reached, but the gain being greatly less than in the earlier decades. The increase in the death-rate among men between the ages of 45 and 65 and the failure of the death-rate to decline among women of that age, as at earlier ages, are facts of great social significance. Two sets of circumstances seem to be largely instrumental in keeping up the death-rates: the rapidly increasing aggregation of population in towns, and the associated industrial conditions affecting large masses of the population. Both in men and in women diseases of the heart and blood-vessels were the causes of about one-third of the total deaths in the age period of 55-65. Diseases of the respiratory system, including pneumonia, cause in men about one-sixth, in women about one-seventh, of the total deaths at this period; malignant disease rivals respiratory diseases as the cause of one-seventh of the total mortality among men and one-fifth of that among women. The high mortality from diseases of the heart and blood-vessels is in part a consequence of rheumatic fever in earlier life. A large share of it, however, is caused by degenerative changes at the ages of 45 and 55 and 55 and 65, which form an important anticipation of senility in the tissues, on whose integrity life and health chiefly depend.

PARIS LETTER

(From Our Regular Correspondent)

Paris, Dec. 20, 1912.

The Abuse of Medical Charity

In Parisian hospitals signs announce that the services are reserved for the poor, but this rule is not always enforced. Therefore the Syndicat médical de Paris, at one of its recent sessions, considered how it might be learned whether or not patients applying for admittance were really poor. It was proposed to exact a written declaration to that effect. When asked whether this would be permissible the director of the public charities replied that it would be illegal; but it was learned that such a demand is made in the law courts, in which every one who asks for help is obliged to declare that he does not have sufficient funds to retain his own attorney. The *syndicat* proposes to install the same system among those asking for medical treatment excepting in emergency cases. In the event of fraud the hospital proposes to institute a suit to collect expenses for treatment and to recover damages.

Personal

Dr. Gaucher, professor at the Faculté de médecine de Paris, has been elected president of the Association générale des médecins de France, succeeding Professor Lande, who died last April.

Acute Rapidly Developing Syphilitic Meningitis

At the last meeting of the Société médicale des hôpitaux of Paris, Professor Achard read a paper on a case which he observed together with M. Desbouis. A woman, aged 20, entered the hospital with all the clinical signs of acute meningitis and high cerebrospinal lymphocytosis but without fever. Attention having been turned to the genital organs because of an inguinal adenopathy, it was learned that some time before the patient had had on one of the labia majora a small indurated pustule of which no sign remained. The Wassermann reaction made with the blood-serum and with the spinal fluid was at first only weakly positive, but when repeated some days later it was frankly positive, leading to the conclusion that the meningitis had appeared when the reaction was on the point of becoming positive. Under the influence of injections of mercuric cyanid and iodid the meningeal symptoms promptly receded but the lymphocytosis persisted. The patient interrupted the treatment for two months and when she returned about seven months after the chancre she presented an almost effaced eruption and a papulosquamous syphilid as well as mucous patches. It is probable that the mercurial treatment had delayed the appearance of the secondary symptoms. The lymphocytic meningeal reaction persisted. Injections of neosalvarsan, 0.45 gm., were made seven times during eight weeks. This caused the secondary symptoms to disappear and reduced the lymphocytosis, the latter dropping from fifty to three or six cells per cubic millimeter. This is an example of acute syphilitic meningitis developing with unusual rapidity. Diagnosis is difficult when, as in this case, there are no cutaneous or mucous manifestations. It is therefore necessary in acute meningitis to take into consideration the possibility of a syphilitic origin and to make a Wassermann test, as its evidence is perhaps superior even to that of treatment, since recovery from certain forms of acute meningitis is spontaneous.

Dr. Jeanselme, *agrégé* at the Faculté de médecine, observed two cases of acute meningitis in the secondary stage of syphilis. In the former, a subacute case, lumbar puncture several days after the beginning showed a large amount of albumin and 254 cells, with lymphocytes in the majority. The Wassermann reaction in the spinal fluid gave a positive result, although the reaction in the blood was very weak. Two intravenous injections of salvarsan at an interval of three days were followed by a recession of the symptoms. A second lumbar puncture showed that the number of cells had fallen from 254 to 90, but the spinal fluid still contained albumin and gave a positive Wassermann reaction. Meanwhile erysipelas in the face developed which was rapidly fatal. In the second case, which was subacute, a first injection of salvarsan caused almost immediately the disappearance of a stubborn and long-continued headache. The effect of treatment on the meningeal cell-count, although evident, was much less rapid. After treatment with salvarsan the spinal fluid contained fifteen cells per cubic millimeter. After four injections of salvarsan the number of cells was only 9.6, and fell to 6.5 after the sixth injection. The Wassermann reaction in the spinal fluid had been negative, which, according to Jeanselme, seems to be the rule when the cell-count is not very high. On the other hand, when the spinal lymphocytosis is high, as in the first case, the Wassermann reaction in the spinal fluid is positive as a rule.

Dr. Netter, *agrégé* at the Faculté de médecine, reported the case of a young man who had a severe meningitis with coma. Genital pustules with tumefaction of the inguinal ganglia suggested syphilitic meningitis, and a Wassermann test in the spinal fluid was positive; nevertheless, as the simple lumbar puncture had benefited the patient, it was decided not to begin specific treatment at once, and a biopsy was made of the inguinal ganglia. Histologic examination did not disclose a single spirochete; the patient was not given specific treatment and he completely recovered. Meanwhile the Wassermann reaction had become negative.

BERLIN LETTER

(From Our Regular Correspondent)

Berlin, Dec. 13, 1912.

Personal

The noted surgeon of Göttingen, Prof. F. J. Rosenbach, celebrated his seventieth birthday, December 16. His researches on the microorganisms of wound infections of man are especially well known. In 1886 he demonstrated that human tetanus is communicable to animals. Two years ago he published in the *Deutsche med. Wochenschrift* an article on a tuberculin prepared by him. The trials of the remedy so far have indicated a certain degree of activity.

Professor Sudhoff, the well-known medical historian of Leipsic, has been appointed regular honorary professor.

Professor Pfaundler, director of the pediatric clinic at Munich, has received calls both to Strasburg and Leipsic, as director of the pediatric clinics at those places.

Non-Medical Women at the Berlin Medical Society

At one of the last sessions of the Berliner medizinische Gesellschaft attention was called to the fact that the wives and other female relatives of physicians, without being members, visit regularly the meetings of the society, evidently from a certain desire for sensation, which they have hitherto shown only at court proceedings dealing with sexual matters. After attention was called to this evil both in a petition directed to the executive committee of the society and in the medical and daily press, these undesirable guests have no longer presented themselves. Moreover, the executive committee has determined that admission to the meetings shall be permitted only on exhibition of a membership card.

National Sickness Insurance in Germany

The number of Krankenkassen in Germany has declined in the period between 1907 and 1911 from 23,332 to 23,109. The average annual number of members for 1911 in all Germany was 13,619,048, while in 1907 it was only 12,138,966. For 1911 there were altogether 5,772,388 cases of illness with inability to work (in 1907: 4,956,388), and the number of days of sickness, which means such diseases in which only sick-money and hospital care were given, was 115,328,905 (in 1907: 97,148,780). The ordinary income for 1911 was $103,072,653 (412,290,611 marks) as compared with $79,898,047 (319,592,187 marks) in 1907, and the expense was $97,110,615 (388,442,459 marks) (in 1907: $75,094,796.50 or 300,379,186 marks). The excess of assets over liabilities of all the German Krankenkassen amounted in 1911 to $78,002,500 (312,010,000 marks) as compared with $74,110,000 (296,440,000 marks) in the previous year, and with $61,240,000 (244,960,000 marks) in 1907, so that there has been in this period a considerable gain, in spite of the continuous increase of the expenses. The average yearly outlay for a member increased from $6.16 (24.64 marks) in 1907 to $6.21 (24.82 marks) in 1911.

Strike of Medical Students at Halle

All the German medical students at the University of Halle, who are attending clinics this semester, ceased on December 13 to attend all clinics and exercises at the college until further notice. Their reason for this step is as follows: As a result of several petitions of medical students attending the clinics, that foreigners without suitable education should not be permitted to attend the clinics, the unqualified foreigners were excluded for a time, in accordance with a decree of the department of education in 1894. But recently the faculty have been permitting all foreigners to attend the clinics, in opposition to the former resolution of the department of education and of the faculty. As the exercises have not been attended by any student for the last few days, no lectures were held.

Change in the Medical License Law

As your readers will remember, I reported last year a case which attracted considerable attention, in which a medical student applied for a position to a hospital in a suburb of Berlin for passing his "practical year," and was rejected on account of his belonging to the Jewish faith. The Berlin medical chamber presented a protest to the minister of public instruction, but as the complaint was not answered in a manner which seemed satisfactory, the board of directors of the organized chambers, the Berliner aerztliche Standesvereine, has petitioned the Reichstag asking that the following be included in the conditions for passing the practical year: No eligible candidate can be rejected by an institution except on adequate grounds. A refusal for sectarian reasons shall be permissible only to such institutions as are designated as sectarian in the catalog of eligible hospitals. The reason for refusal shall be communicated in writing to the candidate. The candidate may make a complaint in regard to the refusal to the central authorities, which shall make the final decision. In the discussion of the petition, in the Reichstag committee, the majority took a position favorable to the proposal. It was recognized that a sectarian differentiation of candidates is unconstitutional in the German empire. Further, with reference to this matter, there is included in a paragraph of the examination law the condition that the admission to the practical year may be refused only when serious criminal or moral defects exist, and therefore it is evident that refusing admission to Jewish assistants on account of their faith would be equivalent to a refusal on the ground of serious criminal or moral defect. For this and other grounds, the Reichstag committee has decided to recommend the petition to the consideration of the imperial chancellor. This, to be sure, is not an assurance that the views of the committee will be adopted. The matter must first be discussed at a full meeting of the Reichstag, and even then it is always uncertain whether or not the Bundesrat will carry out the resolution of the Reichstag.

ROME LETTER

(From Our Occasional Correspondent)

Rome, Dec. 10, 1912.

Vital Statistics in Italy

In 1872, the population of Italy was twenty-seven million; this figure, in the course of the forty years over which statistics extend, increased by about nine million, so that Italy to-day numbers thirty-six million inhabitants. This increase is almost exclusively dependent on a decreased death-rate; for while the mortality in 1872 amounted to 30 per thousand, it then, with the exception of short stationary periods in the years 1900, 1902 and 1903, decreased regularly, and in 1910 was only 19.64 per thousand. On the other hand, the percentage of births shows a slight decrease, for there were approximately 37 per thousand in 1872, as compared to 33 per thousand in 1910. The actual number of births, however, in these last years exceeded that of the first years of the statistics by about 100,000 per annum. Hence the general balance of the Italian population is very favorable. The surplus births in 1910 amounted to nearly half a million, which was the highest number reached since 1872.

The percentage of marriages, with the exception of slight fluctuations, is very much the same; the highest number was attained in 1908, with 8.3 per cent. Usually the number of marriages is lower in the larger towns than in the country.

The birth-rate also is lower in the large towns than in the country.

In the South there is a tendency to marry very young. The youngest couples, neither bride nor groom having attained 20 years of age, are most numerous in Calabria, Basilicata and the Campagna, while they are least numerous in Lombardy and Venetia.

But if the youth of marrying couples is most noticeable in the south of Italy, in the north there is a greater number of plural births. In the forty years over which the statistics extend, the percentage of plural births has moreover remained always about 1.20 per cent. The masculine sex is predominant in these births: thus, in 1910, there were 105 boys to 100 girls, and in 1909, 106 boys to 100 girls. From 1872 to 1910 forty-six quadruplets were recorded and quintets once; of these forty-six quadruplets, in eight all four were males, and in the case of the quintet, there were three males and two females.

While in the towns the number of births is less than in the country, the percentage of mortality is also higher, so that the towns would in the end become depopulated, if this percentage were not kept within certain bounds, and counterbalanced by the influx of the country population. But one must take into consideration the fact that the towns contain the large military, private and public hospitals, which tend to raise the percentage of the mortality to the disadvantage of the town. Also more persons fall victims to alcoholism and to accidents in towns, and the number of suicides is greater.

The statistics regarding suicide are especially interesting. Unfortunately the districts in which there is universal education, industries and general well-being, have the greatest number of suicides. Liguria had 121 suicides among a million inhabitants in 1907, 158 in 1908, and 163 in 1909. In Sicily and Sardinia, there are 55 suicides per million, while in Calabria the percentage is about 24 per million. In 1907 and 1908, twenty-three out of a hundred suicides were women, and in the preceding years the percentage was even less; in the decade 1885 to 1894 there were only 19 per cent. It may be perceived that the struggle for existence has become harder for women, so that they, too, appear in constantly increasing numbers in this sad list. The total number of suicides has also increased appreciably. While in 1907 there were 2,445, this figure increased in 1908 to 2,693, and in 1909 to 2,969. Men most frequently commit suicide between 30 and 40 years of age, and women between the ages of 15 and 40. With regard to the occupations of such persons, those who deal with alcohol are the most numerous. In 1909, for example, among 100,000 inn-keepers, wine and liquor merchants and restaurant-keepers, forty-eight took their own lives, and former years show about the same percentage. Next in number come capitalists, politicians and other people who have responsibility. Unfortunately, the number of physicians is also high, reaching to 38 per thousand. Proportionately low is the percentage of farmers, shepherds, laborers, with 9 per 100,000, and lowest of all, the priests and monks with 6 per 100,000.

Marriages

William Atwood Mowry, M.D., French Lick, Ind., to Miss Genevieve Mihills of Fond du Lac, Wis., December 31.

Ernest Chester McCulloch, M.D., Washington, D. C., to Miss Edith Mulford of Cincinnati, December 27.

Robert Douglas Alway, M.D., to Mrs. Eleanor M. Armstrong, both of Aberdeen, S. Dak., December 25.

Charles H. J. Barnett, M.D., Philadelphia, to Miss Sarah L. Hensel of Clifton Heights, Pa., December 29.

Walter B. Hunter, M.D., Shreveport, La., to Miss Margaret Sue Edwards of Memphis, Tenn., December 22.

Albert O. Singleton, M.D., to Miss Willie Dean Bivens, both of Galveston, Tex., at Corsicana, recently.

Alfred B. Grosse, M.D., San Francisco, to Miss Rosa Wadsworth Meyer of New York City, December 17.

John Bohlander, Jr., M.D., Cincinnati, to Miss Georgie Belle Weil of Springfield, Mo., December 26.

Hugh H. Ross, M.D., Seaforth, Ont., to Miss Jean Schaefer of Listowel, Ont., in Toronto, December 25.

James W. Mott, M.D., Poplar Bluff, Mo., to Miss Sarah Sue Revelle of Lutesville, Mo., December 26.

Roscoe Conklin Whitman, M.D., to Miss Jessie Edith Collins, both of Morris, Ill., December 14.

Deaths

John Guerin, M.D. Rush Medical College, 1866; the oldest member of the Chicago Board of Education and one of its most active and aggressive members; for three years professor of natural sciences and mathematics in the University of St. Marys of the Lake, Chicago; city physician in 1871 and 1872, and for several years a member of the medical board of Cook County Hospital; who left Chicago January 1 on a trip to Cuba in quest of health; died in a hotel in Memphis, Tenn., January 2, from heart disease, aged 73.

Henry Eugene Ferrel, M.D. Washington University, St. Louis, 1898; later demonstrator of anatomy in his alma mater; major M. C., N. G. Mo., assigned First Infantry; and for eleven years a medical officer of that organization; a member of the Missouri State Medical Association and once secretary of the St. Louis Medical Society; died in his office in St. Louis, December 19, from the effects of gunshot wounds of the head, believed to have been self-inflicted, with suicidal intent, while suffering from melancholia; aged 37.

Frank H. Jenks, M.D. Northwestern University Medical School, 1886; a member of the American Medical Association; for twelve years assistant superintendent of the Elgin State Hospital and later proprietor of the Ransom Sanitarium, Rockford; of international reputation as an alienist; died in the St. Charles Hospital, Aurora, December 24, from ulcerative endocarditis, said to have been the result of septicemia due to an autopsy wound; aged 49.

William Elting Johnson, M.D. Albany (N. Y.) Medical College, 1859; a member of the Medical Society of the State of New York; assistant surgeon and later surgeon of the One Hundred and Ninth New York Volunteer Infantry and later brigade surgeon during the Civil War; state senator for two terms, and during the latter term chairman of the committee of public health; died at his home in Waverly, December 16, aged 75.

Charles S. Hazeltine, M.D. Albany (N. Y.) Medical College, 1866; president of the Hazeltine and Perkins Drug Company, Grand Rapids, Mich., and a director of the Grand Rapids National City Bank; United States consul at Milan, Italy, from 1893 to 1895; for many years a member of the board of trustees of Butterworth Hospital; died at his home in Grand Rapids, December 17, from nephritis, aged 68.

William J. Pitman, M.D. Atlanta (Ga.) Medical College, 1888; formerly of Greenwood; a member of the Arkansas Medical Society and physician of Sebastian County; who moved to Fort Smith in November, last; was found dead beneath a trestle of the Iron Mountain Railway in that city, December 20, aged 50. His death is believed to have been due to a fall from the trestle while dazed as the result of a runaway accident.

Thomas Wesley Shastid, M.D. University of Missouri, Columbia, 1856; a member of the American Medical Association and once president of the Pike County (Ill.) Medical Society; the oldest practitioner of that county and until October last a resident of Pittsfield; died, December 6, in Augustana Hospital, Chicago, where he had gone on account of a psoas abscess, aged 81.

Albert C. Bunn, M.D. University of Buffalo, N. Y., 1867; medical missionary at Wuchang, China; first medical missionary to the interior of China; founder of St. Peter's Hospital and the Elizabeth Bunn Hospital in China; more recently rector of St. Matthew's Church, Brooklyn, N. Y.; died in Asheville, N. C., December 24, aged 67.

Silas G. Sewell, M.D. Medical College of Ohio, Cincinnati, 1887; a member of the American Medical Association; for three years superintendent of the Presbyterian Sanatorium, Albuquerque; died at his home in Albuquerque, N. Mex., December 16, aged 52.

Adolph H. Dietrich, M.D. Albert-Ludwig's University, Freiberg, Baden, Germany, 1894; formerly of Pittsburg, Kan., but for six months a resident of Kansas City, Mo.; died in the Kansas City General Hospital, December 16, aged 54.

Joseph R. Skidmore, M.D. Miami Medical College, Cincinnati, O., 1868; one of the oldest practitioners of Logan County, O.; died at his home in West Mansfield, December 23, from senile debility, aged 80.

LeGrande James Wilson, M.D. Jefferson Medical College, 1869; division surgeon in the Confederate Service throughout the Civil War; died at his home in Alma, Ark., December 22, aged 76.

William Stewart Reoch, M.D. College of Physicians and Surgeons, New York City, 1896; a member of the Rhode Island Medical Society; secretary of the Kent County Medical Society for three years and its president in 1910; one of the leading practitioners of the Pawtuxet Valley; died at his home in Phenix, December 15, from nephritis, aged 43.

Christopher C. Miller, M.D. Homeopathic Medical College of Pennsylvania, Philadelphia, 1868; formerly president of Grace Hospital and president of the Detroit Board of Health in 1897; once vice-president of the American Institute of Homeopathy; died at his home in Detroit, December 17, aged 66.

William A. Dorsey, M.D. College of Physicians and Surgeons, Baltimore, 1905; a member of the Washington State Medical Association; aged 29; was instantly killed at his home, Sedro Woolley, Wash., by riding into an electric wire which had been blown down in a storm.

Frank Raymond Wheeler, M.D. Northwestern University Medical School, Chicago, 1903; a member of the American Medical Association and American Academy of Medicine; died at his home in Auburn, Ill., December 21, from pneumonia, aged 35.

Alfred Baker Giles, M.D. University of Maryland, Baltimore, 1880; acting assistant surgeon, U. S. Army, during the Spanish-American war; died suddenly at his home in Forest Park, Baltimore, December 21, from heart disease, aged 54.

Elisha M. Lowery, M.D. Eclectic Medical College, Macon, Ga., 1852; for thirty-five years a practitioner of Crawford County, Ark., but since 1905 a resident of Fort Smith; died in that place, December 19, from heart disease, aged 84.

William Blaney Stevenson, M.D. University of Pittsburgh, 1911; who had been combating an epidemic of diphtheria in Daisytown, Pa., where he was surgeon to the River Coal Company; died from that disease, December 20, aged 24.

Horace P. Porter, M.D. Yale Medical School, New Haven, Conn., 1861; surgeon of volunteers during the Civil War and once surgeon-general of the Grand Army of the Republic; died at his home in Butler, Mo., December 23, aged 73.

John Mill France, M.D. Rush Medical College, 1885; of Perris, Cal.; expert examiner for diseases of the eye and ear for the pension bureau; died in his office in San Jacinto, Cal., December 14, from cerebral hemorrhage, aged 60.

Harvey B. Laflin, M.D. Bennett Medical College, Chicago, 1873; at one time secretary of the National Eclectic Medical Society; died at his home in La Crosse, Wis., December 22, from cerebral hemorrhage, aged 78.

William M. Gross, M.D. College of Physicians and Surgeons, Keokuk, Ia., 1875; a member of the Illinois State Medical Society; a veteran of the Civil War; died at his home in Gillespie, December 18, aged 70.

John Alexander Green, M.D. University of Alabama, Mobile, 1881; a member of the State Medical Association of Texas; of Blooming Grove; died in St. Paul's Sanitarium, Dallas, December 17, from nephritis, aged 56.

Josiah J. Vaughan, M.D. Louisville (Ky.) Medical College, 1884; a pioneer practitioner of Bowie County, Tex.; died at his home in Eylau, Texarkana, December 14, from heart disease, aged 66.

Charles Gertrude Graham, M.D. Chattanooga (Tenn.) Medical College, 1905; a member of the Tennessee State Medical Association; died at her home in Chattanooga, about December 18, aged 31.

Herbert Augustine Longan, M.D. Louisville (Ky.) Medical College, 1880; formerly police surgeon; of Kansas City, Mo.; died in a hotel in Houston, Tex., December 18, from asthma, aged 61.

Edwin R. Gordon, M.D. Medical College of Indiana, Indianapolis, 1904; a member of the Indiana State Medical Association; died at his home in Hobart, December 20, aged 34.

Lorenzo D. Clark, M.D. Western Homeopathic Medical College, Cleveland, O., 1866; a veteran of the Civil War; died at his home in Stoughton, Wis., December 21, aged 71.

Edward LeRoy Oatman, M.D. Bellevue Hospital Medical College, 1879; a member of the American Medical Association; died at his home in Brooklyn, December 6, aged 59.

Paul Frank Bussman, M.D. University of Buffalo, N. Y., 1882; founder of the Lancaster (N. Y.) *Star;* died at his home in Buffalo, December 19, aged 52.

John W. Marine, M.D. Curtis Physio-Medical College, Marion, Ind., 1885; died at his home in Etna Green, Ind., December 18, from heart disease, aged 76.

The Propaganda for Reform

In This Department Appear Reports of the Council on Pharmacy and Chemistry and of the Association Laboratory, Together with Other Matter Tending to Aid Intelligent Prescribing and to Oppose Medical Fraud on the Public and on the Profession

AN AUSTRIAN INVESTIGATION OF COMMERCIAL DIGITALIS PREPARATIONS

While much has been published in recent years on the physiologic standardization of digitalis, it is only occasionally that comprehensive, critical studies appear which treat of individual preparations in a way to be of direct use to the practitioner. Almost the only studies of the latter character that have appeared in this country have emanated from the Hygienic Laboratory of the United States Public Health Service; those relating to digitalis were reviewed in The Journal, for June 12, 1909, and April 22, 1911. Comparative studies on this subject are equally infrequent in European countries; hence it may be of interest to discuss briefly a recent paper by Weis[1] of Vienna, especially as this deals in part with certain preparations of American origin and with others extensively advertised in this country.

Weis' experiments were performed in the chemical-pharmaceutical laboratory of the Ministry for the Interior, to which is entrusted the control of proprietary medicines in Austria.

After reviewing some of the other methods proposed for the physiologic standardization of digitalis, Weis decided to adopt the frog heart method as described by Worth Hale in Hygienic Laboratory Bulletin 74. He applied this method to a large number of different preparations of digitalis; only those of more direct interest to American physicians will be referred to here.

Weis found certain commercial ready-made tinctures to be fifteen times less active than the tinctures made from good leaves in accordance with the directions of the Austrian Pharmacopeia; he states that the apothecary would fulfil his obligations to the physician and patient much better if he would prepare tinctures himself instead of dispensing some of those ready-made.

Weis is especially severe in his condemnation of a practice which he states is only beginning in Austria but which (owing to the propaganda of our "great manufacturing houses") is only too prevalent in the United States—the practice of preparing "tinctures" by the dilution of fluidextracts. Thus Weis found a specimen of fluidextract ("P. D. & Co.") to be but very little more active than an official tincture; a "tincture" made from such a fluidextract would be only one-eighth as strong as a properly made official tincture. Hale in this country had found such pseudotinctures to be much less active than genuine ones.

Of seventeen proprietary preparations examined only three or four had the strength claimed; others had only one-tenth of the claimed activity. To the latter class belonged digitalone (Parke, Davis & Company), which is claimed to be the equivalent of a 10 per cent. tincture; Weis found it equivalent to a 1 per cent. tincture. These results are similar to those obtained in 1909 by Edmunds and Hale with digitalone; of three samples examined by them one had about one-half the activity of a tincture, whereas the other two were practically devoid of digitalis action.

A sample of the widely advertised proprietary preparation digalen, in liquid form, was found by Weis to be much less active than it was claimed to be, while the tablets, which one would expect to be more permanent than the liquid, showed activity equal to one-third of that in a corresponding amount of the liquid. It required six tablets, representing 0.9 mg. amorphous digitoxin, so called, to equal in activity 1 c.c. of liquid digalen, which is said to contain 0.3 mg. of this so-called amorphous digitoxin. (The quality of digalen on the American market is being investigated by the Council.)

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[1] Weis: Das österreichische Sanitätswesen, Supplement to No. 22, May 30, 1912.

Hale had found preparations of digalen on the market in this country to vary greatly in strength. Weis, like Hale and Hatcher, found the activity of digalen to be much less than that of crystalline digitoxin to which it has been claimed to be equivalent. A third proprietary preparation, digipuratum was found by Weis to have the activity claimed for it by the manufacturers; this result agrees with that of Hale.

Other preparations of digitalis in tablet form were likewise found to be of very uncertain strength. Thus the tabloids of the tincture of digitalis ("B. W. & Co.") had only about one-sixth the strength claimed; the tabloids of "amorphous digitalin" of this firm contained digitalinum germanicum; the hypodermic tablets of digitalin ("P. D. & Co.") had only about one-half of the digitalin claimed.

Weis concludes that at present the best form in which to prescribe digitalis is a freshly made infusion of physiologically tested leaves. He thinks that it may be possible to prepare preparations as trustworthy as the infusion and more permanent, but states that it will be necessary for these to be subjected to a constant control by properly qualified persons. Such a control is now exercised in Austria under the ordinance restricting the sale of specialties to such as have received official approval; so far this approval has been granted to but two digitalis preparations. The control over such preparations in Austria is analogous to that exercised in this country by the Public Health Service in respect to vaccines, antitoxins, etc.

ENLIGHTENED STAND OF A MAIL-ORDER HOUSE

In common with most concerns of the kind, Sears, Roebuck & Co. of Chicago, one of the largest mail-order houses, has for some years sold "patent medicines" through its drug department. It no longer does so. In the new catalogue, just issued, the company tells its patrons why it no longer lists secret preparations. Believing that there is a legitimate demand for simple home remedies, the company lists a few non-secret preparations which have been selected from the Pharmacopeia, the National Formulary and New and Nonofficial Remedies. Under "Non-Secret Cathartic Preparations," for example, we find such products as Rochelle salts, effervescent sodium phosphate, castor oil, compound cathartic pills, "Lady Webster pills" (aloes and mastic pills, U. S. P.), etc. In the list of "external preparations" will be found such pharmacopeal preparations as camphorated oil, turpentine liniment, spirits of camphor, etc. A few "Well-Known Non-Secret Home Tonics" are listed, with a note to the following effect:

> "The prolonged use of tonics is not advisable. There is usually some disease back of a generally run-down condition, and the family physician should be consulted in such cases."

Then there are "Other Non-Secret Home Remedies," such as sodium perborate, N. N. R., effervescent Vichy salts, N. F., alkaline antiseptic, N. F., witch hazel, U. S. P., etc.

Realizing that some explanation is due their customers, the company under the title: "Why We Have Discontinued Patent Medicines" explains its new policy as follows:

"Many of our customers will be surprised and possibly some of them disappointed to find that this catalogue no longer lists the various patent medicines we have carried in the past. Our decision to discontinue the sale of patent medicines was made after careful study of the question from all sides and is based on our policy of handling only dependable merchandise—merchandise that we believe will give the service our customers have a right to expect. We have come to believe that patent medicines do not conform to this standard; in fact, we are confident that those of our customers who have investigated the matter thoroughly will agree with us that, considered in all its phases, the patent medicine business is a public evil.

"We are not prepared to take the extreme position that no medicines of any kind, regardless of how simple or in what manner advertised, should be offered direct to the public. However, even such a state of things might easily be better than the present situation, in which we find valueless and even dangerous medicines offered to the public through the medium of advertising that is extravagant, misleading and deceptive—advertising calculated to deceive the well into the belief that they are sick and to induce the sick to pin their faith to ineffectual means for recovery.

"Practically every patent medicine is put out under a trade-marked name and secret formula. The fact that the name is private property makes advertising profitable where otherwise it would not be. Secrecy permits advertisement of the most extravagant sort to go more or less unchallenged. It is not unusual to find a patent medicine advertisement that tends to leave the impression that there is a 'mysterious something' about the medicine that is sufficient to account for the otherwise unbelievable virtues attributed to it. In selling patent medicines the tendency is to tell as little about their composition and to claim as much for them as the law will allow.

"That patent medicines are more than likely to be disappointing as well as dangerous is apparent when we consider the fact that the all-important as well as the most difficult thing in the treatment of disease is that of finding the real underlying cause of the trouble, and the further fact that the person least able to form a safe judgment in this matter is the patient himself.

"The person who falls a victim to the advertisement that attaches a grave meaning to every little ache or pain, when in reality nothing ails him that forgetting would not cure, is at least defrauded.

"The person who depends on an advertised nostrum to cure a serious ailment, which to be successfully treated must have only the most prompt and skilful attention, is throwing away valuable time. The most dangerous medicine, especially in the case of the lingering disease that drugs alone cannot cure, is that which, by containing a stimulant or an opiate, causes its victim to feel better for a while. Being thus encouraged in a vain hope, though all this time the lurking disease is steadily progressing, he often turns too late, if he turns at all, to rational means for recovery.

"The person, whether sick or well, who takes a secret-formula medicine runs a chance of being injured directly by dangerous drugs that may be present. The law requires that only thirteen of these, and their derivatives, be declared on the label, but the medicine may contain certain poisonous drugs, even including strychnin, arsenic and prussic acid, without such declaration being required; and what the law does not require along this line is seldom done.

"Therefore we have decided to restrict our line of drugs and medicines to those officially approved by the leading drug and medical associations of the country as given in three well-known publications, namely, the United States Pharmacopeia, published by authority of the United States Pharmacopeial Convention; the National Formulary, issued by the American Pharmaceutical Association; and the New and Nonofficial Remedies, accepted by the Council on Pharmacy and Chemistry of the American Medical Association. The pure food law has made the first two of these publications the standard for all drugs and medicines in this country. Thus the highest quality, as well as absolute uniformity, are assured for these official preparations. This places them in a class by themselves, for the composition of a patent medicine may be changed at the whim of the maker, and this without even a change in the name of the medicine or in the claims made for it. The last-named publication, as its title would signify, is intended to supplement and bring up to date a knowledge of the merits of certain newer remedies that are not open to the criticisms outlined above and are not yet to be found among the official preparations.

"We believe that the publications named above contain practically all that is of value in the field of medicine. From among the preparations that experience shows are of most value, we have selected a few simple remedies that we believe may be of use in the household. In presenting this list we wish to be understood as not urging the purchase of any medicine that is not needed. Again, if any of our customers have need of more than a few simple home remedies, such as those listed below, we are frankly of the opinion that they should consult their family physicians rather than waste either time or money experimenting with drugs, whether patent medicines or any other.

"In conclusion we wish to say that in our opinion the evils chargeable to patent medicines are likely to continue so long as these products have free access to the channels of publicity and trade. Just why patent medicines are needed at all as articles of commerce, considering that non-secret medicines are better in every way, is not apparent. Since non-secret medicines are better, we believe that our customers will find the remedies we now offer to be more satisfactory than the patent medicines we have carried in the past.

"We therefore submit the following list of simple, non-secret home remedies, all of standard quality and at a reasonable price."

Correspondence

The Diagnostic Doubts of Dr. Cabot

To the Editor:—Dr. Richard C. Cabot's industrious article "Diagnostic Pitfalls Identified During a Study of Three Thousand Autopsies" (The Journal A. M. A., Dec. 28, 1912, p. 2295) is dangerous. Some harm, as I shall presently show, has already been done. The premises are quite inadequate to warrant the conclusions, and I thoroughly disagree with the deductions that are made. Three thousand cases form an imposing array, it is true, but when they remain improperly classified they constitute merely a variegated assortment of insufficiently differentiated units that is more apt to muddle than to clarify statistical research. To collect a large series of cases of acute and chronic diseases, complicated and uncomplicated by preceding or accompanying lesions—cases seen throughout the course of the disease or only for a few days or a few hours—cases studied before and after the advent of modern diagnostic methods—cases seen in a perfunctory way and cases thoroughly studied by "new" doctors and by old—and then to utilize this jumble of heterogeneous material to formulate generalities is wrong. The premises also include infallibility of pathologic as against clinical diagnosis. Here the element of care, thoroughness and the personal equation enter with equal force. And what of the purely functional disturbances that have no tangible autopsy mark? Is the diagnosis of acute uremia, for instance, necessarily incorrect because nothing tangible is found at autopsy? What is the post-mortem evidence of a death from uremia?

Taking up singly a few of the "percentages of diagnostic success," is it not preposterous to assert that the diagnosis of acute nephritis was correctly made in only 16 per cent. (and incidentally, how do you diagnose chronic glomerulonephritis during life?) and of chronic nephritis in 50 per cent. How is this possible unless the simplest routine examinations of the urine were omitted? Can acute pericarditis be missed in 80 per cent. and acute endocarditis in 61 per cent. of the cases? It seems quite incredible, if the patients were examined at all. Peptic ulcer was incorrectly interpreted in 44 per cent. of the cases; why, and what diagnosis was made? And where are duodenal ulcer and gall-stones (not mentioned in this table) that could most readily be confused with gastric ulcer? And does this table—does the whole article—include the borderland cases of this type in which the necessary exploratory operation was performed? I doubt seriously whether active phthisis is missed in 41 per cent. of cases, nowadays; activity is usually associated with tubercle bacilli in the sputum, is it not? Of course, if they are not looked for, one might make the diagnosis of bronchitis. Most senior students, I really believe, would be able to recognize a mitral or an aortic stenosis in more than 69 per cent. and 61 per cent. of the cases, and lobar pneumonia would not be misinterpreted or overlooked in nearly a quarter of the patients. How can a modern medical man consider the diagnosis of malaria a "diagnostic pitfall" because in these statistics the diagnosis is often given of "phthisis, hepatic syphilis, hepatic abscess and urinary infections?" Was the blood examined? Let me recall the fact that in malaria, a typical parasite, easy of identification, is said to circulate in the blood. But why go further?

The main conclusion to be drawn from Dr. Cabot's paper is that unpardonably careless work was done by the attending physicians in the 3,000 cases that found their way to Dr. Cabot's autopsy table. One can hardly assume that these cases were all "studied" in the Massachusetts General Hospital, for this would constitute too crushing an arraignment of the clinical work done in this venerable and justly celebrated institution. I have seen 152 consecutive cases correctly diagnosed in every clinical detail in the service of Dr. Ortner in Vienna, and that was sixteen years ago. Dr. Cabot's "diagnostic pitfalls" are not pitfalls at all for the man with five senses and a conscience; they are pitfalls only for the blind, and the blind should not lead. The whole argument is illogical; fifty men are not necessarily a centipede because one man is a biped.

A certain number of disorders cannot, of course, in the very nature of things be correctly interpreted during life, although their number is relatively very small and growing smaller (where in the statistics is the diagnosis "impossible?"); another small proportion requires an exploratory operation; still others are purely functional in character and have no uniform, characteristic or grossly determinable anatomic substratum; other "diseases" that Cabot enumerates are merely syndromes of manifold origin and due to a variety of underlying causes. But I maintain that the overwhelming majority of cases are to-day diagnosed correctly—provided the proper care is exercised and the proper technic is employed. Of course "against stupidity the gods themselves strive in vain." We all have our percentage of error, but it is not a question of greater or less virtuosity at all; it is a common-sense question of securing specifications before figuring on a contract. One should not proclaim *ex cathedra* that tailors cannot make clothes, because of 3,000 suits the majority were misfits, unless one acknowledges at the same time that most of the tailors for some inscrutable reason failed to take the necessary measurements. And one should not argue from Boston and over the signature of an illustrious name and in the leading place of our most prominent medical journal that doctors commonly fail to make proper diagnoses, unless one acknowledges tacitly or openly that this is due to their failure to exercise ordinary care or to use the proper methods prescribed for eliciting needed facts. I know that such criminal negligence is not tolerated in the larger Chicago hospitals, nor is it at all common among general practitioners, even among the overworked and underpaid country practitioners in this section of the country. One rarely encounters an actual "bull" of the kind that seems to thrive rampant in herds in Dr. Cabot's china-shop.

My criticism is inspired by an article in the Chicago *Tribune*, Saturday, December 28, under the caption "Wrong Diagnosis Common, Asserts Dr. Richard Cabot." This thing was waved at me twice in one day. What "meat" this must be to our friends, the enemy, and what ammunition for those who gleefully, in the name of the Profit, shoot at "doctors, drugs and the devil!" It is a pity that a thing of this sort should come before the public now, when we are trying so hard to gain the confidence of the laity, to educate the people over to the cause of legitimate medicine and to dispel the attitude of amused suspicion so generally adopted toward us. Therapeutic nihilism has had us by the throat; now beware of diagnostic pessimism. Duckworth warned us long ago that "the doctrinaire in medicine, as in politics or other matters, is commonly a dangerous person." Alfred C. Croftan, M.D., Chicago.

[A proof of the preceding was sent to Dr. Cabot, who replies:]

To the Editor:—I hoped to read such objections as Dr. Croftan's. They help to bring out the truth. Before I knew the facts I used to feel just as he does. When he has had three thousand clinical diagnoses criticized at autopsy by an independent and unprejudiced pathologist who makes full bacteriologic and histologic examinations of every case, he will find, I believe, that the facts are not less unpleasant than I have stated them to be. He will know that his most scrupulous and careful examination of the precordia often fails to reveal acute pericarditis when it is present; that his examination of the urine will not always distinguish either acute or chronic nephritis from other conditions resembling them, and that mitral stenosis and aortic stenosis are sometimes overlooked by the best diagnosticians.

His questions may be answered briefly as follows:

Duodenal ulcer is included with gastric ulcer under the general term "peptic ulcer." Many active cases of tuberculosis show no bacilli in the sputum. Malaria is listed as a diagnostic pitfall simply because I saw in one year three practitioners (not connected with any hospital) fall into it. Acute uremia can be excluded when we find post mortem a purulent meningitis and a pair of sound kidneys. It is to such evidence that I refer. Doctrinaires are the bane of medicine. We need men who will work and face the facts. Failing that, general denunciations do not help. Richard C. Cabot, M.D., Boston.

Unwise Tenement-House Legislation

To the Editor:—Your editorial discussion in last week's issue (p. 52) of tenement legislation prompts me to add these considerations. Rents are high on Manhattan Island because the demand for space in which to live is beyond the supply. Also the rent is artificially and unnecessarily made still more prohibitive by two recent measures offered by the Charity Organization Society, and made a law April, 1912.

The first measure was a requirement that the water-closet in the Vanderbilt tenement, and in fact in all the open-stair tenements, and in future buildings of that type should be placed on the valuable and limited outside wall space known as the periphery, whereas adequate ventilation and lighting was provided for the water-closet on the "court stair recess" through a window, view-proof even when open. The New York Academy of Medicine, the Tenement Economies Society and many other societies, as well as individuals, regret this added load on the small wage-earner. This alone is prohibitive, probably adding 12 per cent. to the already high rent.

The second measure was to make the limit of a room 7 feet. At first sight this would seem reasonable: it is hardly fair to ask a family to consider a space narrower than 7 feet. But if 7, why not 8 or 9? We are decidedly meddling with another man's pocket-book; what if a family can pay only for a room 6 feet across? It must be remembered that the law had always fixed a limit, as it does still, of 70 square feet of floor-space in a room with a ceiling 9 feet high. Why suddenly fix the width at 7 feet?

Some of the Vanderbilt rooms are only 6 feet 6 inches across; some rooms in the open-stair tenements are 6 feet. They all rent readily. People prefer small, well-ventilated and lighted space to dark quarters that are larger. Besides, it is obvious that a family can separate the sexes, the young from the old and the sick from the well by means of a number of small bedrooms rather than a few large ones. Morality, modesty and refinement are dulled through lack of privacy. This law of April, 1912, will work great havoc which its promoters did not foresee.

For instance, there was in course of preparation a tenement having the economic advantage of open stairs which placed on a lot 100 feet square a building of sixty-four rooms per floor, each containing not less than 70 square feet of area, and with one room in each suite containing not less than 120 square feet. Every room had a large window to a street, a yard or a spacious open court. No other building had ever before been planned for more than fifty-six rooms in the same space. Some of these sixty-four rooms were to be 6 feet across; by making them 7 feet, eight rooms would be lost.

Here was a distinct advantage to the small wage-earner crippled by an ill-conceived law promoted by the Charity Organization Society, but regretted much by the Tenement Economies Society.

All smaller cities of the United States are apt to be influenced by larger ones. New York should not be offered as a model for multiple buildings owing to her unusual cramped condition and her lack of adequate transportation facilities; but, unfortunately, her example is followed and her example in tenements is not even semiscientific. Corrective measures, however, are in sight and the poor may yet find light and air instead of darkness and filth.

Henry Atterbury Smith, New York.

Esperanto and the Medical Profession

To the Editor:—Twenty-five years ago Esperanto was introduced by a Polish oculist, Dr. Zamenhof. The propaganda since then has resulted in a world-wide knowledge of Esperanto, and physicians in many lands have been quick to grasp the advantage of unhampered correspondence or conference with their colleagues, unhindered by difference of national language.

About five years ago an association known as "Tutmonda Esperantista Kuracista Asocio" (world-wide association of Esperantist physicians) was formed, and at each of the international Esperanto congresses there has been a special session of this association. During the period of its existence it has published an official organ which, like all struggling medical publications, has had a checkered existence. At the last congress, held in Cracow during the past summer, after a most enthusiastic conference, the question of a permanent official organ was finally and satisfactorily settled. Two numbers of this journal, which is a sixteen-page publication, *Kuracisto* (Doctor), have already been published. The first number was largely made up of reports of the congress and also published a paper on actinomycosis by a Swiss oculist, which had been read at that congress. The leading articles of the second number are an exhaustive paper on extra-uterine pregnancy and another on the treatment of tuberculosis with tuberculin. This number also contains several reviews of leading articles in European medical publications.

Both the association and its organ should appeal to the man who wishes to get in touch with the medical men and medical methods in various countries. Many physicians in the American Medical Association are already enrolled as members of the Esperanto Association of North America; still more have a working knowledge of Esperanto, and this number would be increased tenfold if it were known what a simple and practical solution of an international language Esperanto really is. Several English firms have issued special Esperanto catalogues and literature. It is safe to conclude that this action is not taken without reason.

Esperantist physicians who wish for further information are requested to communicate with the undersigned.

C. H. Fessenden, M.D., Newton Center, Mass.

Effects of Drinking Water with Meals

To the Editor:—The beneficial effects of drinking water with meals, recently referred to in The Journal (Nov. 30, 1912, p. 1975), are present only when the water is taken slowly, a little at a time and not too cold. If, as is frequently practiced by many people, the water is gulped down ice-cold, a glassful or so at a time, then instead of being useful, it may become very injurious indeed.

We are often called to treat people with severe cramps suddenly developed during or right after a meal. In many of these cases we often find that the sufferer drank large quantities of too cold water. So though the dilution of an enzyme does not interfere with its activity, cold, as is well known, retards its action. Hence the drinking of too cold water with meals is liable, with some people at least, seriously to interfere with their digestion and cause them useless suffering. It would be well, when advising people to take water with their meals, to caution them of the harmfulness of too cold water, especially when taken excessively.

L. Buckle, New York.

Poliomyelitis and the Paralytic Type of Rabies

To the Editor:—Dr. Henry F. Langhorst's article "Possible Transmission of Poliomyelitis Through the Dog" (The Journal, Dec. 28, 1912, p. 2312) should call attention to the great difficulty of differentiating in man between the paralytic type of rabies and certain other nervous diseases.

In the literature one often sees allusions to the difficulty of discriminating between the paralytic type of rabies and Landry's disease; these cases should also put us on our guard against confusing this type of rabies with poliomyelitis.

James M. Phillips, M.D., Columbus, Ohio.

Insanity and Heredity.—A periodically insane son or daughter is more likely to be associated with a periodically insane mother or father than if one is differently affected. In the case of two offspring in the insane there is even a greater tendency for a periodically insane male or female to be associated with a periodically insane brother or sister than with one differently affected.—Edward Shuster and Henry A. Cotton in *Am. Jour. Insan.*

Queries and Minor Notes

ANONYMOUS COMMUNICATIONS will not be noticed. Every letter must contain the writer's name and address, but these will be omitted, on request.

ANTIFREEZING MIXTURES FOR AUTOMOBILES

To the Editor:—In THE JOURNAL (Dec. 14, 1912, p. 2177), concerning antifreezing mixtures for automobiles, you said nothing about using coal-oil in radiators. This is advocated by many and is being used by some. What do you think of it?

Last winter I tried to use a 50 per cent. alcohol solution in my car radiator, but on account of the heat the alcohol evaporated rather rapidly; in consequence no definite percentage of alcohol could be maintained, and the percentage might become so low that freezing would take place. This fall I filled my radiator with kerosene and have driven the car several hundred miles since. Sometimes, in continuous service, the kerosene has boiled and I have thought of the possibility of explosion, but as yet I have had no such trouble; in fact, the circulation of the kerosene seems to make the engine run better. So far as I know, outside of this possibility, the only drawback is the action of the kerosene on the rubber tube connecting the engine jacket with the radiator. This involves only the expense of replacing the rubber tube occasionally, unless possibly particles of the disintegrated tube might clog the pipes or the pump. It is just as effective and much cheaper than alcohol and one knows that he has real antifreezing mixture, which is not the case with mixtures of alcohol and water, on account of the evaporation of the alcohol.

L. R. HINSDILL, M.D., Keota, Iowa.

ANSWER.—Outside of the corrosive effect of the oil on the metal and the destruction of the rubber tubing, we see no particular disadvantage in the use of kerosene. Kerosene boils at from 150 to 300 F., and as an engine sometimes becomes much hotter than this there might be the remote possibility of the ignition of escaping gases, just as a machine may take fire from leakage of the gasoline supply. It is probable that the engine would never attain such a high degree of heat as of itself to cause the explosion of these gases. The cheapness and effectiveness of the kerosene would seem to recommend it as an antifreezing mixture for automobiles.

QUININ AND UREA HYDROCHLORID

To the Editor:—I am writing for information about quinin and urea hydrochlorid.

1. What is its chemical formula?
2. Is it poisonous even in large doses?
3. Does the quinin element of the salt affect patients who have quinin idiosyncrasy?
4. If used in the ear as a local anesthetic to relieve pain or for the purpose of doing paracentesis, does the quinin produce the ringing noise that it does when taken internally?
5. Is it absorbed in highly congested or inflamed mucous surfaces? For example, could it be used to advantage in solution as a gargle to relieve the excessive pain of a peritonsillar abscess?
6. Does it injure the cornea if solution be dropped into the eye?
7. Does it pain the eye when first dropped in?
8. Does it dilate the pupil? If so, by what means? That is, when used in the eye.
9. Does the small amount of the urea base of the salt have any systemic effect when solution is injected into localized tissue?

LELAND O. MAULDIN, M.D., Greensville, S. C.

ANSWER.—1. The chemical formula is $C_{20}H_{24}N_2O_2.HCl+CH_4N_2O.HCl+5H_2O$.

2. No more than quinin.

3. The salt has the effect of other quinin compounds.

4. We know of no statements in regard to the effect of quinin and urea hydrochlorid on the ear, when applied locally, but it is possible that if a large amount were absorbed, which would not be the case in such an instance, the symptoms of ringing in the ears would appear.

5. There is probably some absorption, but injection beneath the mucous membrane seems necessary to secure anesthesia.

6, 7 and 8. We find no record of its use in the eye.

9. No.

LITERATURE ON FACIAL EXPRESSION IN DISEASE, THE TONGUE AND MOUTH IN DISEASE AND THE MEDICINAL VALUE OF FRUITS AND VEGETABLES

To the Editor:—Please give me references to literature on the following subjects:

1. Facial expression as an indicator of disease.
2. The significance of the tongue and mouth in disease.
3. The medicinal value of fruits and vegetables.

R. APGAR, M.D., Rockville, Md.

ANSWER.—1. This matter is treated in Mackenzie's work on "Symptoms and Their Interpretation," p. 102; also in an article by H. A. Potts, "A Frequent Etiologic Factor Common in Facial Malformation and Acute Infectious Diseases," *Interstate Med. Jour.*, February, 1911, and in an article by S. Loving: "The Facial Expression and Posture of Disease," *Ohio State Med. Jour.*, April, 1911.

2. "Diseases of the Tongue" by Butlin and Spencer may be consulted, price $3.50; also Cummings' "Diagnosis of Diseases of Tongue." References to this subject are also made in works on general diagnosis.

3. This matter is dealt with in books on dietetics. The medicinal value of fruits and vegetables arises from two properties: First, the acids of fruits and the indigestible cellulose residue of vegetables act as laxatives. Second, the salts contained in them are converted into carbonates and tend to increase the alkalinity of the blood and to diminish the acidity of the urine.

VALUE OF IMMUNIZING DOSES OF DIPHTHERIA SERUM—USE OF SERUM AS SOLVENT FOR NOVOCAIN

To the Editor:—1. Is there any danger of anaphylaxis from the use of "immunizing doses of diphtheria antitoxin"? 2. What is the danger from the use of serum as a solvent for novocain for deep injection to produce local anesthesia in nasal operations? The idea was suggested by Professor Luc of Paris in an article, published in the *Laryngoscope*, May, 1912, but I think that its use is dangerous and likely to bring about anaphylaxis.

EDWARD J. BERNSTEIN, M.D., Kalamazoo, Mich.

ANSWER.—The danger from the use of antidiphtheritic serum for protective purposes is very small indeed. In a certain proportion of cases cutaneous rashes of various kinds will occur just as in patients given the serum for curative purposes, and the amount of serum injected does not seem to make much difference, at least so long as the doses are within the limits of those ordinarily given. The use of concentrated or precipitated serum, properly aged, has reduced the number of cases of serum disease. Serious symptoms arise in very exceptional cases only and in many such cases indications of hypersusceptibility have manifested themselves in the form of asthmatic symptoms on coming in close and prolonged contact with horses. In persons with tendencies to acute asthmatic phenomena the injection of horse-serum should not be made unless urgently demanded.

2. If serum is a desirable solvent for novocain to secure local anesthesia why not use human serum?

LITERATURE ON THE SYMPATHETIC NERVOUS SYSTEM

To the Editor:—Please direct us to literature on the physiology, pathology and therapeutics of the sympathetic nervous system.

DRS G. W. AND E. F. COTTIS, Jamestown, N. Y.

ANSWER.—The following are references to recent articles which have appeared:

Savill, T. D. Psychology and Psychogenesis of Hysteria and the Rôle of the Sympathetic System, *Lancet*, London, Feb. 13, 1909.
Kyri, J.: Disturbances of the Sympathetic Nervous System and Their Relation to Psychoneuroses, *Med. Klin.*, 1909, v, Nos. 43 and 44.
Lavastine, L.: General Plan of the Sympathetic Nervous System, *Rev. de méd.*, May and July, 1909.
Boschau, F.: Condition of Irritation in the Sympathetic Nervous System in Infants, *Monatschr. f. Kinderheilk.*, x, No. 11.
Frölich, A.: The Sympathetic Nervous System, *Med. Klin.*, Feb. 19, 1911.
Müller, L. R.: Physiology of the Sympathetic Nervous System, *Deutsch. med. Wchnschr.*, March 30, 1911.
Berend, N., and Tezner, E.: Participation of the Sympathetic Nervous System in the Pathology of Infants, *Monatschr. f. Kinderheilk.*, 1911, x, No. 6.
Pick, L.: Cancer of the Sympathetic Nervous System, *Berl. klin. Wchnschr.*, Jan. 1 and Jan. 8, 1912.
Meyer, H. H.: Pharmacology of the Sympathetic Nervous System, *Med. Klin.*, Nov. 3, 1912.
Pick, L.: Cancer of the Sympathetic Nervous System, *Berl. klin. Wchnschr.*, Jan. 1 and Jan. 8, 1912.
The Adrenals and the Sympathetic Nervous System, editorial, THE JOURNAL A. M. A., Nov. 9, 1912, p. 1720.

TINCTURE OF CUDBEAR — COMPOSITION OF MERCURIC CHLORID TABLETS

To the Editor:—Please answer the following: 1. How is the tincture of cudbear made? 2. What should be the composition of mercuric chlorid tablets to prevent precipitation in the solution, and to preserve the full antiseptic power of the mercuric chlorid in the presence of wound secretions, etc.?

E. L. LAMPE, M.D., Bellevue, Iowa.

ANSWER.—1. Tincture of cudbear of the National Formulary is made by percolating 125 gm. of cudbear with a mixture of one volume of alcohol and two volumes of water until 1,000 c.c. of the tincture are obtained.

2. Antiseptic tablets of mercuric chlorid are usually made either by the addition of citric or tartaric acid to the mercuric chlorid, or by a similar addition of ammonium or sodium chlorid. It is asserted that the germicidal action of mercuric chlorid is decreased by the addition of sodium chlorid and still more by the addition of ammonium chlorid.

Medical Economics

This Department Embodies the Subjects of Postgraduate Work, Contract Practice, Legislation, Medical Defense, and Other Medicolegal and Economic Questions of Interest to Physicians

NEWSPAPER COMMENTS

THE SANITARY ENGINEER

Discussing sanitary engineering as an adjunct to modern prevention of disease, the *Literary Digest*, under the title "Sanitation More Than Medicine," quotes Professor Whipple, who holds the chair of sanitary engineering at Harvard, as saying in the *Engineering News* that the sanitary engineer must be more than a physician and that medical training is only one of the items in his preparation for his career. He is bound to be a commanding figure in the doings of the world during the coming centuries. Says Professor Whipple:

"Medical training alone does not fit men for this service. The problem of curing disease is quite different from the problem of preventing disease. The former deals with human beings as individuals; the latter considers them as units of a mass. The prevention of disease involves mathematics; statistics relating to the sick and the dead must be constantly and daily used in order to show what forces of disease are at work, and where the attack is next likely to be made. It involves engineering; for the public must be protected against impure air and infected water, and streets must be cleaned and garbage removed. It involves chemistry; for the public must be protected against the sale of adulterated and poisonous foods. It involves bacteriology; for infectious diseases must be diagnosed and antitoxins provided. It involves law; for the health officer must be able not only to discern evils but to eradicate them. But the duties of a health officer should not be entirely repressive and punitive. There is a positive side. His department should be an educational force in the community, constantly instructing the people in the arts of hygiene and in the principles of right living. Many believe that this educational function of the health officer is one of the most important of his duties.

"In the pursuit of the elements of sanitary science, the sanitary engineer, the sanitary specialist, and the health officer meet on common ground, and to a certain extent their education may be appropriately conducted together. But for the most part their work, although mutually helpful, lies apart, and their education in the main should follow separate channels. . . .

"Sanitary engineering is yet in its youth. Its practice is far from being crystallized. More than other branches of civil engineering, therefore, it demands research. Half a million dollars has been spent in this direction by our states and municipalities, but the research carried on by our universities has not been as great as might be expected. Additions to university funds for this purpose would bring important results.

"Our country is justly proud of the work of the United States government in preventing disease at the Isthmus of Panama, and in showing how the tropics may be safely inhabited by white men, but this work has been very expensive. The next step in advance is for the sanitary engineer to accomplish the same task at greatly less cost. This step is absolutely necessary. Research in sanitary economy is, therefore, one of the directions in which money may be well spent during the next decade."

EDUCATIONAL WORK OF THE A.M.A.

An appreciative editorial, commenting on the public educational work of the American Medical Association, appears in the Dallas *News* for Dec. 22, 1912. The editorial is so discriminating as to be worthy of careful consideration by all our readers, as it shows how the work of the Association is regarded. After describing the public service performed by the speakers' bureau of the Association, which furnishes free of cost to towns, cities, clubs or other organizations, speakers on various topics connected with public health, the *News* says:

"This, we repeat, is a valuable public service. If one could expect no other result from one of these lectures than a slightly quickened interest in ways to keep well, individually and collectively, the boon would be absurdly rich in comparison with the cost and trouble. Probably full half of the sickness we have is unnecessary; full half of the millions that are annually spent in drug and doctor bills is a waste, a waste in the sense that it could be avoided by a reasonable obedience to the rules of right living. Add to this the loss of energy and efficiency entailed by this unnecessary sickness, and the economic consequences alone are enough to arouse in an intelligent people the keenest interest. But of course we should enjoy immense social and even moral benefits if the average man and woman could be persuaded to have a more lively concern for the rules of health; for the rules of health are the rules of right living, right living in a spiritual as well as in a physiologic sense. The rules of health are uncompromisingly at war with vice at every point of its attack, and one who is persuaded to conserve his health and strength is also, whether wittingly or unwittingly, brought into the practice of the laws of morality. Anything that stimulates interest in hygiene, even though only slightly, ought to enlist the sympathy and encouragement of every organization devoted to the task of improving civic conditions, and that is the reason why the fullest advantage should be taken of the very generous enterprise of the American Medical Association."

Society Proceedings

WESTERN SURGICAL ASSOCIATION

Twenty-Second Annual Meeting, held at Cincinnati, Dec. 20-21, 1912

The President, Dr. L. L. McArthur, Chicago, in the Chair

Etiology of Ileal Kink; Pericecal Membrane and Movable Cecum

Dr. F. Gregory Connell, Oshkosh, Wis.: Anomalies of development offer a rational explanation for these conditions. Coincident or resultant inflammation may cause confusion. Describing the embryologic changes in the ileocecal region under the single term "rotation" likewise causes confusion. Such changes are migration, rotation and fixation, one or more of which may be imperfect. The pericolic membrane may be due to excessive rotation, delayed migration, and early or anomalous fixation. The ileal kink may be due to excessive or anomalous fixation. The movable cecum is due to an absence of fixation.

The Fetal Peritoneal Folds of Jonnesco, Treves and Reid, and Their Probable Relationship to Pericecal Membrane and Ileal Kink

Dr. Joseph Rilus Eastman, Indianapolis: There is a striking similarity between the fetal peritoneal fold described by Jonnesco and Juvara, and designated by them "the parietocolic fold," and the adult peritoneal anomaly described by Jackson as membranous pericolitis. There is probably also a causal relationship between the bloodless fold described by Treves and a pocket-like anomalous peritoneal reflection which is not rare in the adult, and which passes from the mural peritoneum on the right side quite low down, extending upward and inward over the caput coli and vermiform appendix to be attached to the last two or three inches of the ileum, and to the peritoneum of the caput coli. It forms the boundary of a precolic fossa in which the cecal head and appendix may rest as in a pocket. It is likely that in not rare instances during operations for appendicitis, the caput coli with the appendix are shelled out of this peritoneal pocket, the peritoneal fold, the bloodless fold of Treves which forms the pocket being looked on by the operator as an affair of adhesion formation. Moreover, although conceptions of Lane's iliopelvic band, the structure to which is ascribed an important part in the causation of Lane's kink, are somewhat varying, it may be well in discussing the nature and origin of this band to recall that Douglas Reid, of the University of Cambridge, described under the name of "genito-mesenteric fold" a rather common fetal fold of peritoneum which passes from the terminal portion of the ileum into the pelvis. Concerning this genitomesenteric fold, which may be found readily in a surprisingly large percentage of fetuses after the seventh month, or even after birth at term, the question may be raised whether it is not related to angulations or gravitations or other deformities of the terminal ileum to which it is attached.

The parietocolic fold of Jonnesco and Juvara in most cases arises from the peritoneum at the left or inner side of the ascending colon, passing over the anterior aspect of the ascending colon in an upward slanting direction. It is attached to the parietal peritoneum at the right of the ascending colon. It may adhere to the anterior and lateral aspects of the colon. I ascribe to this fetal fold practically the same relations as are presented by the parietocolic fold when found in the adult. The fold which was described by Douglas Reid and called by him the genitomesenteric fold has a secondary connection with the ileum and through the peritoneum of the meso-appendix with the appendix itself, a connection which is perhaps responsible for the frequent association of appendicitis and oophoritis. I have seen this fold in the adult. By lifting the last part of the ileum upward, a thin fold of peritoneum which is quite loose can readily be seen passing from the mesentery of the last part of the ileum over the brim of the pelvis to the region of the ovary. There is no sharp border of this fold on the right side. It spreads out on the right into a rather narrow fold of Treves. Reid describes this genitomesenteric fold as passing under the appendix, whereas the fold of Treves passes over the caput coli and appendix. In my cases the inner or left border of the bloodless fold of Treves has ended in each case below in the genital gland in the fetus at the ovary in the female after birth, and at the internal abdominal ring in the male at term. This was not seen as it was observed by Reid. Certainly it was not noticed as a separate distinct fold, but rather the inner prominent edge of the bloodless fold of Treves, passing from the terminal ileum to the genital gland. It is this genitomesenteric fold of Reid, or the prominent inner border of the fold of Treves, as the case may be, which corresponds in its position and attachments to the ileopelvic band of Lane. The relationship between the fetal fold and Lane's band is perhaps only suppositional, but it seems not unlikely that they are identical.

Concerning the origin of Jonnesco's fold, it may be said that several succeeding stages of its formation indicate that adhesions form between the cecum and parietal peritoneum, while the cecum is still subhepatic. The subsequent descent with torsion or rolling inward on the long axis draws the mural peritoneum over the ascending colon in a slanting direction.

The Corelation of Appendicitis, Mucous Colitis and Membranous Pericolitis

DR. A. E. BENJAMIN, Minneapolis: Owing to the dietary habits and the upright posture assumed by man, the propagation of the colon bacillus is favored. The congenital body form and the imperfect development of the large intestine, as well as insufficient support and the pressure of clothing, favor visceroptosis, and visceroptosis favors stasis. Repeated attacks of colitis in children may terminate in a chronic form of the disease manifested in later life. Intestinal stasis causes a multiplication of colon bacilli within the colon. The weakest portion of the colon, namely, the cecum, owing to its anatomic location, is the natural receptacle for retained feces, mucus, bacilli and other contents of the bowel. The two fixed points, namely, hepatic and splenic flexures, inhibit fecal circulation; and when there are kinks, resulting stasis occurs. The reverse peristaltic waves, and the uphill course of the first part of the colon are prime factors in the production of stasis in the the cecum. When stasis and intercolonic tension exist in the presence of retained infectious microorganisms, the law of osmosis is put in operation and a transmigration of these organisms through the walls of a thinned-out colon occurs. There is always a reaction on the part of tissue thus invaded, and barriers offered to protect surrounding structures. Without the colon these barriers are manifest in the form of a veil-like membrane radiating from the parietal peritoneum to and over the area of the colon most affected. This membrane may not be placed uniformly over the colon or cecum, but often in an imperfect and crippling manner. The pressure of these bands may cause degeneration and scarring of the intestinal walls with contraction, resulting in thick bands or dense adhesions which produce obstruction and secondary stasis. When these fibers hamper the action of the large intestine they are a menace to the health of the patient and must be removed. The appendix is often caught in this veil-like membrane of dense bands with resulting constriction and degeneration of its walls. When the freedom of action of the appendix is thus interfered with, bacteria are retained, and further degeneration and infection result. Acute attacks of appendicitis may supervene following chronic symptoms of the disease. A chronic colitis sooner or later may result in membranous pericolitis and demand surgical intervention to relieve an imprisoned or restrained portion of the colon or appendix. The results of such an operation depend to a great extent on the inauguration of consistent dietary and general hygienic measures following the operation. Button-hole incisions for appendicitis should seldom, if ever, be employed. Surgeons must take a more comprehensive view of diseases of the abdomen, especially of the right side, and cease to focus their attention on the appendix alone. A careful observation must be made of all the abdominal organs at the time of the operation, and a general view taken with a clear understanding of the clinical symptoms and careful investigation of the pathology requiring attention, and with an intelligent interpretation of these our results will be quite satisfactory.

DISCUSSION

DR. VAN BUREN KNOTT, Sioux City, Ia.: I have long thought that the so-called Jackson membrane was more a congenital anomaly than a pathologic entity. I have encountered it many times when the abdomen was opened for any pathologic condition, when no symptoms existed which could be attributed to the presence of the membrane.

DR. W. D. HAINES, Cincinnati: There is a definite and known cause for colitis. It is an infection of the intestinal wall, and it is the same as other mucous-lined surfaces when they become infected, the difference being chiefly in the mechanics of the part, whether it be the gall-bladder, the appendix or the intestine itself. If one is not absolutely sure of the diagnosis before operation, the incision should be sufficiently large to permit one to see and act intelligently.

DR. JABEZ N. JACKSON, Kansas City, Mo.: The main thing I have endeavored to force on the profession is the recognition of a pathologic or abnormal condition, whether it be congenital, inflammatory or what not in its origin, a condition which is found about the right side of the colon in a definite percentage of cases, and a condition which is clearly definable. It is a clinical entity which presents an absolutely characteristic train of symptoms.

DR. W. W. GRANT, Denver: I saw a most interesting case in which there was a condition of the appendix without local symptoms other than those referable to the stomach. While examination showed hyperacidity of the stomach, an exploratory operation showed absolutely no disease of the stomach or gall-bladder, but the tip of the appendix was covered with the so-called Jackson membrane, looking exactly as it does in the fetus, except that there is a great deal of congestion and redness of the blood-vessels covering the cecum. Removal of the appendix cured this patient in two months.

DR. D. N. EISENDRATH, Chicago: I would suggest that we watch our patients for the next two years, make observations at the operating-table, and see how much benefit they have derived from the various methods of operation, and how much need there is for any operation in many of these conditions. I have made notes in many cases of so-called movable cecum, of ptosis of the ascending colon and transverse colon, and I have been following them up. I have a chart which contradicts what Dr. Jackson has said, namely, that the Jackson membrane does not form in a ptotic colon. This picture shows that the cecum lies between the bladder and the right pelvic wall. Dr. Jackson has pointed out that the pericolic membrane covers the ascending colon down to the cecum. In these cases there are absolutely no symptoms referable to the ptotic condition of the colon. The entire ascending colon and cecum were in the condition that has been described as cecum mobile or complete ptosis of the cecum.

Dr. Warren A. Dennis, St. Paul, Minn.: This question can be settled definitely by means of cooperative work and by making definite records of the conditions found in the various cases. If all would record the actual conditions found in children operated on, we could determine the relative frequency of this membrane in children. A certain number of patients will be operated on later in life; some of them will develop this membrane, and perhaps some of them will not, but we can reach a definite conclusion only by having a good many men work together.

Retrocecal Appendicitis

Dr. Jabez N. Jackson, Kansas City, Mo.: I have found four separate anatomic subvarieties of the general postcecal type. 1. The appendix, possessing its usual mesentery is distinctive only in the fact that it runs upward along the outer side of the colon which overhangs and confines it in the limited peritoneal space external to the colon. 2. Another type runs upward external to the colon under cover of the peritoneum of the posterior parietes which forms its investment, usually incomplete on its posterior circumference, and even though complete not furnishing a mesentery proper. 3. Again, I have found the appendix running up along the external wall of the colon itself and invested by its proper tunic and likewise without mesentery. 4. In the fourth type the appendix runs upward directly behind the colon beneath which it is buried in connective tissue entirely, and has no direct peritoneal investment whatsoever. In the retroperitoneal type there may be embolic infection of the liver with multiple abscesses entirely beyond any hope of relief by surgical means or otherwise. I would therefore emphasize the need of early diagnosis and early removal of the appendix as particularly indicated in this anatomic type of appendix.

DISCUSSION

Dr. W. W. Grant, Denver: In a paper on "Retrocecal Appendicitis," read before the Colorado State Medical Society in 1903, I called attention to a symptom not mentioned by the essayist in speaking of the symptomatology, namely, a tender point 2 inches above on an intersecting line directed upward from McBurney's point and from the umbilicus. In these cases of postcolonic appendicitis, without preliminary symptoms, you will find this to be the most distinctly tender point. A prompt operation in the class of cases described with drainage through the lumbar region will cure a large proportion of them.

Dr. Walter B. Dorsett, St. Louis: I was particularly interested in Dr. Jackson's classic description of this condition, but mostly in regard to the necessity for lumbar drainage even after we have opened anteriorly. Three such cases have come under my observation. In these I was fortunate enough to make a diagnosis of retrocecal appendicitis and opened, first, through the lumbar region, drained, and afterward removed the appendix through a lumbar incision from the front, for the reason that the appendix was very hard. It is worth while to consider drainage before the ablation of the appendix.

(To be continued)

SOUTHERN SURGICAL AND GYNECOLOGICAL ASSOCIATION

Twenty-Fifth Annual Meeting, held at Old Point Comfort, Va., Dec. 17-19, 1912

(Continued from page 73)

Adhesion of the Sigmoid

Dr. H. A. Royster, Raleigh, N. C.: Sigmoid adhesion is associated with definite symptoms which, I believe, can be relieved by simple means. Three years ago I directed attention to sigmoid adhesion as a cause of pain in many cases of salpingitis which were attributed to the ovary and other organs. Further experience and observation have convinced me not only of the importance of this adhesion, but of its more wide-spread interest, so that the whole question has assumed a broader aspect and is coming into consideration in every case of abdominal diagnosis that we have presented to us. Women commonly complain of left-sided pain, but it is not always properly interpreted. The ovary is too often blamed as the chief offender when, as a matter of fact, there is very little pain associated with ovarian disease. Most often the tube is the source of the pain and involvement of the tube usually precedes any ovarian involvement. In a number of instances neither the tube nor the ovary is found involved, yet the woman has pain. The particular thing which is characteristic of sigmoid adhesion, as observed clinically, is, first, pain during defecation and not afterward. In addition to this, some of the patients describe a stoppage at certain points. Constipation is the rule, but in a few cases we see the condition associated with mucous diarrhea or a mucous discharge from the bowel. Usually the pain is low down in the left iliac region, but it may be higher up, near the spleen or midway. Most of it is below the anterior spine of the ilium. A typical example of sigmoid adhesion was that presented by a married woman who had given birth to two or three children. She complained of incessant pain in the left quadrant of the abdomen, and was sent in as a case of tubal disease. Her greatest suffering was on going to stool. She was obstinately constipated. Pelvic examination was negative. Her abdomen was opened and a classic sigmoid adhesion revealed. This was dealt with and the abdomen closed. She has been free from pain now for more than two years. Other similar cases were cited.

DISCUSSION

Dr. Guy Leroy Hunner, Baltimore: In the first of two or three cases I saw of this condition operation was performed more than once for pelvic and other conditions in the abdomen which might be imagined to be causing the real trouble, and finally these sigmoid adhesions were found and relieved, with recovery of the patient. As regards the etiology, some of these adhesions do not come from the large bowel, but from without to the sigmoid. I find in some of these cases that the adhesions run from the internal inguinal opening over to the large bowel in the shape of fan-like peritoneal adhesions. In other words, the infection has apparently not come from the large bowel at all, but from the lymphatics running into the peritoneal cavity with the broad ligament. I find that in some cases chronic urethritis is associated with this condition of left-sided pain, but not all women with chronic urethritis who have pelvic pain have these adhesions.

Dr. James E. Moore, Minneapolis: Sigmoid adhesion is a definite surgical entity, and we can relieve it by surgical measures. In a certain number of cases a definite symptom which will enable one to make a positive diagnosis from the ordinary examination is a sausage-shaped tumor extending up the left iliac region toward the splenic flexure.

Dr. Walter B. Dorsett, St. Louis: If sigmoid adhesion were due to the colon bacillus or to some other organism, it would be just as frequent in the male as it is in the female. In dealing with these cases I make the incision in the median line because I have had some unpleasant complications in making the incision to the left of the rectus muscle.

Dr. Gordon K. Dickinson, Jersey City: We may speak of four types of immobilization of the sigmoid. One is the congenital type, in which the attachment of the left adnexa to the sigmoid is rather closer than usual and interferes with its function. The second is the inflammatory type from the left adnexa. The third is one in which there are inflammations around the ceco-appendix which draw it over to the right and immobilize it, and, fourth, the type described by Dr. Royster. To me he has given a perfect description of diverticulitis or multiple diverticula of the sigmoid.

Dr. J. Wesley Bovée, Washington, D. C.: We must remember that when there is an infection of the left appendage it is entirely on the peritoneal surface; it also spreads under the peritoneum, and there is infiltration of tissue in the peritoneum which gives rise to adhesions. The one class of cases that gives rise to adhesions is that class in which on examination I am not sufficiently expert to differentiate between tubal and ovarian disease and sigmoid adhesion. I am not expert enough in many cases even to find the tube or ovary where it has become diseased, for as the result of old infection it is plastered onto the wall of the pelvis. If it contains pus, the pus is absorbed. There are a small tube and ovary buried in adhesions and on the surface one cannot find them nearly so easily as one can the round ligament or ureter by bimanual examination in normal cases.

Proctoclysis; Experimental Study

Dr. Hugh Trout, Roanoke, Va.: In February, 1912, I presented a preliminary report of a comparative study of normal saline solution and tap-water for proctoclysis in nearly one thousand cases. The present report is based on over two thousand cases and includes all types of operations from 232 hospitals. All sodium salts are toxic and quite frequently dangerous doses are being given by the rectum. Tap-water does not irritate the rectum, and patients will absorb one-third more than they will of salt solution. It requires twice as much water by mouth to relieve thirst when patients are taking salt solution by rectum. Salt solution does not seem to have any effect on the renal functional test of phenolsulphonephthalein. Twenty-seven patients have tasted salt without knowing the character of the solution they were taking by rectum. Fifty-eight, operated on at other hospitals, commented on the absence of thirst and decrease in nausea in comparison with previous operations. In 287 operations on the perineum and rectum in which proctoclysis could not be employed, the patients all showed a marked increase in thirst and nausea in comparison with other cases. Four cases of death have been reported in the literature from the use of salt solution. The giving of fluid by rectum meets Nature's demands for the relief of postoperative thirst in a simple, effective and harmless manner.

DISCUSSION

Dr. J. Wesley Bovée, Washington, D. C.: I had no idea that Dr. Trout would obtain nearly as good results with plain or tap-water as with water containing salt, and I say this after having had a large experience in the use of salt solution.

Dr. Ernst Jonas, St. Louis: We have been changing from saline solution in the rectum to plain water proctoclysis, and although I cannot give the exact statistics, I can confirm the favorable report of the essayist. Patients have been much more comfortable. Edema of the legs has been observed less frequently.

Dr. F. W. McCrae, Atlanta, Ga.: In one case I know of, a stronger salt solution was used than the usual one and death supervened twelve hours later. It was a simple appendectomy in which the nurse used a pint of the stronger solution.

Dr. F. W. Parham, New Orleans: For some time I have been using a much weaker solution, 0.1 per cent., in place of the ordinary normal salt solution, but have not done it so systematically as the essayist. He has brought out clearly the advantages of using water in place of salt solution in most of these cases.

Dr. J. M. T. Finney, Baltimore: I have had the opportunity of seeing some of Dr. Trout's work and know that the care with which these observations have been made and the long series of cases which they cover make it a paper of great importance in view of his findings.

Dr. Robert Milne, London, England: It would be interesting to know the temperature of the tap-water in the receptacle. At the London Hospital we gave salt solution as a routine for years, and in the receptacle the temperature of it was 105 F. until some one found that when the saline solution came out of the end of the catheter its temperature was only about 90 F.: that is, in running through a rubber tube 3 or 4 feet long the saline drops about 15 or 20 degrees in temperature. Since then we usually keep it in a vacuum flask at the foot of the bed and keep it in that flask at a temperature of 120 F.

Dr. O. H. Elbrecht, St. Louis: If you will take a tube 6 feet long, which is about the average length of the tube which will be used for proctoclysis work, you will find that there is a drop of 40 degrees in temperature in the 6 feet of rubber tubing, with the water running at the rate of 60 drops per minute. That we simply use as a standard to gauge how much salt solution would run in in an hour.

Dr. W. P. Carr, Washington, D. C.: I have always been rather afraid of salt solution, especially when used intravenously and subcutaneously; I do not think that I have given it intravenously in half a dozen cases, and I seldom use it under the skin. I am glad to hear of such gratifying results from the use of plain tap-water.

Dr. H. Trout: We have been able, except in a few cases, to introduce 9 quarts of salt solution into the rectum. We have found that drainage cases absorb more than any other class of cases. We use from 3,500 to 4,000 c.c. in the water cases, and with salt solution we use from 2,500 to 3,000 c.c. We give it every two or three hours by catheter, let it run in, and then take out the catheter.

Abdominal Pregnancy With Living Child

Dr. J. Shelton Horsley, Richmond, Va.: My patient was a colored woman in whom pregnancy was supposed to be normal until her family physician was called in at about full term. He recognized abdominal pregnancy, as the uterus was empty. I did an abdominal section and delivered a male child, well formed and weighing 6 pounds. The mother made a satisfactory recovery, and a year after the operation both mother and child are well.

Application of Iodin to the External and Internal Generative Organs of Women in the Treatment of Infections, and Preparation for Surgical Operations

Dr. J. Wesley Bovée, Washington, D. C.: The conditions in which this treatment is applicable are: (1) acute infections of the vulva, vagina, urethra and the whole of the endometrium; (2) acute peritoneal infections with proper limitations; (3) chronic condition following infections of these structures and of the tubes, ovaries and pelvic peritoneum; (4) in pelvic surgery requiring examinations, manipulations or operations on or through the vagina; (5) in such procedures as require opening the cervical canal or uterine cavity from either the vaginal or peritoneal side; (6) as a routine method of preparation of the field of operation on all these structures as well as the rectum.

For several years I have confined the treatment of recent and remote neisserian infection of the vulva, urethra, vagina and cervix to the application of iodin. I have great confidence in the efficacy of this remedy when applied early. If the condition can be treated before the infection has passed into the uterine cavity or the glands of Bartholin, it can often be eradicated by one thorough painting of the exposed areas below the uterine cavity. If the first application fails, a second made three days later commonly succeeds. In pelvic surgery that requires examinations, manipulations or operations on or through the vagina, this plan of local sterilization is far superior to any other I have used. The importance of the vaginal application of iodin is emphasized in the radical operation for cancer of the cervix uteri. The high mortality from infection of the peritoneum as a result of breaking of the specimen during its removal and resulting leakage is a striking feature of the recent report of Wertheim's work in this field. This sad complication is best obviated by the use of the iodin to both the vagina and endometrium, preceded by galvanocauterization with or without curettement, if excrescences or craters are present. Since the etiology of cancer is not known, I would warn against driving any cancer material beyond the uterus by employing considerable pressure in injecting that organ.

Fatal Hemorrhage from Erosion of the Gastroduodenal Artery by Duodenal Ulcers

Dr. James E. Thompson, Galveston, Tex.: I have witnessed two fatal cases of bleeding from duodenal ulcers in spite of the operation of gastro-enterotomy. In both cases the ulcer was situated on the posterior surface of the first portion of the duodenum, and in both the hemorrhage which proved fatal came on at a time when it looked as if the patients would recover from the operation. The first patient died thirty-four hours after the operation with all the symptoms of concealed hemorrhage, but as no autopsy was allowed, we can only surmise from the position of the ulcer that the gastroduodenal vessel was eroded. The second patient lived forty-two hours after the operation.

Solitary Cyst of the Liver

Dr. Henry Norris, Rutherfordton, N. C.: The patient, colored, aged 51 years, mother of seven children, had fairly good health until about five years ago when she began to have excessive bleeding from a uterine fibroid. In April, 1906, I did a hysterectomy, removing a fibroid weighing 5 pounds, together with an ovarian cyst weighing 6 pounds. During this operation the upper abdomen was inspected, and if the cyst of the liver was then present, it escaped detection. In June, 1911, the patient came to me complaining of pain in the epigastrium, which was always worse when the stomach contained food. Beyond a slight rigidity of the right rectus muscle, I could detect nothing abnormal, and as the colon was loaded with the feces, I advised her to take some oil and report back, but she did not return until December when she was in a very run-down condition. In the midline, above the umbilicus, there was plainly seen a small rounded mass, which was palpable, resistant on pressure, and with a distinct transmitted pulsation. Because of the position of the tumor and of the absence of symptoms which would point to other organs, a tentative diagnosis of tumor of the liver was made and the abdomen was opened by a median incision above the umbilicus under ether anesthesia. The lower border of the left lobe of the liver presented in the wound, showing a firmly encapsulated cyst the size of a small orange. The surrounding liver tissue was of normal texture. The cystic area was darker, and enlarged veins showed on the surface. The sharp margin of the liver at this point was obliterated and the mass was spherical in outline. At its upper margin and near the center of the cyst was a small firm band, irregular in outline, 2 cm. long by 0.5 cm. in width. Except for this the outer surface was perfectly smooth. On account of the condition of the patient and the extensive attachment of the cyst, it was sutured to the abdominal wall and drained after over 200 c.c. of clear fluid had been withdrawn. After the evacuation of its contents there was a cup-like cavity left which felt more resistant than normal liver tissue. The inside of the cyst lining resembled peritoneum, and the fluid removed was slightly cloudy, with a specific gravity of 1.005; a trace of albumin was present. Microscopically there was nothing but cellular detritus. Convalescence was uneventful, and the drainage tract closed entirely in about four weeks. Seven months later the patient had gained 15 pounds and was free from any symptoms.

(To be continued)

NEW YORK ACADEMY OF MEDICINE

Sixty-Fifth Anniversary Meeting, held Nov. 21, 1912

Dr. William K. Polk in the Chair

The Doctor's Future In Relation to the Advances in Public Hygiene

Dr. Charles L. Dana: Certain conditions and tendencies are very much in evidence. The number of physicians has increased much faster than the population, and the number of medical colleges has increased until in 1904 there were 166. Since that time they have been decreasing in numbers and improving in quality. There are now about 10,000 fewer medical students than eight years ago. There is going to be a further decrease in the number of students, for the community is awaking to the fact that it must have well-educated and well-trained medical men, and that this product is expensive. The decrease in the number of medical men will probably stop before the German ratio of one physician to two thousand population is reached. The disease and mortality rates are steadily decreasing and there will be less need of so many physicians. As the number decreases, it is reasonable to expect that those remaining will have more to do and will be in a better position economically. There are many disturbing factors, however. Charlatanism thrives and the patent medicine fungus clings to every phase of civilization.

We have also the drug-counter practice and the various obsessive cults; there are 5,000 osteopaths and 5,000 Christian Scientists in New York. These are not so much a hindrance to the physician in the long run, for "fooling with disease always brings disaster." The death-rate has fallen until it is now only from one-half to one-third what it was thirty years ago. For this many agencies are responsible. There is in consequence a more enlightened community in respect to health laws and prevention of disease, and as a result a steadily diminishing mortality and morbidity rate. Along with these changes there is developing a change in the methods of treatment.

In the future, drugs will be given more often but more wisely as well; they will not be exactly drugs, but chemical and mental foods, gland extracts and the protective serums. More cures will be made than to-day and the period of illness will be shorter. The effect of the tendency to institutional and colonization treatment of certain diseases of the chronically sick must be taken into account.

In the future state the insurance of the working classes will also be a modifying factor which the physician must take into account. The physician has always helped along movements which have lessened his work and has thus committed honorable "harakiri" so far as his own personal fortunes are concerned, and he will help along this movement still more. Thus he will become a more important figure in the community and in the management of public affairs. In the management of the health of the nation he will have a greater function than in prescribing for the individual patient. Medicine will become a part of statecraft, and physicians will direct the affairs of state more and lawyers less than in the past. Meanwhile, the progress of prophylaxis will be slow, and not all physicians need leave their clinics and plunge into the crusade. They can show an active sympathy by their daily teaching.

The physician should oppose institutionalism, so far as this course is wise. Not all physicians want to be lodge doctors, government doctors, or institution doctors. There must remain the opportunity for high individual effort, for talent to rise, and for genius to reach its proper level. The day will come when graduate institutions will be under the control of the regents or an equivalent body of men. The day of causal teaching will pass. All really great hospitals will be allied with universities. The hospitals will be under the control of fewer physicians, and these will give a definite part of their time to the work and, it is hoped, will be paid for it. There will still be room for private work.

The old-fashioned doctor was a splendid figure, but he was badly trained, often ignorant, and made many mistakes. He is passing and it is a good riddance. There is developing in his place a higher type of general practitioner, one who is soundly educated, knows the human body, knows enough of medicine and of surgery to recognize rare as well as common diseases, and also knows his own limitations. He can be human and benignant too. This new type of family physician is not going to be swept aside by a group of specialists. These can only adorn and enrich his progress. The specialist will till his little field, the internist will garner. The surgeon of the large centers will become more and more a specialist. It is to be hoped that the surgeon will take a keener view of things and become a little less appropriative, objective, and technical, less amazed at his own resources, more thoughtful, sympathetic and touched by awakening social conscientiousness, becoming beloved for what he will not do as well as for what he will do. Women physicians have been decreasing in numbers faster than men. They have done good work but not brilliant or constructive work. There is a distinct field for them in laboratories and institutions. They are quick to see the need of social reform and are helpful in preventive medicine.

The physician of the future will be a schoolhouse physician; there will be a bureau of child hygiene in every town. He will make teaching easier and better; he will be very useful but also very expensive. Now he is none of these things. The physician of the future will see that workers are protected from long hours, bad sanitary conditions, dangerous trades and accidents incurred in work. He will see that the poor as well as those not poor have better opportunities for amusement. The people can do without faster transportation and bigger business, but they cannot do without these social needs. "Take to your hearts a saner view and warm your souls at a more useful fire; guard the child, bring it up to be healthy and morally sound; guard the home and the individual so that he will not be fed on poisons or live in foul conditions; keep the community free from disease, from insanity, from weakmindedness, depravity and infections; make them breed healthy children and live long and healthy lives. . . . Greed and dishonesty will spoil every one of my visions."

The Doctor's Future in Relation to National Medical Insurance

Dr. Algernon T. Bristow: The medical profession has for years been trying to perform the impossible experiment of getting blood out of a stone. It has blamed the superabundance of hospitals, dispensaries and numerous undoubted abuses of these public charities for the sterility of its experiment. The science of medicine differs from the other learned professions in that it is a necessity to the public. Man can die without the intervention of the clergy, and as the average man has little property, the lawyer has no interest in him; but he cannot die without the assistance of the physician, except by the assistance of the coroner. Scott Nearing, in his recent investigations, finds that 90 per cent. of the adult male population of the United States has an average annual income of less than $800; 75 per cent. less than $600, and fully 50 per cent. less than $500 per annum. Families with such incomes have to economize in every way, and in times of sickness must depend on the dispensaries. The fact is that the vast majority of city dwellers have the narrowest possible margin between their fixed charges and their total incomes, and the same is true of dwellers on the land, with the difference that it is possible in the latter instance to live off the soil, at least in favorable years. As a result of these economic conditions, the people have been pauperized, not from choice but from necessity.

The results of such economic conditions to the medical men have been that a few with wealthy and fashionable clients have grown wealthy, while the larger portion with clients of the middle classes or those with adequate incomes have made comfortable incomes; but the vast majority of medical men are as poor as their patients. Hence we have a body of men whose education has been the most costly of any of the learned professions compelled to contemplate, with such calmness as may be, the curtailment of their incomes by the advances of prophylactic medicine, while not only are their living expenses steadily increasing but likewise the cost of their education, in both time and money. The people need medical attention for which they are unable to pay, while the profession needs some relief from the inroads which science and the state are making on the income of its members.

For a number of years in Europe as well as in this country the people have combined in associations of sick-benefit lodges in order to obtain medical attention which is within their means. Thus lodge and contract practice has been the answer to this need for medical attendance in the homes of the poor. The extent to which this practice has grown is shown by the fact that there are at least 300,000 persons in New York receiving such medical attendance, according to the results of a little investigation which I made; it would be nearer the truth to say that there were 500,000 beneficiaries of the lodges. There are over 275 mutual benefit societies in Greater New York, exclusive of the Figli d'Italia of which there are over forty-five in the city. There are about 500 Jewish physicians engaged in this lodge practice receiving from one to two dollars a year per person and sometimes treating the entire family for one dollar additional. Lodge practice in this country is by no means limited to the Italians and Hebrews. The various county medical societies have issued their proclamations against these societies and threatened with expulsion those of their members who were under contract to lodge or benefit societies. One physician in Kings County threatened with action on the part of the society replied, "If it is a question between my wife and children and the county society, I shall choose my family every time." Lodge practice is with us and it is here to stay. Nothing that this body, or the county society, or the state society can do will change the situation one hair's breadth so far as the continued existence of these societies is concerned. From the point of view of the people, lodge practice is nothing more than a system of medical insurance.

The old-line companies insure their beneficiaries and allow them to choose and pay their own physicians, but this at a cost far beyond the ability of the poor man to meet. There is no question but that the plan of these companies is the best for the patient and also for the physician. Is it possible to apply the same principle to the poor man? If the medical profession can bring itself with fair-mindedness to admit the necessity of medical insurance for the large mass of the people, a long step will have been taken in the direction of the solution of the problems which have long been vexing us. It is my opinion that the future physician is going to be largely influenced by the view which we as medical men take of medical insurance. We can either recognize the facts and meet them with advantage to ourselves as well as to the people we serve, or we may blindly shut our eyes to the facts and cry that it is unethical to attend people for a price that is within their means. When the British government incorporates the principle into a law and creates a system of national insurance against sickness, we may be certain that ultimately the same principle will gain recognition here. The British Medical Association has set us a magnificent example of what it is possible for an organization to accomplish by loyalty and unanimity of purpose, when the interests of the medical profession are involved. Various sections of the British Medical Association have passed resolutions on the subject, of which the principal points are the income limit, the choice of a physician and the passing of the control of the insurance from the hands of the friendly societies to the physicians. This is in accord with sound economic principles, for no insurance company could exist for a year if the rates were determined by the insured. Of one thing we may be sure. The medical profession will never shirk its responsibilities, but will ever consent to suffer wrong rather than withhold a helping hand.

Dr. Abraham Jacobi: Both speakers have referred to the medical man of the future, but it must be remembered that not the medical profession alone, but the state and society are responsible for building up this future. The state must help us a great deal. A study of the lists of those men who have been active in sanitation will reveal the fact that most of them have not been specialists, but that this work has devolved on the general practitioner. The general practitioner has many opportunities to help such work and gains a great deal that does not fall in the way of the specialist. The general practitioner is giving better service not only to his own patients but also to the community at large. The passing of the old-fashioned home may have something to do with the passing of the old-time family physician, but I am confident that a saner consideration will yet restore the home to its former importance, and with the return of the home will come the return of the family physician, modified in a sense but still a general practitioner, and the friend and confidant of his patient.

Limiting the Unfit.—The country owes it to itself as a matter of self-preservation that every imbecile of productive age should be held in such restraint that reproduction is out of the question. This having proved impracticable through institutional seclusion, because of expense and the interference of relatives, then sterilization is necessary. When the life of the state is threatened, extreme measures may and must be taken.—Hubert Work in *Am. Jour. Insan.*

Medical Education and State Boards of Registration

COMING EXAMINATIONS

ALABAMA: Montgomery, January 14. Chairman, Dr. W. H. Sanders.

DISTRICT OF COLUMBIA: Washington, January 14. Sec., Dr. George C. Ober, 125 B Street, S.-E.

ILLINOIS: Coliseum Annex, Chicago, January 22-24. Sec., Dr. James A. Egan, Springfield.

INDIANA: Room 57, State House, Indianapolis, January 14-16. Sec., Dr. W. T. Gott, State House.

NEW MEXICO: Santa Fé, January 13. Sec., Dr. W. E. Kaser, East Las Vegas.

NEW YORK: January 28-31. Chief of Examinations Division, Mr. Harlan H. Horner, Department of Education, Albany.

OKLAHOMA: Oklahoma City, January 14. Sec., Dr. John W. Duke, Guthrie.

VERMONT: Montpelier, January 14-16. Sec., Dr. W. Scott Nay, Underhill.

WASHINGTON: Spokane, January 7-12. Sec., Dr. F. P. Witter, Traders' Block.

WISCONSIN: Milwaukee, January 14-16. Sec., Dr. John M. Beffel, 3200 Clybourn Street.

Arkansas Eclectic May and November Reports

Dr. C. E. Laws, secretary of the Arkansas Eclectic Medical Board, reports the written examinations held at Little Rock, May 14-15 and Nov. 12-13, 1912. The number of subjects examined in was 12; total number of questions asked, 120; percentage required to pass, 70. The total number of candidates examined was 23, all of whom passed. The following colleges were represented:

PASSED

College	Year Grad.	Per Cent.
Georgia College of Eclectic Medicine and Surgery	(1904)	91.5
Hospital Medical College	(1909)	88.5
Western Eclectic College of Medicine and Surgery	(1909)	78, 87.2
American Medical College	(1899)	92.2
Eclectic Medical University, Kansas City	(1912)	82, 85.2, 87, 87.5, 87.5, 87.7, 88, 88, 90, 90.2, 90.2.
University Medical College, Kansas City	(1898)	84.2
Eclectic Medical College, Cincinnati	(1899) (1904) (1912)	89; 86.5; 83.5, 85, 87.5, 87.5.

New Mexico October Report

Dr. W. E. Kaser, secretary of the New Mexico Board of Health and Medical Examiners, reports the written examination held at Santa Fe, Oct. 14, 1912. The number of subjects examined in was 13; total number of questions asked, 100; percentage required to pass, 75. The total number of candidates examined was 4, of whom 3 passed and 1 failed. Eleven candidates were licensed on presentation of satisfactory credentials. The following colleges were represented:

PASSED

College	Year Grad.	Per Cent.
Keokuk Medical College, Coll. of Phys. and Surg.	(1907)	82
St. Louis College of Phys. and Surg.	(1908) (1911)	82; 77

FAILED

College	Year Grad.	Per Cent.
Atlanta College of Physicians and Surgeons	(1902)	54

LICENSED ON PRESENTATION OF SATISFACTORY CREDENTIALS

College	Year Grad.	Total No. Examined
University of Alabama	(1912)	1
George Washington University	(1909) (1910)	2
College of Physicians and Surgeons, Chicago	(1891)	1
Georgetown University	(1911)	1
Rush Medical College	(1900)	1
Albany Medical College	(1893)	1
Eclectic Medical College, Cincinnati	(1905)	1
Memphis Hospital Medical College	(1911)	1
Vanderbilt University	(1908)	1
National Medical College, Mexico City	(1901)	1

Maine November Report

Dr. Frank W. Searle, secretary of the Maine Board of Registration of Medicine, reports the written examination held at Portland, Nov. 12-13, 1912. The number of subjects examined in was 10; total number of questions asked, 90; percentage required to pass, 75. The total number of candidates examined was 25, of whom 20 passed and 5 failed. Two candidates were licensed through reciprocity. The following colleges were represented:

PASSED

College	Year Grad.	Per Cent.
Kansas Medical College	(1895)	75.6
Maryland Medical College	(1911)	79
Tufts College Medical School	(1905) (1910) (1911)	83; 82, 90; 84.
College of Physicians and Surgeons, Boston	(1910) (1911) (1912)	84; 76, 86; 75, 87.
Boston University	(1877)	83
Ohio-Miami Medical College	(1912)	85
Jefferson Medical College	(1912)	89
Woman's Medical College of Pennsylvania	(1910)	86, 87
University of Pennsylvania	(1912)	89
University of Vermont	(1906)	85
Laval University, Quebec	(1911)	75
McGill University, Quebec	(1897)	78

FAILED

College	Year Grad.	Per Cent.
University of Louisville	(1912)	71
Maryland Medical College	(1912)	71, 74
College of Physicians and Surgeons, Boston	(1912)	*73
Tufts College Medical School	(1911)	78

* An official communication received from the school indicates that this candidate is not a graduate.

LICENSED THROUGH RECIPROCITY

College	Year Grad.	Reciprocity with
New York University Medical College	(1885)	New York
University of Vermont	(1912)	Vermont

Nebraska November Report

Dr. C. P. Fall, secretary of the Nebraska State Board of Health, reports the written and oral examination held at Lincoln, Nov. 13-14, 1912. The number of subjects examined in was 14; total number of questions asked, 10; percentage required to pass, 75. The total number of candidates examined was 12, of whom 10 passed and 2 failed. Six candidates were licensed through reciprocity. The following colleges were represented:

PASSED

College	Year Grad.	Per Cent.
Bennett Medical College	(1912)	78.5, 82.7
College of Physicians and Surgeons, Chicago	(1912)	80.4
College of Physicians and Surgeons, Keokuk	(1881)	77.4
Ensworth Medical College	(1912)	76
Cotner University, Medical Department	(1912)	80
Creighton Medical College	(1912)	82.2, 84
Syracuse University	(1896)	84.5
Medical College of Ohio	(1887)	78.6

FAILED

College	Year Grad.	Per Cent.
Kansas City Hahnemann Medical College	(1912)	70.1
Creighton Medical College	(1911)	72.2

LICENSED THROUGH RECIPROCITY

College	Year Grad.	Reciprocity with
Rush Medical College	(1911)	Illinois
State University of Iowa, Homeopathic College	(1912)	Iowa
Keokuk Medical College	(1896)	Missouri
Kentucky School of Medicine	(1907)	Kentucky
Medical School of Maine	(1910)	Maine
University of Buffalo	(1889)	Oklahoma

West Virginia November Report

Dr. H. A. Barbee, secretary of the West Virginia State Board of Health, reports the written examination held at Wheeling, Nov. 11-13, 1912. The number of subjects examined in was 16; total number of questions asked, 170; percentage required to pass, 80. The total number of candidates examined was 30, of whom 19 passed, including 1 osteopath, and 11 failed. Twelve candidates were licensed through reciprocity. The following colleges were represented:

PASSED

College	Year Grad.	Per Cent.
Howard University, Washington, D. C.	(1911) (1912)	80; 81, 82, 84, 84, 86.
University of Louisville	(1912)	84
Maryland Medical College	(1912)	80, 86
College of Physicians and Surgeons, Baltimore	(1912)	83
Leonard Medical School	(1912)	85
Ohio-Miami Medical College	(1912)	80
University of Pittsburgh	(1912)	84, 87, 88
Jefferson Medical College	(1906)	85
University of Tennessee	(1912)	80
University College of Medicine, Richmond	(1905)	82

FAILED

College	Year Grad.	Per Cent.
Howard University, Washington, D. C.	(1912)	78, 78
University of Louisville	(1912)	75
Maryland Medical College	(1909) (1912)	77; 78
College of Physicians and Surgeons, Baltimore	(1912)	76, 78
Leonard Medical School	(1911)	69, 73
Eclectic Medical College, Cincinnati	(1912)	70, 78

LICENSED THROUGH RECIPROCITY

College	Year Grad.	Reciprocity with
Hospital College of Medicine, Louisville	(1900)	Kentucky
University of Maryland	(1907)	Maryland
College of Physicians and Surgeons, Baltimore	(1911)	Maryland

Bellevue Hospital Medical College	(1891)	Indiana
Homeopathic Hospital College, Cleveland	(1890)	Ohio
Jefferson Medical College	(1908)	Virginia
Lincoln Memorial University	(1910)	Tennessee
University of Nashville	(1910)	Tennessee
Medical College of Virginia	(1908, 2) (1911)	Virginia
University of Virginia	(1908)	Virginia

Book Notices

PRINCIPLES OF HUMAN PHYSIOLOGY. By Ernest H. Starling, M.D., F.R.C.P., F.R.S., Jodrell Professor of Physiology in University College, London. Cloth. Price, $5. Pp. 1423, with 564 illustrations. Philadelphia: Lea & Febiger, 1912.

A new text-book of physiology which will take full advantage of the recent discoveries in physics and chemistry is much needed. The present work of Professor Starling appears to be founded on this idea and the conception is carried out in an admirable manner. The work is introduced by a section which gives a quite exhaustive description of the chemical character of the constituents of protoplasm and the chemical changes in living matter. This includes the newer ideas with regard to the structure of proteins and a statement of the recent acquisitions in physical chemistry, which are of such great importance in explaining the phenomena of the animal body. The structure and functions of the nervous system are considered in much detail; a similar thoroughness is shown in the treatment of digestion, circulation, respiration, etc. The author calls attention to the fact that while the book does not demand a great amount of preliminary knowledge on the part of the student, it is nevertheless not an elementary physiology and he advises that some preliminary text-book should first be studied to give a bird's-eye view of the subject before the student undertakes the detailed study of this work. It is of especial value to the practicing physician, however, giving him an opportunity to supplement his knowledge derived from elementary text-books and to bring that knowledge up to date. The book is well illustrated.

WHEELER'S HANDBOOK OF MEDICINE. By William R. Jack, B.Sc., M.D., F.R.F.P.S.G., Assistant Physician to the Western Infirmary of Glasgow. Fourth Edition. Cloth. Price, $3 net. Pp. 532. New York: William Wood & Co., 1912.

This book strips to the essentials the facts concerning the diseases met by the general practitioner. Few of the newer facts and theories concerning the various subjects have been omitted. There are new articles on intoxications, tropical diseases and immunity. According to the author's statement, little of the original book (1894) remains except as to symptomatology, and even this has been amplified and modified to a considerable extent. This reflects the rapidity of change in medical science. Doubtless other statements might have been modified or soon will have to be modified; for instance, while the author says that human body-lice transmit typhus and that the bedbug probably transmits relapsing fever, he also states that these diseases are infectious by contact and from fomites. The latter is the statement that will no doubt have to be modified. The type is of easily readable size and yet the 500 pages make a book which may be slipped into the coat-pocket.

AUTO-INTOXICATION AND DISINTOXICATION. An Account of a New Fasting Treatment in Diabetes and Other Chronic Diseases. By Dr. G. Guelpa. Translated by F. S. Arnold, B.A., M.B., B.Ch. With an Introduction by the Translator and a Chapter on the Use of the Method in the Treatment of Morphin Addiction by Oscar Jennings, M.D. Cloth. Price, $1.25. Pp. 152. New York: Rebman Company.

Guelpa believes that much of the discomfort of illness is caused by auto-intoxication and that many diseases are aggravated or made dangerous by it. His method of "disintoxication" consists in withdrawing all food from a patient for three or four days, permitting only drinking of water or tea and coffee without cream or sugar. He believes that headaches, craving or other discomforts caused by abstinence from food are preventable by administering a saline purge each morning. Moreover these drugs assure more thorough disintoxication.

The author asserts that the method is harmless, is not uncomfortable and does good. A slight loss in weight is produced by the treatment, but weight is easily recovered. After treatment there is a feeling of physical comfort, mental clearness and general well-being which compensates for any little discomfort felt during treatment. The author says that "the method is not merely a treatment appropriate to one or more definite morbid states but is a general factor of cure, as are rest, a supply of pure air and in surgery the principle of asepsis."

The most strikingly beneficial results described by the author and the translator were observed in severe cases of chronic diabetes. By the second or third day of starvation the sugar disappeared from the urine. When food was resumed, only six or eight glasses of milk being permitted for one, two or more days, and then a diabetic diet given, adapted to the needs of the patient, sugar reappeared, but in much diminished amount. After a period of a week or ten days the disintoxication was repeated. The sugar disappeared again from the urine, but more quickly, and when food was resumed it returned in smaller quantities. The duration of the period of disintoxication was made shorter as the treatment progressed and the gravity of the disease lessened. This treatment is a prolongation of the period of abstinence from food to which many clinicians resort in the treatment of diabetes. The results described by the author are marvelous, but the cases described by him (and they are many) were as a rule under observation too short a time to be convincing to most practical readers.

The method is an elaboration of the old practice of giving a purge and cleaning the alimentary tract at the beginning of an acute illness. It is also an elaboration of the common purgative treatment of auto-intoxication. Those clinicians who are familiar with the good and often surprising results obtained by starvation in uremia, appendicitis and other acute infections like pneumonia, especially when it is possible to combine purgation with starvation, will not be surprised at the author's success.

THE PRINCIPLES OF HYGIENE. A Practical Manual for Students, Physicians and Health Officers. By D. H. Bergey, A.M., M.D., First Assistant, Laboratory of Hygiene, University of Pennsylvania. Fourth Edition. Cloth. Price, $3 net. Pp. 529, with illustrations. Philadelphia: W. B. Saunders Company, 1912.

Careful revision has brought the present edition well up to date. The recent advances in methods of prevention of the various infectious diseases have been recorded and the chapter on immunity has been revised in important particulars. The limits of the book preclude a thorough treatment of all subjects connected with the prevention of diseases, and it seems that in some cases the necessity of condensation has left some of the material in a shape in which it can be of little value to the ordinary medical student. For instance we are unable to see what value the quotation from Baldwin, on page 289, with reference to calculation for the heating of a building, could be to a medical student, for he would certainly have to consult an expert to make the calculations for him. Some parts of the book do not appear to have received the benefit of revision so as to bring them in agreement with the latest knowledge. Thus on page 392 doubt is expressed as to the transmission of the infection of plague by fleas with which rats are commonly infested. On page 395, however, we find that the work of the British Plague Commission leaves little doubt that this is the mode of dissemination of the disease from infected to healthy rats. On the whole, the book is a very convenient text-book on the subject.

LIGHT: ITS USE AND MISUSE. A Primer of Illumination. Paper. Price, $0.10. Pp. 20, with illustrations. New York: Illuminating Engineering Society, 29 W. Thirty-Ninth Street, 1912.

This little pamphlet gives much valuable information concerning the lighting of houses, offices, factories and other places of business. Directions are given for securing the best effects visually and for commercial display in stores and shops, with special regard for enhancing and conserving the vision under conditions imposed by the use of artificial light. Proper as well as defective methods of lighting are set forth in the text and by numerous excellent illustrations.

Investigations on Epidemic Infantile Paralysis. Report from the State Medical Institute of Sweden to the Fifteenth International Congress on Hygiene and Demography, Washington, 1912. Paper. Pp. 269. Stockholm: Nordiska Bokhandeln, 1912.

This is an interesting and well-written account of the investigations of Kling, Pettersson, Wernstedt and Josefson, and of others who assisted in various ways, into the epidemiologic, experimental and pathologic aspects of poliomyelitis. The work was undertaken in behalf of the State Medical Institute of Sweden and reported to the Fifteenth International Congress on Hygiene and Demography. The occurrence of epidemic poliomyelitis during many years in Sweden, and especially the extensive epidemic during 1911, has given abundant opportunity to study the disease, of which advantage has been taken, and much has been done in Sweden in a general way to advance our knowledge concerning poliomyelitis. The present studies contain the announcement of the finding of the virus not only in the nasal and pharyngeal secretions, but also in the blood, the intestines and in the lymph system. Josefson produced the disease in monkeys from the saline washings of a handkerchief and some fancy work used and handled by poliomyelitis patients, but was unable to transmit the disease by similar washings of the bodies of flies caught in the poliomyelitis ward. Kling, Pettersson and Wernstedt were unable to transmit the disease to monkeys by means of an emulsion of ground-up fleas which had been allowed to bite a baboon suffering from the disease. While not denying the possibility of its transmission by suctorial insects, their experiments were inconclusive. In view of the report of Rosenau, confirmed by Frost and Anderson, of the rôle of the biting fly, *Stomoxys calcitrans*, the negative outcome of the authors of the report under consideration is the only thing to detract from an otherwise extremely valuable study of poliomyelitis.

Manual of Human Embryology. Edited by Franz Keibel, Professor in the University of Freiburg, i.Br., and Franklin P. Mall, Professor of Anatomy in the Johns Hopkins University, Baltimore. In two volumes. Volume II. Cloth. Price, $10 per Volume. Pp. 1032, with 658 illustrations. Philadelphia: J. B. Lippincott Company, 1912.

The first volume of this elaborate work, published last year, was reviewed briefly in these columns, Jan. 21, 1911, p. 215. The second volume contains the chapters on the development of the nervous system (George L. Streeter, Ann Arbor); the chromaffin organs and suprarenal bodies (E. Zuckerkandl, Vienna); the sense-organs (F. Keibel, Freiburg); the digestive tract and the respiratory organs (O. Grosser, Prague; F. T. Lewis, Boston; J. P. Munich, Toronto); the blood, the vascular system and the spleen (C. S. Minot, Boston, H. M. Evans, Baltimore; J. Tandler, Vienna; F. R. Sabin, Baltimore); the urinogenital organs (W. Felix, Zurich), and a concluding chapter on the interdependence of the various developmental processes by F. Keibel. The translation of the chapters originally in German is by Professor McMurrich. To review this manual thoroughly and with critical discrimination is out of the question. The various chapters are written by those well qualified to do so by reason of special familiarity with and investigation in the particular fields covered. The result is a vast but well-ordered storehouse of what is known about human embryology, which will be of great service in the further development of this science.

The work is sold in complete sets (two volumes) and by subscription only, the price being $20 a set.

Internal Secretion and the Ductless Glands. By Swale Vincent, M.D., D.Sc., M.R.C.S., Professor of Physiology in the University of Manitoba, Winnipeg, Canada. Preface by Prof. E. A. Schäfer, F.R.S. Cloth. Price, $3.50 net. Pp. 464, with illustrations. New York: Longmans, Green & Co., 1912.

In the course of twenty years, a distinct body of physiologic knowledge has been built up that is exercising a far-reaching influence on medical practice. The investigations on the glands with internal secretion have reached such an extent that the author of the present work is able to refer to nearly 2,200 monographs. The mere statement of the results of these investigations occupies a volume of 400 pages. The general relations of the subject are considered, and some of the internal secretions of lesser importance are briefly discussed. The uncertain claims of the kidney, liver, spleen, and pineal gland to be organs of internal secretion are stated, although the author does not recognize the evidence as conclusive. He points out the probability that secondary sexual characters depend on the internal secretion of the interstitial structure of the testicle. The importance of the corpus luteum as the regulating organ of the reproductive functions is recognized.

With reference to the pancreas, Vincent claims to have been the first along with Mrs. Thompson to demonstrate a developmental cycle in the changes of the islands of Langerhans, the temporary character of which he strongly sustains. The greater part of the work is concerned with the adrenals, the thyroid and the pituitary. The need of agreement on a distinctive scientific name for the active principle of the adrenal gland is strikingly shown by the fact that while the author rejects the proprietary names he ignores the name selected by the Council on Pharmacy and Chemistry, "epinephrin," and adopts "adrenin" as the non-proprietary designation.

The parathyroids receive a distinctly subordinate place, their independence of the thyroids being put down as doubtful. In the literary references they are classed with the thyroids. The pituitary gland is the subject of extended treatment, all of its supposed functions being noticed.

The extensive review of the literature shows a commendable diligence on the author's part and indicates the successful performance of an enormous task for which the profession generally and investigators in particular should be deeply grateful.

General Chemistry of the Enzymes. By Hans Euler, Professor of Chemistry in the University of Stockholm. Translated from the Revised and Enlarged German Edition by Thomas H. Pope. First Edition. Cloth. Price, $3 net. Pp. 323. New York: John Wiley & Sons, 1912.

On account of the highly technical nature of this book this is not the place for a critical review. A few words explaining its general scope may be in order, however. In 1907 and again in 1910 the author published reports on enzymes in *Ergebnisse der Physiologie*, which were arranged and issued in book form. The English translation before us has received numerous additions and alterations, and in it is a succinct review of the important facts about enzymes from the point of view of general and physical chemistry. In the lectures on enzymes recently published by Cohnheim, the subject is treated more from the biologic point of view, so that these two books serve to complement each other. Euler's book is the larger, and contains chapters on the special chemistry of the enzymes and their physical properties; enzymic activators, paralysors and poisons; chemical dynamics of enzyme reactions; influence of temperature and radiation; chemical statics in enzyme reactions; enzymic syntheses, and specificity of enzyme action. There is an appendix giving methods not easily accessible, and also Bertrand's tables for the estimation of sugar. We have here a highly useful book for all who are interested in enzymology.

Christ Among the Cattle. A Sermon Preached in the First Congregational Church, Portland, Ore. By Frederic Rowland Marvin. Sixth Edition. Cloth. Price, $0.65. Pp. 58. Boston: Sherman, French & Co.

This is the sixth edition of a sermon preached in Portland, Ore., a number of years ago on the general topic of kindness to animals. The writer, a minister, devotes thirteen of the fifty-eight pages of the sermon to "vivisection" in which he makes the stereotyped statements of the antivivisector and shows the usual lack of knowledge of modern scientific animal experiments. The general sentiment of the book is excellent, however much one might wish for greater accuracy on the part of the writer.

A Dictionary of Medical Diagnosis. A Treatise on the Signs and Symptoms Observed in Diseased Conditions. For the Use of Medical Practitioners and Students. By Henry Lawrence McKisack, M.D., M.R.C.P., Lond., Physician to the Royal Victoria Hospital, Belfast. Second Edition. Cloth. Price, $4.25 net. Pp. 590, with illustrations. New York: William Wood & Co., 1912.

The author adheres to the plan of the first edition (1907) in giving alphabetically the definition and description of diagnostic signs as they are met in the literature and in the clinical observation of the patients. The text has been revised and much new material added in amplification of the former work.

Pellagra. History, Distribution, Diagnosis, Prognosis, Treatment, Etiology. By Stewart R. Roberts, S.M., M.D., Associate Professor of the Principles and Practice of Medicine, Atlanta College of Physicians and Surgeons, Atlanta, Ga. Cloth. Price, $2.50. Pp. 272, with 89 illustrations. St. Louis: C. V. Mosby Company, 1912.

The author states that the cause of pellagra is unknown, the nature of the disease is in doubt and the pathology of the disease does not throw any light on its cause; yet he is rather dogmatic in many of his statements concerning it, attempts a classification of the disease, tries to show a definite pathology, gives a symptomatology to be relied on in diagnosis, and outlines a treatment. After reading the book one is more than ever impressed with the uncertainty and indefiniteness of our knowledge concerning almost every aspect of the disease and with the amount of work there is yet to be done before anything certain is arrived at.

Die Chirurgischen Untersuchungs-Methoden. Lehrbuch für Studierende und Ärzte. Von Prof. Dr. Hubert Gebele. Paper. Price, 8 marks. Pp. 192, with 198 illustrations. Munich: J. F. Lehmanns, 1912.

According to the author the purpose of this book is to furnish to the student, the young physician and the assistant a short and concise presentation of the methods and means used in making a diagnosis of the various surgical affections. It is intended to stimulate a systematic examination rather than simply to detail the numerous symptoms of the various affections. In this respect it is a satisfactory piece of work, but it will not take the place of the larger systems on diagnosis. The illustrations are particularly good, most of them being excellent reproductions of photographs.

Medicolegal

Power of State Board to Revoke License—Insufficient Complaint and Inadmissible Evidence in Alleged Criminal Abortion

(Board of Medical Examiners vs. Eisen (Ore.), 123 Pac. R. 52)

The Supreme Court of Oregon reverses a judgment approving a revocation of license, remanding the case for a new trial, because of the insufficiency of the complaint and the admission of inadmissible evidence. The court says that the State Board of Medical Examiners has authority to revoke a license to practice medicine and surgery for unprofessional or dishonorable conduct, subject however to the right of appeal as provided in the statute. By section 4734 the term "unprofessional or dishonorable conduct" is declared to mean, among other things, the procuring, or aiding and abetting in procuring, a criminal abortion.

The complaint in this case charged the defendant with unprofessional and dishonorable conduct, committed on or about a certain date, at a designated place, by wrongfully and unlawfully procuring, and aiding and abetting in procuring, a criminal abortion on a named woman by means unknown to the complainant, the woman being pregnant with child, and the abortion not being necessary to preserve her life. The complaint was insufficient in point of law. Under section 4735 it is necessary in a complaint to charge the acts of unprofessional or dishonorable conduct and facts complained of against the accused licentiate. It is not sufficient to state merely legal conclusions. In this respect, the complaint in this case is defective; for, although it draws a conclusion that the defendant was concerned in procuring a criminal abortion, it does not state facts sufficient to authorize the court to make the same deduction that the action of the defendant was criminal. For instance, an intent to destroy the child is an element of the crime defined in section 1900, and another element is that the death of the child or of the mother must be produced by means of the administration of the medicine, drug or other substance, or by the employment of the instruments or other means mentioned in the statute, said section being the only statute relating to what may be termed criminal abortion. Neither of these elements appears in the complaint

Then, a physician who was called to treat the woman testified that before he would treat her he demanded that she sign a writing stating that the defendant had operated on her at his office to bring her around, and another physician later cleaned the womb. The admission in evidence, over objection, of such testimony and the writing was error. If the death of the woman had been an issuable fact by the allegations of the complaint, it would have been competent to inquire into her declarations as to the cause of her death, if they had been made under a sense of impending death, which apparently was not the case. This was the only evidence in the record tending to show that the defendant did any act toward producing a criminal abortion on the woman, and his own testimony flatly contradicted the charge. It was competent to admit the representations of the woman, if she was sick, as to the nature of the malady or bodily feelings under which she was suffering. This, however, does not refer to the cause of her death, if that were an issuable fact.

Towns Not Liable for Property Destroyed by Health Officers Or Services of Persons Not Employed by Them

(Creier vs. Town of Fitzwilliam (N. H.), 83 Atl. R. 128)

The Supreme Court of New Hampshire holds that when a health officer destroyed the infected bedding, after a boarder in the plaintiff's family had had the small-pox, he was not acting as the agent of the town, but as a public officer, under legislative authority, for the benefit and protection of the public. He was as much a public officer as highway surveyors, police officers, and firemen, for whose acts while in the discharge of a public or governmental duty, even if wrongful, the town is not responsible, in the absence of a statute making it responsible therefor. As no statute of New Hampshire has been found making towns liable for property destroyed by health officers, the plaintiff could not recover therefor. Nor could he recover of the town for care furnished by his wife to the patient, because she was not employed by the health officer in charge of the case, and the board of health has not decided that any part of this expense should be deemed a legitimate expenditure for the protection of the public health.

When Hospital Record Not Evidence—Damages for Deafness

(Meyer vs. Nassau Electric Railroad Co. (N. Y.), 137 N. Y. Supp. 529)

The Second Appellate Division of the Supreme Court of New York holds that it was not error to exclude the card record of a hospital in a personal injury case when the testimony indicated that there was an error in it; that it was made up by persons other than those who made the examination, and that at most it could have only raised a shadow of a doubt as to whether the plaintiff was examined by the physician who was on the witness stand and who testified that he had made such examination, while the physician indicated by the card refused to identify the plaintiff or to dispute his declaration that he had never seen him. The court also holds that, while a smaller verdict might have satisfied it, one for $5,000 damages could not be said to be excessive where deafness in the right ear was directly due to the accident for which the defendant must answer, and impairment of the hearing of the left ear was due to the same cause, aggravating a previous catarrhal condition.

Current Medical Literature

AMERICAN

Titles marked with an asterisk (*) are abstracted below.

American Journal of Obstetrics and Diseases of Women and Children, York, Pa.

December, LXVI, No. 420, pp. 909-1120

1 Advances in Abdominal Surgery and Gynecology. X. O. Werder, Pittsburgh.
2 *Cesarean Section. J. N. Bell, Detroit.
3 *Idem. Technic of Operation by Small Median Incision Above Umbilicus, with Summary of Cases. A. B. Davis, New York
4 *Acute Dilatation of Stomach Following Cesarean Section. A. B. Davis, New York.

5 *Acute Dilatation of Stomach. C. E. Ziegler. Pittsburgh.
6 *Mechanism and Treatment of Placenta Praevia. H. Schwarz, St. Louis.
7 *Floating Spleen with Twisted Pedicle; Celiotomy; Splenectomy; Recovery. H. S. Lott, Winston, N. C.
8 *Puerperal Thrombophlebitis. P. Findley, Omaha, Neb.
9 Abdominal Case or Two Out of the Ordinary. A. M. Vance, Louisville, Ky.
10 *Potential Cancer of Breast. M. F. Porter, Fort Wayne, Ind.
11 *Ectopic Gestation with Report of Earliest Recorded Tubal Ovum. S. W. Bandler, New York.
12 Pregnancy, Simulating Extra-Uterine Fetation of Pus-Tube. J. H. Carstens, Detroit.
13 *Injuries of Pelvic Floor Resulting from Childbirth. F. Blume, Pittsburgh.
14 Treating of Midwives in Relation to Prevention of Infant Mortality. C. D. Noyes, New York.
15 Relation of Prolonged Pregnancies to Some Cerebral Lesions and to Backward Mental States. H. L. Winter, Cornwall, N. Y.
16 Postnatal Causes of Infant Mortality. J. T. Wall, Washington, D. C.

2, 3, 4 and 10. Abstracted in The Journal, Oct. 5, 1912, p. 1317.

5, 6, 7, 8, 11 and 13. Abstracted in The Journal, Sept. 28, 1912, pp. 1210, 1211 and 1212.

Archives of Internal Medicine, Chicago

December, X, No. 6, pp. 521-674

17 *Glycyltryptophan (Peptid) Splitting Agent in Human Saliva. F. Smithies, Rochester, Minn.
18 *Symptomatology of Thrombophlebitis in Typhoid. L. A. Conner, New York.
19 *Peptolytic Power of Gastric Juice and Saliva, with Special Reference to Diagnosis of Cancer. J. L. Jacque and R. T. Woodyatt, Chicago.
20 *Relation of Virulence of Tubercle Bacillus to Its Persistence in Circulation. A. F. Hess, New York.
21 *Relation of Uricolysis to Suboxidation. F. G. Goodridge and N. B. Foster, New York.
22 Scaphoid Scapula: a Normal Variation in Man. R. L. Cunningham, Berkeley, Cal.
23 Erythremia, or Polycythemia with Chronic Cyanosis and Splenomegaly. W. S. Lucas, Philadelphia.
24 Verruga Peruviana and Its Comparative Study in Man and Ape. H. N. Cole, Cleveland.

17. **Glycyltryptophan Splitting Agent in Human Saliva.**—From the results of his work as outlined in this report Smithies draws the following conclusions: Reaction appears to have little bearing on power of saliva to split glycyltryptophan. Free tryptophan is occasionally met with in salivas from dirty or infected oral cavities. Centrifugalization of saliva lessens its power to cleave glycyltryptophan. This is rather more marked in alkaline or neutral salivas. Conditions of health and state of oral cavities of donors seem to affect reaction of saliva, with some apparent influence on the peptid hydrolyzing power of such saliva. Power to hydrolyze glycyltryptophan is lost when saliva is heated above 75 C. The optimum temperature for cleavage is about 37 C. At ice-box temperature cleavage is not carried on, but specimens kept at such temperature for as long as 522 hours, may hydrolyze the dipeptid when incubated subsequently at 37 C. At room temperature, cleavage is delayed, but is nevertheless carried on, apparently irrespective of the reaction of saliva. The chewing of tobacco seems to lessen the power of certain salivas to hydrolyze glycyltryptophan. Smoking of tobacco appears to have little effect. The use of strong mouth-washes (e. g., an organic peroxid, as alphozone) results in marked diminution of peptid-splitting power of certain salivas. Strong chemical action on saliva, particularly when the addition of such chemicals causes precipitation of protein, inhibits its glycyltryptophan splitting power. Many such chemical solutions tested in this report were germicides. Non-protein precipitating germicides (as the organic peroxid group) inhibit the peptid-splitting power of saliva roughly in direct proportion to strength of such solutions. Cultures of bacteria grown from salivas, may, after salivas have lost their power to split glycyltryptophan (by heating to 100 C.) cause such salivas to split that dipeptid by admixture with salivas and subsequent incubation. Solutions of glycyltryptophan added directly to cultures of bacteria grown from saliva are readily split with liberation of free tryptophan. The indefinite nature of any enzyme renders its actual demonstration difficult. While the agent in saliva causing cleavage of the dipeptid glycyltryptophan has certain characteristics of an enzyme, it would seem that a not inconsiderable factor in such cleavage power is the action of normal or pathologic oral microorganisms, or products of their growth.

18. **Symptomatology of Thrombophlebitis in Typhoid.**—Conner attempts to show that many or most of obscure late interruptions of the normal course of typhoid have a common underlying cause and that this cause is thrombophlebitis. He believes that thrombophlebitis is a much more frequent complication of typhoid than is generally supposed, and probably occurs in from 10 to 15 per cent. of all cases. Its development is gradual; its course frequently latent for many days, and its classical symptoms usually appear only at a late stage of the condition. The thrombotic process is apt to be much more extensive and more widely disseminated than the pronounced local symptoms would suggest. Most of the pulmonary and pleural complications which appear late in the course of typhoid are due to embolism of branches of the pulmonary artery, and this in turn is due to a complicating venous thrombosis. Such emboli are usually small and their symptoms are frequently mild and transient. The emboli seem to arise chiefly from the freshly formed, friable thrombi in veins which have not yet become occluded; and their symptoms, in a majority of the cases, appear before the usual symptoms of phlebitis are observed. The obscure, late, recurring chills of typhoid are regularly associated with venous thrombosis although the latter is frequently latent at the time of the appearance of the chills. Some of the chills are certainly related to the lodgment of pulmonary emboli. The symptom of "tender toes" can be shown to be associated with thrombophlebitis, in a majority of the cases. The suggestion is made that this symptom may be due to irritation or inflammation of the plantar nerves, which is set up by periphlebitic inflammation from adjacent, thrombosed veins in the sole of the foot or about the heel. Many of the unaccountable rises of temperature seen during convalescence from typhoid and most of the protracted and irregular types of "post-typhoid" fever are due to thrombophlebitis.

19. **Peptolytic Power of Gastric Juice and Saliva.**—The authors summarize the results of their experiments as follows: Saliva free from bacteria does not split Witte peptone nor glycyltryptophan. Normal gastric juice free from blood, bile (trypsin) and bacteria has no peptolytic power. The same holds true for cases of benign subacidity. Peptolytic and peptidolytic action exhibited by saliva, and so-called "tryptic" digestion in the stomach when there is no bile to indicate reflux of intestinal contents, are usually due to unfilterable agents (bacteria). There is no incontestable evidence to show that pancreatic juice unaccompanied by bile ever gains access to the stomach (except in cases with acholic intestinal contents). Toluene is inadequate for the exclusion of bacterial action in experiments with saliva and gastric juice. In about 88 per cent. of developed cases, carcinomatous stomach contents show a peptolytic power two to ten times the maximum seen in benign conditions in general. This is due in part to bacteria, but high peptolysis persists after filtration through a Berkefeld and subsequent aseptic handling. White peptone may be advantageously substituted for "ferment diagnosticum" in the Neubauer and Fischer qualitative test, with results in malignant cases as good as any that have been published for glycyltryptophan itself. In non-malignant cases it has been positive but once in seventy-six normal and subacid cases. The quantitative method herein described yields slightly more uniform results than the qualitative procedure in cancer cases. It has never been found "positive" in seventy-six normal and nonmalignant cases. The detection or measurement of peptolytic power in gastric juice, if carried out by any suitable method, is of considerable value in the diagnosis of cancer. It is of value in any case, and essential in doubtful cases, to eliminate bacteria by passage of the gastric juice through a Berkefeld or other equally effective filter, with subsequent aseptic precautions.

20. **Virulence of Tubercle Bacillus and Its Persistence in Circulation.**—To determine the relation of virulence of bacteria to their persistence within the blood-stream, the tubercle bacillus would seem to be especially suitable. Apart from the fact

that it multiplies so slowly, that this factor is negligible in a test of short duration, it occurs in two types, one feebly virulent to rabbits, the other highly virulent. Morphologically these bacteria are almost identical; their preeminent difference is one of virulence. Accordingly Hess inoculated definite quantities of these closely related microorganisms into rabbits, and bleedings were carried out from one-half to four hours later to discover whether bacilli were still circulating in the blood. In a series of tests of this nature it was found that the feebly virulent human type of bacillus was present in only 9 per cent. of the tests, whereas the virulent bovine bacillus persisted in the blood-stream in 59 per cent. of the cases. These results seem to warrant the conclusion that virulence plays an important rôle in bacteremia, and that the bacteria may not be filtered from the blood by the tissues like inert foreign bodies. The fact that an avirulent bovine strain did not persist in the circulation strengthened this conclusion. It is remarkable for how long a period after inoculation bacteria may still be found in the general circulation. In one instance in which but 1 mg. of bovine culture was inoculated, these bacilli were constantly found in the blood at various intervals during the subsequent twenty-seven hours. A period intervenes some days after inoculation during which even the virulent organisms are not found in the blood. However, this constitutes merely an intermediate or latent phase, and is followed by another phase cycle, in which, owing to the tuberculous condition of the animal, there is a reinvasion of the general circulation. For example, in tests performed a week or two subsequent to inoculation no bacilli were found, whereas in tests repeated a month later, when systemic tuberculosis had developed, bacilli were frequently demonstrated. These generalizations are subject to exception; in the case of one animal, although tubercle bacilli were obtained from the blood, autopsy some weeks later failed to reveal any tuberculous lesion. In the course of a large series of injections, the interesting and suggestive phenomenon was noted, that the blood of the highly tuberculous rabbit is more toxic for the guniea-pig than that of the normal rabbit.

21. **Relation of Uricolysis to Suboxidation.**—It is shown by results of analyses made by the authors that retardations of the oxidizing processes, either by deprivation of oxygen or by interference with cellular functions, were not followed by increased uric acid excretion. It appears improbable, therefore, that uric acid destruction in the body is a simple oxidizing process.

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December, XIII, No. 6, pp. 377-500

25 Different Civilization Levels in Modern Society. M. P. E. Groszmann, Plainfield, N. J.
26 Administration of Immigration Laws. J. J. S. Rodgers, Philadelphia.
27 Medical Examination of Arriving Aliens. L. E. Cofer, Washington, D. C.
28 Means by Which Importation of Infectious Diseases Through Immigration May Be Diminished or Prevented. A. H. Doty, New York.
29 Indirect Methods of Teaching Hygiene. C. E. Ehinger, West Chester, Pa.
30 Medical Inspection of Schools from Point of View of Health Officer. J. F. Edwards, Pittsburgh.
31 Medical Inspection in Schools from Standpoint of Educator. T. A. Storey, New York.
32 Prevention of Infection of Respiratory Tract in Schools. W. C. White, Pittsburgh.

Bulletin of Johns Hopkins Hospital, Baltimore

December, XXIII, No. 262, pp. 353-384

33 Bence-Jones Proteinuria in Conditions Other Than Myelomatosis; Instance Associated with Metastatic Carcinoma. T. R. Boggs and C. G. Guthrie, Baltimore.
34 *Carcinoma Skin Reaction. H. Lisser and A. Bloomfield, Baltimore.
35 *Causes of Birth. A. G. Pohlman, Bloomington, Ind.
36 *Morbidity and Morphology; Composite Study of Incidence of Disease and Physical Form in New Orleans. R. B. Bean, New Orleans.
37 Last Illness of Louis XIV. C. E. Edson, Denver.

34. **Carcinoma Skin Reaction.**—In 158 cases tested by Lisser and Bloomfield in which corpuscles of a group which neither agglutinated nor hemolyzed by any sera *in vitro* were used, it was found that: In sixty-two cases of verified malignant disease, two-thirds gave a positive reaction and one-third were negative. In ninety-four control cases, 91.6 per cent. were negative and 8.4 per cent. positive. The authors conclude that as a practical diagnostic adjunct, a negative skin test adds little or no weight to the evidence against cancer, being comparable to many other clinical tests of empirical nature. A positive reaction is strong presumptive evidence of cancer. To obtain reliable results, corpuscles of the mentioned group must be used.

35. **Causes of Birth.**—Pohlman reviews all known theories but does not add anything new.

36. **Morbidity and Morphology.**—Studies of the Filipinos made while living in the Philippines from 1907 to 1910 enabled Bean to classify the natives into three large general groups, depending on their form of head, face, nose, ears, trunk and extremities. Before leaving the archipelago he associated tuberculosis with one of the groups and kidney diseases with the other two. There are two significant conditions, that indicate structural or physiologic differences in cultural conditions. Bean says there are fundamental differences in morphologic structure that may account for these differences in susceptibility of the two peoples and the differences in structure are based on the two fundamental embryonic tissues, mesothelium and epithelium; the lungs, nervous system and alimentary canal derived from epithelium, the heart, circulatory system and kidneys derived from mesothelium. Certain types regardless of race, color, or cultural conditions he calls mesothelial types, while others equally distinct are called epithelial types. The mesothelial types are greatly developed in bone, muscle and other connective tissues, whereas the epithelial types are less developed in this way, are more developed in brain, lungs and alimentary canal. Great development of either class of tissue seems to weaken it and make it more liable to disease; therefore the two types may be called epitheliopath and mesotheliopath. The latter are meso-ontomorph, the former the hyper-onto-morph. All unclaimed bodies in the city of Manila are brought to the morgue connected with the medical department of the University of the Philippines where they may be utilized for anatomic purposes. Bean selected the thin subjects for dissection for two reasons—because they dissect with greater ease, and they take injections better. On examination it was found that they had usually died of pulmonary tuberculosis, their arteries were elastic and free from signs of arteriosclerosis, and their connective tissues, muscle and bone were poorly developed and fragile. Such subjects were invariably of the hyper-onto-morph form, the epithelial type, the epitheliopath. At that time Bean associated the type with susceptibility to tuberculosis, but since then he found that all the epithelial structures seem to be more liable to disease. The meso-onto-morph on the other hand is more liable to diseases of the mesothelial tissues. One unexpected feature of the two forms is that the hyper-onto-morph has a short intestine, 12 to 15 feet, whereas the meso-onto-morph has a long intestine, 20 to 25 feet.

According to Bean, man's form may be classified by means of the external ear, physiognomy and body parts in three fundamental physical forms. The three fundamental forms represent stages of evolution in the race as well as degrees of growth in the individual, and he uses the terms: hypo-phylomorph, meso-phylo-morph and hyper-phylo-morph to designate three degrees of the former and the terms hypo-onto-morph, meso-onto-morph and hyper-onto-morph to designate three degrees of the latter.

The hypo-onto-morph is usually small in stature and fat, with short legs and arms, chubby hands and feet, and relatively long trunk, the characteristic form of childhood predominating. The head is round, broad and short, and large in relation to the stature of the individual, the total head height from chin to vortex being 1/6 to 1/7 of the total stature, the normal for the European being about 1/8. The face is ovoid, with small forehead and chin, wide cheeks and is very broad and short, often dished or depressed about the nose, flattened in front, and the face below the eyes is small compared to the size of the head, as in the infant. The nose is flat, broad and short, with depressed, flattened bridge, upturned tip, and the nostrils open forward rather than downward. The eyes are often narrow slits and the eyelids are "puffed" as if infiltrated. The cheeks appear as if they had chestnuts in them thus completing the infantile appearance. This form is found largely throughout the Orient and is a fundamental Malay or Mongolian type. Modified forms similar to this are found elsewhere, especially among the Africans and not a few among the Europeans. The meso-onto-morph is of medium size and stockily built. The extremities are relatively long, the feet and hands large and the trunk is short. The head and face are ellipsoid, and large compared to the size of the head. The malar and zygomatic bones are prominent, the nose is massive, long, wide and high, with depressed root, straight bridge and nostrils that open downward and forward. This is the fundamental African form but is also found extensively in Europe where it has undergone modification, and it is not unknown in the Orient.

The hyper-onto-morph is either tall and slender or small and delicate. The trunk and extremities are intermediate in length between those of the other two, about ⅛ the total stature, the European artist's ideal. The head is large in proportion to the size of the face below the eyes. The head is long and narrow, and the nose is also long and narrow, with high root and bridge, and the nostrils open downward. The eyes are wide open and close together, in contradistinction to those of the hypo-onto-morph, which are semi-closed and far apart. This is the fundamental European form, although their dispersal through migrations, both historic and prehistoric, has taken them to almost all parts of the earth. From the phyletic standpoint the European represents the present day product of what was originally the hyper-phylo-morph, although occasional mixtures with the hypo-phylo-morph and the meso-phylo-morph have occurred. The African represents the meso-phylo-morph in the same way and the Oriental the hypo-phylo-morph, each having mixed to some extent with the other two forms. Finally, Bean says, the hypo-onto-morph may be susceptible to acute infectious diseases and cardiorenal affections, but their number is too few for final judgment. The meso-onto-morph is susceptible to disease of the tissues derived from mesothelium, especially to pulmonary tuberculosis and diseases of the alimentary canal and central nervous system.

California State Journal of Medicine, San Francisco

December, X, No. 12, pp. 491-523

38 *Consideration and Treatment of Some Diseases of Upper Air Passages in Singers and Public Speakers. C. G. Stivers, Los Angeles.
39 Conditions Commonly Called "Rheumatism." C. C. Crane, San Francisco.
40 Relation of Pain, Especially Backache, to Joint Strain, or Relation of Pain to Mechanics. S. J. Hunkin, San Francisco.
41 *Chilblains. E. D. Chipman, San Francisco.
42 Lymphosarcoma of Superior Mediastinum. F. H. Bowles, Oakland.
43 Phylacogens. F. I. Lackenbach San Francisco.

38. **Treatment of Diseases of Upper Air Passages.**—Complete rest, with the use of whispered-word method, combined with inhalation of the following mixture Stivers has found of use in cases of chorditis nodosa or singer's nodes.

℞	Gm. or c.c.		
Tincturae benzoini compositae...	30		℥j
Olei pini	1		gr. xv
Mentholis	2	or	ʒss
Camphorae	1		gr. xv

Sig: Add teaspoonful to one pint boiling water and inhale, t. i. d.

He emphasizes that singers do not stand severe measures well. The utmost gentleness should be used. Never use violent or harsh methods of examination or treatment. In applying remedies always use a tightly wound cotton applicator, the excess of liquid wrung out so that by no mischance could any escape into the larynx. In treating the nose, examine the size of the meatus inferior, and to treat the pharynx through the nose use that size of cotton wound applicator that will go in and out without unduly irritating the turbinates and septum.

41. **Chilblains.**—For simple erythematous lesions with itching and burning Chipman uses a calamine and zinc lotion containing 1½ per cent. phenol; for deep, infiltrated lesions ichthyol paste in from 10 to 20 per cent. paste; for ulcerations 10 per cent. solution of silver nitrate or pure balsam of peru. As a prophylactic, applications of tincture of iodin or frictions with spirits of camphor followed by the application of an indifferent dusting powder as talcum or lycopodium.

Canadian Medical Association Journal, Toronto

December, II, No. 12, pp. 1067-1178

44 Treatment of Roto-Lateral Curvature of Spine. B. E. McKenzie, Toronto.
45 Internal Hernia, with Report of Case of Mesocolic Hernia. J. Halpenny, Winnipeg.
46 Heart During Some Acute Infections. W. F. Hamilton, Montreal.
47 Series of Cases of Small-Pox with Diagnosis and Vaccination. T. H. Whitelaw, Edmonton.
48 Treatment of Nevus with Solid Carbon Dioxid. E. A. Smith, Vancouver.
49 Tick Bite in British Columbia. J. L. Todd, Montreal.

Illinois Medical Journal, Springfield

December, XXII, No. 6, pp. 649-782

50 Some Statistical Studies and Plea for Improved Vital Statistics Law in Illinois. H. G. Ohls, Chicago.
51 *Vaccine Treatment of Some Unusual Infections, with Report of Cases. E. C. Rosenow, Chicago.
52 Extra-Uterine Pregnancy, with Reference to Etiology. A. M. Miller, Danville.
53 Important Eye Symptoms in Albuminuria of Pregnancy. A. B. Middleton, Pontiac.
54 Movable Kidney. J. E. Coleman, Canton.
55 Causes of Some Nephritic Symptoms. E. C. Ferguson, Edwardsville.
56 Three Cases of Hernia Complicated with Undescended Testicle. W. F. Grinstead, Cairo.
57 Trend of Medicine. W. R. Allison, Peoria.
58 *Operation for Radical Cure of Enteroptosis. R. Hazen, Paris.
59 Abdominal Crisis. A. B. Kanavel, Chicago.
60 Results of 14,000 Wassermann Reactions in Michael Reese Hospital. L. C. Gatewood, Chicago.

51. Abstracted in The Journal, June 1, 1912, p. 1709.

58. **Operation for Enteroptosis.**—Hazen's method consists in the accurate replacement of the organs in their normal positions; the obliteration of their mesocolons, and the securing of their firm fusion with the posterior abdominal wall, thus reproducing Nature's plan of the normal anatomic support of the colon as a whole.

Journal-Lancet, Minneapolis, Minn.

December 1, XXXII, No. 23, pp. 621-651

61 Tinnitus Aurium. C. L. Larsen, St. Paul.
62 Extraction of Lens in Its Capsule; Smith Operation. J. C. Harding, St. Paul.
63 Eclampsia. H. H. Sherwood, Humboldt, S. Dak.
64 Early Removal of Gall-Stones and Preservation of Gall-Bladder as Prevention of Disease of This and Contiguous Organs. A. E. Benjamin, Minneapolis.

December 15, XXXII, No. 24, pp. 653-682

65 Work of Public Health Education Committee of American Medical Association and Its Relation to State and County Society. L. A. Lane, Northfield, Minn.
66 Constipation as Cause of Gastro-Intestinal Disturbance in Children. H. M. Freeburg, Watertown, S. Dak.
67 Intestinal Stasis, with Special Reference to Lane's Short-Circuiting Operation. R. Earl, St. Paul.
68 *New Public Health: Public Health Statistician. H. W. Hill, Minneapolis.

68. **Public Health Statistician.**—The vital statistician of the future will be the scientific manager of a business department, for, through the epidemiologist working in the field, he will know where the diseases are, not where they were, and he will know which disease demands the most attention. He will know also what resources in men and money the health department has to fight its battles with. The correlation of these two factors has seldom been achieved, rarely even attempted, in public health circles, although in life insurance it has long been known that their interrelations were the absolute *sine qua non* of success. Any business man's first step in reorganizing public health for actual service would necessarily be (a) to determine what is required to be done; (b) to determine what there is to do it with. The maximum required returns from the minimum necessary expenditure should be the only motto. To secure this information, no one but a statistician knowing statistics, but knowing men and things as well as figures, can succeed. To confine his work to deaths, even to cases from preventable diseases, is to study output only, with no regard to income. To study income, as is so widely done, without regard to whether that income is spent to achieve lessening of disease and death or merely for nuisances or smoke inspection is simple madness.

Journal of Cutaneous Diseases, New York

December, XXX, No. 12, pp. 701-784

69 Dry Treatment of Certain Moist Dermatoses. C. J. White, Boston.
70 Recurrent Eczematoid Affection of Hands. S. Pollitzer, New York.
71 Four Cases of Keratosis Foilicularis (Darier's Disease). W H. Mook, St. Louis.

Journal of Biological Chemistry, Baltimore

December, XIII, No. 3, pp. 291-391

72 Gas Metabolism of Bacteria: Gaseous Products of Fermentations of Dextrose by *B. Coli*, by *B. Typhosus* and by *B. Welchii*. F. G. Keyes and L. J. Gillespie.
73 Idem: Absorption of Oxygen by Growing Cultures of *B. Coli* and of *B. Welchii*. F. G. Keyes and L. J. Gillespie.
74 Organic Phosphoric Acid of Cotton-Seed Meal. R. J. Anderson, Geneva, N. Y.
75 Studies in Blood Relationship of Animals as Displayed in Composition of Serum Proteins. I. Comparison of Sera of Horse, Rabbit, Rat and Ox with Respect to Their Content of Various Proteins in Normal and in Fasting Condition. T. B. Robertson, San Francisco.
76 Putrefaction, with Special Reference to Proteus Group. L. F. Rettger and C. R. Newell, New Haven, Conn.
77 Racemization of Proteins and Their Derivatives Resulting from Tautomeric Change. H. D. Dakin, New York.
78 *New Method for (Colorimetric) Determination of Uric Acid in Urine. O. Folin and A. B. Macallum, Boston.
79 Metabolism of Endogenous and Exogenous Purins in Monkey. A. Hunter and M. H. Givens, Ithaca, N. Y.
80 Absorption from Stomach—Reply to London. O. Folin and H. Lyman, Boston.

78. **Determination of Uric Acid in Urine.**—This method is described as follows by Folin and Macallum. From 2 to 5 c.c. of urine (the amount depending on the specific gravity) are measured into a 100 c.c. beaker and after adding a drop of saturated oxalic acid solution the whole is evaporated to dryness on the water bath or over a hot iron plate or even over a free flame. This evaporation takes only a few minutes, but it should be continued until the upper parts of the beaker are dry. To the dry, cool residue are added 10 to 15 c.c. of a mixture consisting of two parts of pure, dry ether (i. e., ether distilled over sodium) and one part of pure methyl alcohol. After standing for about five minutes the solution is removed by careful decantation and another 10 c.c. of the alcohol-ether mixture are added to the residue, allowed to settle and decanted. The alcohol-ether dissolves out the phenol acids and leaves the uric acid. To the washed residue in the bottom of the beaker is next added water (5 to 10 c.c.) and a drop of saturated sodium carbonate solution, and the mixture is shaken or stirred so as to secure complete solution of the uric acid. To the solution is finally added, first, 2 c.c. of the uric acid reagent and then 20 c.c. of saturated sodium carbonate solution. The resulting blue solution is transferred to a 100 c.c. measuring flask, diluted with water up to the mark and the intensity of the color is determined by means of a Duboscq colorimeter. The standard solution for comparison is obtained by treating 1 mg. of uric acid in lithium carbonate solution with 5.10 c.c. of water, 2 c.c. of the uric acid reagent and 20 c.c. of sodium carbonate solution and the whole made up to 100 c.c. in a volumetric flask.

Journal of Iowa State Medical Society, Clinton

December 15, II, No. 6, pp. 375-446

81 Latent and Recurrent Infection and Subinfection. J. G. Adami, Montreal, Quebec.
82 Relation of Latent Tuberculosis in Childhood to Adult Tuberculosis. J. H. Peck, Des Moines.
83 Peritoneum. C. B. Taylor, What Cheer.
84 Treatment of Laryngeal Tuberculosis. L. W. Dean, Iowa City.
85 Eye Strain in Children, with Special Reference to Chorea. F. W. Bailey, Cedar Rapids.
86 Spina Bifida. W. S. Kyle, Shannon City.
87 Diagnosis of Surgical Urinary Diseases. B. C. Everall, Waterloo.
88 Prostatectomy, with Report of Cases. J. J. Murphy, Cedar Rapids.

Journal of Missouri State Medical Association, St. Louis

December, IX, No. 6, pp. 167-204

89 Idiosyncrasy to Common Foods. E. H. Schorer, Kansas City.
90 *Value of Beginning Passive Motion Very Early, Following Fractures in or Near Joints. C. Smith and H. S. McKay, St. Louis.
91 *St. Louis Municipal Tuberculosis Clinic. Clinical and Statistical Review of Six Years' Progress with Observations and Conclusions. S. T. Lipsitz and A. C. Henske, St. Louis.
92 Industrial Training for Cripples in Russia. D. C. McMurtrie, New York.
93 Why Physicians Should Actively Fight Optometry Bill. J. W. Charles, St. Louis.
94 Heart Muscle. M. L. Sands, Warsaw.
95 Case of Double Chancre and Gonorrhea with Confrontation. T. M. Paul, St. Joseph.
96 Relative Position of Medicine as Therapeutic Agent. O. B. Hall, Warrensburg.

90. Abstracted in THE JOURNAL, July 6, 1912, p. 60.

91. **St. Louis Municipal Tuberculosis Clinic.**—The St. Louis Municipal Tuberculosis Clinic was established in July, 1906. The clinic as a part of the municipal system of dispensaries is under the control of the hospital department. Since the clinic's inception, 4,405 patients have applied for examination. In 2,033, or 46 per cent., of these cases, a clinical diagnosis of pulmonary tuberculosis was made. The total number of consultation visits of patients returning for further treatment or observation amounted to 14,078. These cases are carefully analyzed by Lipsitz and Henske and the methods employed in the dispensary are outlined in detail. In summarizing, the authors emphasize the following facts: One tuberculosis dispensary in a large city is not sufficient. No dispensary can perform adequate service unless it has one or more visiting nurses, supplies medicines with charge, and is in cooperation with a social service organization. Tuberculosis clinics must receive carefully planned publicity. The fact that one clinic alone cares for 20 per cent. of the reported cases shows what an important relation such institutions bear to the tuberculosis situation. Transient, unskilled laborers are great disseminators of tuberculosis. Cheap lodging-houses are hot-beds of tuberculosis and should be kept under strict surveillance. All factories should receive careful inspection; light, air-space and ventilation regulations should be established and enforced. All those employed in cooking and serving food in public places should receive medical inspection. Excessive use of alcohol and tobacco are important predisposing agents. Home life is antagonistic in some degree to the dissemination of tuberculosis. The great practical importance of educational measures is evidenced by the overwhelming fact that over half of their cases had never received medical attention nor advice before applying to the clinic. We have found none of the newer methods of diagnosis as reliable as the old. Tuberculin skin tests in children are valuable aids in diagnosis. The ultimate cure of tuberculosis is economic. Rational preventive therapy must be based on educational and economic lines. We must treat those who have not contracted the disease. Hospitals for advanced cases should be of large capacity and as attractive as possible. There should be more free sanatoria subsidized by the state. Each state should have at least three or four such institutions. The visiting nurse is indispensable in the treatment of city cases. Philanthropic organizations are also necessary under present conditions. Though it is of utmost importance that advanced cases should be isolated in hospitals, it is not proper to force them into institutions through premeditated neglect. When patients are sent away from home without the assurance of further assistance, the results are usually disastrous. The class in tuberculosis is an ingenious and valuable idea, which is giving practical results. Tuberculin therapy is a valuable adjunct in the treatment of tuberculosis both in city and sanatorium practice, because not infrequently truly remarkable results are noted. Medical treatment is necessary in dispensary practice. Pronounced cases require symptomatic treatment. Most patients cannot be controlled without some form of medication.

Kentucky Medical Journal, Bowling Green

December 1, X, No. 23, pp. 885-906

97 Infant Mortality: Its Causes and Prevention. H. E. Tuley, Louisville.
98 Endometritis. W. L. Mosby, Bardwell.
99 Vascular Tension in Chronic Illness. J. D. Mutters, Ashland.
100 Common Diseases of Eye in Children from Standpoint of General Practitioner. G. C. Hall, Louisville.
101 Enteric Therapeusis in Children. P. F. Barbour, Louisville.

December 15, X, No. 24, pp. 907-934

102 Adams-Stokes Syndrome. H. E. Tuley, Louisville.
103 Sciatica and Treatment. J. W. Turner, Malott.
104 Obstetric Anesthesia. T. K. VanZandt, Louisville.
105 Vancott's Vaccine. B. J. O'Connor, Louisville.
106 Nephrectomy. J. H. Peak, Louisville.

Laryngoscope, St. Louis, Mo.

November, XXII, No. 11, pp. 1237-1316

107 Relief of Nasal Obstruction by Orthodontia, Plea for Early Recognition and Correction of Faulty Maxillary Development. W. H. Haskin, New York.
108 Development of Teeth and Occlusion as Factors in Development of Facial Bones. F. B. Noyes, Chicago.
109 Treatment of Orthodontist Supplementing That by Rhinologist. A. H. Ketcham, Denver.
110 Roentgen-Ray Measurement of Permanent Teeth Before Eruption to Provide for Early Regulation of Dental Arch. S. Tousey, New York.
111 Improved Tonsil Tenacular Constructed on Principle of Double Tined Cork-Screw. J. D. Lewis, Minneapolis.

New Orleans Medical and Surgical Journal

December, LXV, No. 6, pp. 415-488

112 *Determination of Functional Activity of Liver as Indicated by Presence of Urobilinogen in Urine. A. Eustis, New Orleans.
113 *Diagnosis of Aneurysm of Thoracic Aorta. I. I. Lemann, New Orleans.
114 *Furunculosis and Rational Treatment. J. L. Kelly, Melrose, La.
115 Hospital Management. G. S. Bel, New Orleans.
116 Few Diagnostic Points in Genito-Urinary Diseases. M. M. Swords and H. F. Ader.
117 Herniotomy Under Local Anesthesia. C. W. Allen, New Orleans.

112 and 113. Abstracted in The Journal, May 18, 1912, p. 1538.

114. **Furunculosis and Rational Treatment.**—It is claimed by Kelly that the furuncle may be aborted in the following manner: Take a match and whittle to a fine point; dip into liquid phenol and shake off the excess, then bore the point of the match stick firmly and deeply into the middle of the furuncle and then withdraw it. By this process a white eschar is produced, aseptic because the active bacteria have been destroyed. There is no pain, for it is relieved immediately by the anesthetic action of the phenol. When seen late, take a short scalpel; lift off the central vesicle, exposing the hair follicle and the sebaceous gland. Dress the furuncle with a piece of plain sterile gauze wrung out of a normal saline with 1 per cent. sodium citrate. The sodium chlorid by osmosis sets up a flow of lymph through the walls of the furuncle and the citrate of sodium maintains a fluidity of the serum. Kelly uses sodium citrate for two or three days. To prevent pustulation, he applies an ointment of oxid of zinc around the base of the furuncle. He also uses sodium citrate, grains 15, in a glass of water after each meal for its alkaline action on the blood and its diuretic effect on the kidneys. He also puts the patient on iron, quinin and strychnin as a general tonic. Continue the wet dressing of normal saline every four hours until the slough is loose, when it is removed with a pair of small dressing forceps; then clean this cavity with peroxid of hydrogen and afterwards apply dressings of plain sterile gauze, sometimes using an antiseptic, drying powder.

New York Medical Journal

December 21, XCVI, No. 25, pp. 1257-1312

118 Clinical Measurement of Defects in Central Visual Field. P. Friedenberg, New York.
119 Unique Case of Artificially Induced Sterility. W. J. Robinson, New York.
120 What Eugenics Does Not Mean. M. Solomon, Chicago.
121 *New Operation for Decompression. E. R. McGuire, Buffalo.
122 Psychoses Occurring in Twins. P. Smith, New York.
123 Monthly Incidence of Certain Diseases. H. A. Brown, Washington, D. C.
124 Radical Mastoid Operation. R. L. Loughran, New York.
125 Autotherapy. C. H. Duncan, New York.
126 New Tourniquet for Intravenous Work. P. B. Thatcher and E. J. Hackney, Philadelphia.

121. **New Decompression Operation.**—The technic of the operation performed by McGuire differs from that of Hudson in that the bone flap includes both sides of the skull posteriorly, and in cases in which pressure seems to be below the tentorium, the dura is separated below the insertion of the tentorium posteriorly and opened below that point. A large horseshoe incision is made, extending from near the mastoid, on either side, to the crown of the head above; a bone flap of corresponding size is made by means of the Hudson instruments. Great care must be exercised in crossing the longitudinal sinus; also before raising the flap to separate the dura from the bone, as it is so adherent in this location that an opening might be torn in the longitudinal sinus. If the tension seems to be above the tentorium the dura is opened, and if not, with the finger or a swab of cotton the dura is separated below the attachment of the tentorium on both sides, exposing the dura over the cerebellum. With slight pressure the cerebellum retracts, so it is easy to incise the dura after the method devised by Hudson, namely, by an incision in the form of a letter M or W. In many instances where pressure is great, McGuire believes multiple small incisions are of advantage. Should no great pressure exist the dura is incised on the other side. When the pressure has been relieved the bone flap is replaced and held with wire sutures, as described in the operation by Hudson. This operation not only makes the skull larger, but leaves opportunity for further increase in size, corresponding to increase of endocranial pressure, because the wire untwists, allowing the flap to recede. Furthermore, it relieves compression, whether above or below the tentorium, or whether right- or left-sided. Again, the flap is made sufficiently posteriorly, so that paralysis is nearly impossible.

New York State Journal of Medicine, New York

December, XII, No. 12, pp. 687-752

127 Deafness Resulting from Middle Ear Disease. S. J. Kopetzky, New York.
128 Deafness as Result of Diathetic and Constitutional Conditions. S. F. Snow, Syracuse.
129 Congenital, Traumatic and Toxic Causes of Deafness. A. G. Root, Albany.
130 Otosclerosis as Cause of Deafness. J. E. Sheppard, Brooklyn.
131 Tinnitus Aurium: Its Significance in Certain Diseases of Ear. E. P. Fowler, New York.
132 Nasal Obstruction and Value of Submucous Resection of Nasal Septum for Its Relief. J. F. McCaw, Watertown.
133 Submucous Operation and Some of Its Difficulties. I. M. Heller, New York.
134 Surgical Management of Nasal Accessory Sinus Disease. L. A. Coffin, New York.
135 Modern Surgery of Tonsil. T. H. Halsted, Syracuse.
136 New Tonsil Dissector. G. P. Coopernail, Bedford.
137 Lesson from Case of Tonsil and Adenoid Operation. T. H. Farrell, Utica.
138 Blindness as Result of Intra-Ocular Disease. E. S. Thomson, New York.
139 Intestinal Lesions Due to Contusions of Abdomen. G. S. Gregor, Watertown.
140 Maternal Impressions or Accidental Coincidences—Which? L. W. Bellows, Waterloo, N. Y.
141 Ectopic Gestation. I. M Slingerland, Fayetteville.

Surgery, Gynecology and Obstetrics, Chicago

December, XV, No. 6, pp. 639-754

142 Cancer of Esophagus from Standpoint of Intrathoracic Surgery. W. Meyer, New York.
143 Circular Resection and Suture of Axillary Artery for Transverse Laceration by Fracture-Dislocation of Anatomic Neck of Humerus. J. J. Buchanan, Pittsburgh.
144 Multiple Myeloma. T. W. Stumm, St. Paul.
145 Method of Controlling Postpartum Hemorrhage by Manual Compression of Abdominal Aorta. E. P. Davis, Philadelphia.
146 Hypernephroma of Kidney. I. S. Stone, Washington, D. C.
147 Myoma of Cervix Uteri; Review of One Hundred and Thirty-Two Cases. M. Rabinovitz, New York.
148 Double Fallopian Tube. O. V. Huffman, New York.
149 *Hemolytic Streptococcus and Puerperal Septicemia. W. J. Walton and L. S. Medalia, Boston.
150 *Opsonins and Vaccines in Puerperal Sepsis. L. S. Medalia and W. J. Walton, Boston.
151 *Results of Experiments on Kidneys, with Special Reference to Decapsulation and Establishment of Collateral Circulation. E. H. Siter, Philadelphia.
152 *Sterility in Female Without Marked Gross Pathology. C. C. Norris, Philadelphia.
153 Use of Intratracheal Anesthesia in Experimental Work. A. B. Eisenbrey, Philadelphia.
154 Finger in Rhinoplasty, Improved Technic. J. F. Baldwin, Columbus, Ohio.
155 Ether-Administration. W. Van Hook, Chicago.
156 Uselessness of Warming Anesthetic Vapors. F. J. Cotton and W. M. Boothby, Boston.
157 Picric Acid and Oil of Cloves Preparation of Catgut. C. A. Roeder, Grand Island, Neb.
158 Diagnosis of Ureteral Calculus by Means of Wax-Tipped Whalebone Filiform Bougie Used with Nitze Cystoscope. B. Harris, Brooklyn.
159 Some Genito-Urinary Surgery Recently Done in Vienna and Berlin. C. E. Barnett, Fort Wayne, Ind.
160 Bottle Operation for Hydrocele of Tunica Vaginalis. H. H. M. Lyle, New York.
161 Special Long Thumb Forceps for Abdominal Work. J. D. Singley, Pittsburgh.

149. **Hemolytic Streptococcus and Puerperal Septicemia.**—This research comprises a systematic bacteriologic study of 103 consecutive labor cases ante and post partum, with special reference to the presence or absence of hemolytic streptococci in the posterior culdesac, cervix and blood circulation, as determined by the blood-agar method (Schottmüller). The object of this work has been to help clear up the unsettled questions of the bacteriology of puerperal septicemia. The authors found that streptococci, both hemolytic and nonhemolytic, are present in the parturient canal during pregnancy before any digital examination had been made as far as they could ascertain. The presence of the hemolytic streptococcus ante partum was the exception and not the rule. Nonhemolytic streptococci were twenty times as frequent as hemolytic streptococci in the secretions of the pregnant. Hemolytic streptococci were found in afebrile as well as in febrile par-

turient cases. Non-hemolytic streptococci were found in febrile as well as afebrile post partum cases. The frequency of positive findings post partum of the non-hemolytic was far above that of the hemolytic type, being twice as many (seventeen to nine). Schottmüller's blood-agar method was of practical value in detecting the hemolytic property of the streptococcus, so characteristic of one type of the streptococcus group. Hemolysis as applied to the streptococcus did not determine the question of virulence or avirulence of this organism. Other tests will have to be found to establish the virulence or avirulence of a given streptococcus.

The routine bacteriologic examination early post partum is regarded by the authors as being practical and important from the standpoint of prophylaxis, diagnosis, prognosis and treatment. The clinical symptoms alone are not sufficient to establish a diagnosis of puerperal septicemia. The bacteriologic examination is necessary to definitely establish diagnosis. The findings of the streptococcus, hemolytic or non-hemolytic, in febrile or afebrile cases, would indicate prompt isolation of the case to prevent the spread of infection in maternity hospitals. The finding of hemolytic or non-hemolytic streptococci in the secretion in febrile cases post partum suggests the possibility of a grave infection. The finding of hemolytic streptococci in the blood is, according to most observers, synonymous with a fatal issue. Hemolytic or non-hemolytic streptococci causing morbidity are not necessarily of exogenous origin. Auto-infection plays an equal rôle with exogenous infection as to frequency of sepsis, but not as to its severity. Extragenital infections with faulty personal hygiene on the part of the patient will increase the possibility of auto-infection during the puerperium.

150. **Opsonins and Vaccines in Puerperal Sepsis.**—The authors emphasize that the opsonic index, according to the results obtained in their series, may be considered of value in determining the patient's resistance and the possible gravity of the infection when present. But it cannot be said to determine whether a given streptococcus is virulent or avirulent. It is therefore of value from a clinical standpoint only. The actual labor involved in the opsonic test, also the great possibility of error, even in the hands of the most experienced, would rule it out from being applied as a routine test in daily practice. It is of value in research work. Vaccine treatment, according to their research, is of value in puerperal sepsis and is worthy of further trial in similar cases.

151. **Experiments on Kidneys.**—By means of experiments on cats and dogs, Siter believes he has established that the kidney increased in size on decapsulation; that wrapping the decapsulated kidney in the omentum is immediately successful in forming a new capsule; that collateral circulation is established at the end of ten days, and that it is sufficient to allow the kidney to functionate properly when the renal blood-vessels are tied off. The kidney remains much enlarged when the capsule is removed. Forming a new capsule from the omentum prevents adhesions between the kidney and the surrounding soft parts and increases blood supply.

152. **Sterility in Female.**—Norris believes that one in every seven or eight marriages is sterile. About 50 to 75 per cent. of these are due to sterility of the woman. Sterility may be the result of a variety of causes, both local and general. The success of treatment depends on the correct diagnosis of the etiologic factor present in each case. Excluding gonorrhea, the three most frequent local causes productive of sterility are hypoplasia of the uterus, constriction of the cervical canal or a mild grade of cervicitis. The routine practice of subjecting all cases of sterility to some form of dilatation operation, often without even ascertaining if the woman be the partner in fault, is severely condemned by Norris. When hypoplasia of the uterus, a constriction of the cervical canal, or anteflexion is present, he says the stem pessary offers an excellent means of treatment. It provides a permanent means of treatment. It produces permanent dilation, as proven by the fact that it cures more than 86 per cent. of cases of expulsive dysmenorrhea. The stem pessary tends to produce development in those cases of hypoplasia of the uterus and by the drainage secured, often cures, and in all cases facilitates the treatment of endocervicitis of non-gonorrheal origin. It also straightens out flexions. In the gynecologic department of the hospital of the University of Pennsylvania, this form of treatment has been successful in 37 per cent. of cases of sterility. No ill effects have followed this form of treatment in any of the cases operated on for either sterility or dysmenorrhea. This now comprises a large series of cases. It is essential that gonorrhea and the various forms of pelvic inflammatory disease be excluded.

Vermont Medical Monthly, Burlington

December 15, XVIII, No. 12, pp. 287-312

162 Ether Anesthesia by Drop or Open Method. W. Lindsay, Montpelier.
163 Diarrhea in Bottle-Fed Infants. C. K. Johnson, Burlington
164 Chemistry of Food. H. D. Valin, Mankato, Minn.

West Virginia Medical Journal, Wheeling

December, VII, No. 6, pp. 181-218

165 Nervousness in Children; How to Prevent It. T. A. Williams, Washington, D. C.
166 Goiter Operations and Local Anesthesia. W. D. Hamilton, Columbus, Ohio.
167 Turbinotomy, Indications and Justification. T. W. Moore, Huntington.
168 Splenomyelogenous Leukemia; Report of Cases. O. D. Barker, Parkersburg.
169 Venereal Diseases and General Practitioner. P. S. Keim, Elk Garden.
170 Administration of Salvarsan. M. V. Godbey, Charleston.

FOREIGN

Titles marked with an asterisk (*) are abstracted below. Single case reports and trials of new drugs are usually omitted.

Dublin Journal of Medical Science

November, III, No. 491, pp. 321-399

1 Surgery of Peritoneum. H. Macnaughton-Jones.
2 Blood-Pressure Determination. T. G. Moorhead.

December, III, No. 492, pp. 401-479

3 Vitalism in Practice of Medicine. J. O'Carroll.
4 *Case of Cerebellar Tumor. A. A. McConnell.
5 Development of Therapeutic Immunization. W. Boxwell.

4. **Cerebellar Tumor.**—McConnell's patient manifested such well-marked headache, vomiting, optic neuritis and lowered mentality that there was no difficulty in coming to a diagnosis of intracranial tumor. The presence of staggering gait and vertigo, the early and rapid onset of optic neuritis, the sudden incidence of optic atrophy and the presence of diadococinesia led him to conclude that the cerebellum was the site of the lesion. This view was supported by the occurrence of the seizures in which all the muscles were thrown suddenly into tonic contraction. The absence of clonus served to differentiate these attacks from those due to cortical lesions. The fact that the patient sneezed repeatedly in each attack, McConnell thinks, may have indicated some irritation of the receptor nuclei of the fifth cranial nerve or of the expiratory center in the medulla. The "dead-bell" sound, mentioned by the patient, was localized in the left ear. Tumors of the cerebello-pontine angle, the so-called extra-cerebellar tumors, were excluded chiefly from the absence of involvement of the sixth and seventh nerves, and from the fact that although tinnitus was present there was no deafness. Owing to the optic neuritis being more marked and the loss of sight more complete in the left eye than in the right; to the left pupil being dilated and fixed; to the patient deviating toward the left on attempting to walk, and to diadococinesia being more prominent in the left arm, he came to the conclusion that the tumor lay inside the left cerebellar hemisphere. The rapidly-diminishing power of vision and the steady exaggeration of the other symptoms of intracranial pressure rendered a decompression operation imperative. As the symptoms were of definite localizing value, and as there is always a possibility of removing the growth, McConnell decided to perform a sub-tentorial decompression first, and if the tumor proved operable to proceed with its removal at a second operation. Accordingly he performed Cushing's cerebellar decompression. The dura was found tense, and bulging to a degree which was discernible on both sides, but more marked on the left. Gentle palpation of the cerebellum revealed a relatively firm growth in the substance of the left hemisphere. Having relieved the compression and con-

firmed the diagnosis the flaps were replaced and sutured in position without drainage The patient made an uneventful recovery. Five weeks after the operation there had been no recurrence of the headache or tonic muscular spasms and no vomiting. Immediately after the operation she could see fingers with the right eye at a distance of two feet and light appeared considerably stronger than before the operation. The condition of her left eye was not improved.

Edinburgh Medical Journal

December, IX, No. 6, pp. 481-587

6 *Auricular Flutter; Report of Cases. W. T. Ritchie.
7 Perforated Duodenal Ulcer. J. W. Struthers.
8 Nitrous Oxid and Oxygen as an Anesthetic for Dental and Surgical Purposes. W. Guy and J. S. Ross.
9 Incorporation of Surgeons and Barbers. R. S. Moncrieff.
10 Secretory Activity in Mammary Glands Independently of Pregnancy. J. Oliver.

6. **Auricular Flutter.**—Auricular flutter, Ritchie says, is apparently a not infrequent disorder. It is true that only a few cases have been recorded hitherto but it is more than probable that many cases have not been recognized. An analysis of the cases indicates that in some instances a rhythmic ventricular tachycardia is undoubtedly due to auricular flutter. The condition has been found in patients whose ages have ranged from 21 to 72. The majority of the cases were males. In nearly all recorded cases evidence of cardiac enfeeblement is stated to have existed, and more than half of the cases presented signs of mitral disease. Auricular flutter may arise, however, in acute or chronic degeneration of the auricular muscle, or with acute toxemia (chloroform) apart from valvular disease. One of Ritchie's patients gave a history of syphilis and in another a positive Wassermann reaction was obtained. Probably in all cases the disorder owes its origin to some abnormal condition of the auricular musculature. In considering the symptomatology of auricular flutter, Ritchie recognizes four groups of cases: 1. Those in whom other signs of cardiac disorder may, or may not, be detected, but in whom the symptoms, palpitation, vertigo, precordial pain and dyspnea, can be ascribed to the auricular flutter and consequent acceleration of the ventricular rate. If, as is often the case, the ventricular rate is one-half that of the fluttering auricles, the arterial pulse is greatly accelerated, 130 to 162 per minute, rhythmic, of small volume and often alternating. 2. Cases with a history of old-standing cardiac disease, with cyanosis, dyspnea and dropsy and in whom auricular flutter eventually supervenes. With the onset of the flutter the patient's condition becomes decidedly worse, much in the same manner as so often occurs at the onset of auricular fibrillation. 3. Cases with partial auriculo-ventricular heart-block. The ventricular rate is comparatively infrequent (40 to 80 per minute); the beats are usually irregular and may be coupled. 4. In auricular flutter with complete auriculo-ventricular dissociation the rate and rhythm of the ventricles are not influenced by the fluttering auricles. The immediate prognosis is good in cases of auricular flutter without symptoms or signs of organic disease of the heart, and without cardiac enfeeblement. At the outset the patient should be kept lying in bed; all unnecessary exertion or strain should be avoided. Complete rest is of much benefit. At the same time attention should be directed to shielding the patient as far as possible from all influences, such as worry and excitement, that are likely to stimulate the accelerator mechanism of the heart. In one of Mackenzie's cases the prolonged administration of ammonium bromid, in 20-grain doses three times daily, was helpful in promoting sleep and in checking the more serious paroxysms of ventricular tachycardia. The drugs that act most beneficially, however, are digitalis and strophanthus. Considerable doses may be required to control the ventricles and in an urgent case an intravenous injection of strophanthin may be administered with benefit. The administration of one or other drug by mouth should be continued steadily until the ventricular rate has fallen to about the normal. The auricles may then be in fibrillation. Following the advice given him by Mackenzie, Ritchie would then reduce the dose of the drug to the smallest amount that restrains the ventricular action satisfactorily and that keeps the patient free from symptoms.

Glasgow Medical Journal

December, LXXVIII, No. 6, pp. 401-476

11 Pernicious Vomiting of Pregnancy. J. W. Williams, Baltimore.
12 Necrosis of Vertebrae Following Scarlet Fever. D. F. Riddell.
13 *Case of Doubling of Great Intestine. A. B. Aitken.

13. **Doubling of Great Intestine.**—This condition occurred in a female child, the subject of a large congenital umbilical hernia. When the child came under Aitken's observation, about seventeen hours after birth, the thin covering of a hernia, consisting of the greatly distended proximal portion of the cord, was extensively ulcerated. No operative measures were undertaken, as the case seemed unsuitable and death occurred the following day. Post mortem, he hernial sac was found to contain the lower part of the ileum for a distance of 47 centimeters above the ileocecal junction, the cecum and the proximal part of the colon (7.5 centimeters). Toward its termination the ileum bifurcated, forming two completely separate tubes of equal caliber and length (17 centimeters) ending on opposite sides of a small, somewhat conical, cecum. Between these two ileocecal junctions the wall of the cecum showed a deep sulcus running in a longitudinal direction and sub-dividing this portion of gut into two parts, with a small vermiform appendix about 2 centimeters in length at the extremity of each. From the cecum there issued an apparently single great intestine, somewhat contracted, but otherwise normal in external appearance as far as the middle of the descending colon. At this point a deep furrow appeared in the situation of one of the longitudinal muscular bands and persisted down to the termination of the gut. On section of the colon it was found that the lumen of this part of the intestine was divided by a septum into two completely separate channels which opened externally, one at the normal anal aperture, the other within the vulvar cleft just in front of the posterior commissure. The intestinal lumen was therefore double from the lower part of the ileum onward. A microscopic examination of transverse sections made from various parts of the colon showed that in the proximal part the septum between the two lumina was composed of mucosa and submucosa alone, the muscular coats passing uninterruptedly round the circumference of the gut. In the distal part, i. e., from about the middle of the descending colon downward, the separation between the two tubes was more complete, the septum here consisting of a double layer of all the coats of the gut save the longitudinal muscular layer, of which only traces were present among the fibrous tissue separating the two layers of circular muscle. Examination of the other viscera revealed no abnormality beyond a lobulated condition of the kidneys and defective development of the uterus; this organ presented the condition *uterus unicornis*, the left horn being rudimentary. No skeletal abnormality was detected.

Indian Medical Gazette, Calcutta

November, XLCII, No. 11, pp. 421-460

14 Sixty Cases of Amebic Dyentery Illustrating Treatment by Ipecacuanha and Emetin Respectively. L. Rogers.
15 Therapeutic Use of Tuberculin in Tuberculosis. G. C. Chatterjee.
16 "Voluntary Boarder." P. Heffernan.
17 *Treatment of Small-Pox by Tincture of Iodin. T. F. Pedley.
18 *A Developmental Defect. L. Cook.

17. **Tincture of Iodin in Small-Pox.**—On the first appearance of the spots Pedley painted them wherever they occurred with equal parts of tincture and liniment of iodin. After three days he changed this to the tincture alone, using it twice a day. The rash was profuse on the face, chest, arms and hands. The patient found the application of the tincture cooling and grateful, and asked for it to be repeated. It was kept up for six days. The result was remarkable. There was no itching, no discomfort and no secondary fever whatever; the vesicles collapsed and shrivelled, the cuticle peeling off left a clean, white surface, quite free from marks or scars.

18. **Developmental Defect.**—On examination of the abdomen of a woman of about 30 years, Cook found that the right kidney and right ureter were absent. The uterus was smaller than normal and right fallopian tube and broad ligament on this side were also absent, the uterus being consequently pulled over to the left side of the pelvis. The kidney and ureter of the left side were normal except that the former was much

above the average in size and weighed 5½ ounces. The ovary of the left side was normal and the rudimentary nebules of the parovarium of this side were present, but on the right side the ovary was situated above the brim of the true pelvis on the psoas muscle and from its anterior extremity a fibrous cord was attached which passed downwards and forwards following the brim of the true pelvis to the internal abdominal ring; it had no connection whatever with the uterus. The interesting feature of the abnormality was the fibrous cord leading directly from the ovary to the internal abdominal ring. This was the remains of the "plica gubernatrix"—the upper part of which normally produces the ligament of the ovary and the lower part the round ligament of the uterus, but owing to the non-development of the Wolffian and uro-genital fold on that side (forms the mesosalpinx and primitive broad ligament) the ovary had not descended into its definitive position.

Journal of Laryngology, Rhinology and Otology, London

December, XXVII, No. 12, pp. 633-711

19 True Serous Lepto-Meningitis Cured by Operation. S. Citelli.
20 A -Treatment of Nose, Throat and Ear Operations. P. G. dsmith.
21 Accidental Exposure of Meninges During Intra-Nasal Operations. J. B. Horgan.

Sei-I-Kwai Medical Journal, Tokyo

November, XXXI, No. 11, pp. 241-247

22 Investigation of Cause of Conjunctivitis Epidemica. Wakisaka.
23 Clinical and Pathologic Histologic Study of Trachomatous Changes of Plica Semilunaris Conjunctivae and Conjunctiva Sclerae. Wakisaka.
24 Blood-Vessels in Beriberi. C. Ogata.

Journal of Tropical Medicine and Hygiene, London

November 15, XV, No. 22, pp. 337-352

25 Cases of Pseudo-Sprue Probably Due to a Flexner-Like Bacillus. A. Castellani.
26 *Liver Abscess Treated by a Modification of Leonard Rogers' Method. L. G. Fink.
27 Meteorology of Malaria. M. D. O'Connell.
28 Life of Filarial Embryos Outside Body. G. C. Low.

December 2, XV, No. 23, pp. 353-368

29 *A Rare and Probably Undescribed Eruption in Small-Pox. L. G. Fink.
30 Certain Cell Inclusions. A. Castellani.
31 Experiments with Crude Phenol as a Larvicide in British Guiana. K. S. Wise and E. P. Minett.

26. **Treatment of Liver Abscess.**—Irrigation as an alternative to aspiration is suggested by Fink. In a case cited by him, the abscess was emptied by means of a large-sized trocar and cannula inserted in the tenth right interspace in the mid-axillary line. One and a half pints of pus came away. The cavity was then irrigated with salt solution and the appliance used was the Leonard Rogers cholera apparatus with the intraperitoneal cannula, which was inserted in the bigger cannula. The former cannula pressed home into the latter prevented the salt solution from flowing out of the abscess cavity till withdrawn. By this means the cavity was thoroughly irrigated with three or four pints of salt solution. Four ounces of bihydrochlorid of quinin solution (10 gr. to 1 oz.) were then allowed to run in, the big cannula was removed and the opening in the skin and deeper tissues closed by a single stitch. On the thirteenth day there was again some pain and bulging and a similar operation was performed, one pint of pus having been removed. The patient remained free of pain till the twenty-second day, when the third operation was done, 12 ounces pus removed and the cavity washed out with iodin salt solution (tr. iodin 1 dr., salt solution 1 pint). On the thirty-first day the fourth and last operation was done, and only 6 ounces of pus came away. Iodin and salt solution was again used for irrigation. After each operation quinin bihydrochlorid solution 4 ounces was injected. A small trocar and cannula were used for the third and fourth operations. Pulv. ipecac. was also given in 30-grain doses twice daily at first and in smaller quantities toward the end. The drug did not cause any gastric disturbance and was tolerated. The patient was discharged cured on the forty-second day. He has recently been examined, and has had no recurrence.

29. **Rare Eruption in Small-Pox.**—On May 20, 1912, evening, Fink's patient came to the hospital with a temperature of 104.6 F. He was kept under observation the next day and on May 22, 1912, he was admitted and segregated, as eruptions had appeared on his face, forearms and body. He stated that he had had fever, backache and pains in his joints, from May 18, 1912. He had two fair-sized vaccination scars on his left arm, the result of vaccination fourteen years before, when he was eight years old. He has not had small-pox before and has never been inoculated. He had also not been revaccinated till May 8, but this was not successful. He was then in the incubation stage of small-pox. The eruptions first appeared on the night of May 21, 1912, but these were not seen by Fink till the following morning and the question of diagnosis, small-pox or chicken-pox had to be decided. On May 18, 1912, when the man is said to have first got fever, he had been fifteen days in jail and during this period had not been in contact with any case of small-pox. He said he had not been in contact with such since April 28, 1912, i. e., twenty-one days before he first got fever. As this appeared to be a very long incubation period for small-pox, the further development of the eruptions was carefully watched. The following are the principal points noted: The vesicles developed slowly as in small-pox, and scabs first began to form on the face on the tenth day. The majority of the vesicles were globular, but some were irregular in shape. They were closer set on the face than on the body; closer on the forearms than on the arms; closer on the legs than on the thighs; closer on the upper than on the lower part of the back; they were more numerous on the extensor than on the flexor surface of the extremities; they were well-developed on the hands and feet and formed well-marked "seeds" in the palms and soles. The majority of the vesicles showed no umbilication and appeared superficial. On pricking some collapsed and others did not. Secondary fever occurred when the stage of pustulation began. The slow development of the eruptions, their appearance first on face and forearms, their density in the areas above mentioned, secondary fever, and the presence of "seeds" in the palms and soles, left no doubt as to the disease being small-pox. The incubation period was probably twenty-one days. From May 22, 1912, to July 4, 1912, the prisoner was under treatment. On July 5, 1912, he was well and put on the convalescent gang. His face was decidedly pitted and to a lesser extent his body and his limbs. His palms and soles show very clear scars of "seeds," there being at least twenty on each sole and as many on each palm. On Aug. 7, 1912, the prisoner was discharged quite well from the convalescent gang and put on ordinary labor. He increased in weight and looked perfectly healthy. The following morning papules appeared and some of these developed into vesicles. A few of these vesicles became pustular and scabs formed. The lesions were in every respect similar to those of a mild case of chicken-pox or modified small-pox. The prisoner had not been in contact with any person suffering from either of these diseases. The eruptions were most numerous on the back and chest and there were a few on the face and extremities. They were all very superficial and the scabs were thin. On examining the hands two "seeds" were found on the palmar aspect of the left hand and one resembling the "dark, black area" described by Cameron, and really a vesicular "seed," on the right middle finger. In examining the patient a few minutes later Fink was informed by him that shortly after the eruptions appeared, the glands in the axillae and in the femoral region were swollen to the size of a pigeon's egg. He had not drawn attention to these swollen glands, and hence they were not examined at the time. On Oct. 1, 1912, however, they were only just palpable in the left axilla and left femoral region. A rabbit and a calf were inoculated with lymph taken from the vesicles of the residual eruption, but in neither case with any positive result. The scabs had all fallen off by Oct. 4, 1912, and the patient was practically well. No secondary fever occurred with the residual eruptions.

Bulletin de l'Académie de Médecine, Paris

November 26, LXXVI, No. 40, pp. 429-465

32 *Fracture of the Patella. (Tabes et fractures de la rotule. Méthode mixte de traitement opératoire par la suture et l'hemicerclage bilateral. Fractures spontanées en général. Classification.) Le Dentu.

32. **Fracture of the Patella.**—Le Dentu comments on the frequency of fracture of the patella in tabetics, reporting a case from his own practice and citing a number from the literature in which various bones fractured spontaneously. Guischard has reported four cases of the fracture of the patella in sixteen cases of tabetic fracture. Of the total eight cases on record of spontaneous fracture of the patella in tabes, the fracture was the first sign of the tabes in a few. It is more than probable that the underlying tabes has been overlooked in a certain number of other cases. The most important sign of the tabetic origin of the fracture is the almost complete lack of pain after the accident and during the medical examination. Repair is difficult, and for these and other cases of fracture of the patella he recommends the method which he describes with four illustrations. The needle is passed from above directly through the center of the torn-off lower half and a silver wire is drawn through and then a second silver wire in the same way. The upper ends of the wires are then drawn up through the center of the upper half of the patella. The ends are twisted together as they emerge at the top and bottom and the ends of each wire separately are brought together at the side of the patella and twisted tight. By this solid support through the center of the two halves and by the bilateral hemicircling of the patella, approximately normal conditions are restored.

Journal d'Urologie, Paris

November, II, No. 5, pp. 621-788

33 Present Status of Urology. (Leçon d'ouverture.) F. Legueu.
34 Indications for Suturing Incisions in the Kidney Pelvis and Ureter. P. and L. Bazy.
35 Permeable Urachus in Boy of 16. P. André and A. Bœckel.
36 Skin Flap to Interpose Between Urethra and Rectum in Treatment of Fistula. (De l'autoplastie cutanée dans la cure des fistules graves urétro-rectales.) E. Michon.
37 *Partial Spontaneous Exclusion as Explanation of Clinical Cure of Tuberculous Process in Kidney Under Conservative Treatment. (Pseudoguérisons de la tuberculose rénale.) M. Heitz-Boyer.
38 Epithelioma of the Kidney Pelvis. G. Picot.
39 Technic for Catheterizing the Ureters Through the Open Bladder. (Le cathétérisme des uretères à vessie ouverte.) G. Marion.
40 *The Gonococci Do Not Proliferate in the Urethra Itself. J. Janet.

37. **Pseudo-Healing of Tuberculous Process in Kidney.**—This article discusses the cases in which urine drawn by catheter from the ureter proves to be absolutely normal when at some previous time the kidney above was known to be tuberculous beyond question. Only four such cases are on record among the 150 cases of renal tuberculosis Heitz-Boyer has compiled, but he has recently encountered a fifth case which throws light on the mechanism of these deceptive healing processes. The lesion is not really healed but is merely walled off, and sooner or later it is bound to break down the wall and ravage anew. In the present case the active tuberculous process was followed by a stage of apparent complete recovery, lasting for two or three years, but then the active process broke through its barriers and invaded the sound part of the kidney, compelling its removal.

40. **Foci of Development of Gonococci.**—Janet is convinced that the gonococci in the urethra are being constantly washed out while the colonies are inhibited in their growth by other germs and by a certain degree of local vaccination from phagocytosis by the leukocytes and by the columnar epithelium lining the urethra. Treatment therefore aiming to destroy the gonococci only as they lurk in the urethra does not reach the main focus of the germs. The trouble is not a gonorrheal urethritis but a constantly renewed infection of the urethra from a focus elsewhere. The foci are in the interstices in the adjoining tissues and in the female genital organs; here chronic gonorrhea may flourish indefinitely. As these extra-urethral foci are more numerous and more frequent in women, chronic gonorrhea is more prevalent and more serious in them than in males.

Revue Médicale de la Suisse Romande, Geneva

October, XXXII, No. 10, pp. 665-716

41 Artificial Pneumothorax in Treatment of Pulmonary Tuberculosis. Jaquerod. Commenced in No. 9.
42 Hypertrophy of the Prostate; Nineteen Cases. G. Cuttat.

Archiv für klinische Chirurgie, Berlin

CXIX, No. 4, pp. 879-1124. Last indexed Dec. 21, p. 2290

43 Oil in Abdominal Surgery. (Das Oel in der Bauchchirurgie.) E. Schepelmann.
44 *Fascia Grafts. (Klinische Erfahrungen über freie Fascientransplantation.) W. Denk.
45 First Prothesis After Resection of Lower Jaw. (Immediatprothesen nach Unterkieferresection.) H. Pichler and E. G. Oser.
46 Distribution of Pathogenic Germs in the Skin. (Vertheilung der pathogenen Keime in der Haut.) Y. Noguchi.
47 Fracture of Upper End of the Tibia. D. Salomon.
48 *Vein Anesthesia for Operations on Hand and Foot. (Anwendung der directen Venenanästhesie bei den kleineren subcutanen Venen zu Operationen an der Hand und am Fuss.) E. Kaerger.
49 *Vein Anesthesia in 375 Cases. E. Hayward.
50 Local Anesthesia for Practical Use in Hospitals. D. Eberle.
51 Nail Extension After Fracture. G. Magnus.
52 Appendicular Peritonitis from Bacteriologic Standpoint. E. Haim.
53 Ultimate Outcome After Removal of Semilunar Cartilages in the Knee. (Dauerresultate von Meniscusexstirpationen bei Meniscusverletzungen.) E. Glass.

44. **Fascia Grafts.**—Denk has used a free flap of fascia to close a gap in the dura mater in nineteen cases; to cover joint surfaces after breaking up ankylosis in two cases; also to reenforce sutures in three, and to bridge defects in the penis in three others. The fascia heals in place almost invariably after an aseptic operation; even in an infected field it is liable but not certain to heal in place. The fascia must be in contact over an area as broad as possible of well-nourished tissue, and there should be no tamponing. There is only remote danger of hernia of the muscle at the point where the fascia graft was taken, and if it occurs it can be easily corrected.

48. **Vein Anesthesia.**—Kaerger reports from Bier's clinic the application to operations on hand or foot of Bier's technic for vein anesthesia. (It was described in The Journal, May 1, 1909, p. 1466.) He injected the anesthetic into the superficial veins of the thumb, back of the hand or other circumscribed area on the hand or foot, winding a bandage around the part to shut it off from the rest of the circulation in the hand or foot. A bandage around the wrist and distal part of the palm, for instance, confined the anesthetic to the thumb when he injected it into the main vein at the root of the back of the thumb. When the back of the hand was to be anesthetized, the constricting band was wound around the wrist and base of the thumb. He has applied the method in sixteen cases on the foot and in 134 on the hand or fingers. No untoward by-effects were observed in any instance. The anesthesia thus induced proved absolutely reliable. Hayward reports from the same clinic a total of 400 cases of various kinds in which this method was applied, and cites others who have given it a trial. All laud its reliability and absolute harmlessness. The age has no influence on the results; even constitutional disease is not regarded as a contra-indication. The method of vein anesthesia is regarded at the clinic as having realized its promise, as it renders general anesthesia quite unnecessary for operations on the limbs, while its reliability, freedom from danger and the extent of the anesthesia induced, rank it far above other methods of analgesia for the extremities.

Deutsche Zeitschrift für Chirurgie, Leipsic

November, CXIX, Nos. 5-6, pp. 369-590

54 *Treatment of Tuberculous Spondylitis at Leysin, Switzerland. E. Straube.
55 Surgery of the Thoracic Duct. O. Warschauer.
56 Development and Disappearance of Lymph-Nodes. (Kritische und experimentelle Untersuchungen über das Entstehen und Verschwinden von Lymphdrusen.) S. B. de Groot.
57 Pseudarthrosis After Fracture of the Ankle. (Fractura malleoli interni non sanata.) F. Bahr.
58 *Resection of Posterior Spinal Roots for Herpes, Mal perforant, Hyperchlorhydria and Membranous Colitis. (Ueber einige neue Indikationen der Durchschneidung der hinteren Wurzeln.) R. Leriche.
59 Trauma of the Urethra. (Traumatische Ruptur der Urethra mit vollständiger Ablösung der Blase von der Symphyse.) L.Süssenguth.
60 Dislocation of the Clavicle. (Zur Behandlung der Clavicularluxationen.) A. W. Meyer.
61 Arteriovenous Anastomosis in Treatment of Gangrene; Three Cases. (Die erfolgreiche Behandlung der angiosklerotischen Ernährungsstörungen durch die arterovenöse Anastomose.) Wieting.
62 Technic of Appendectomy. A. Narath. (Soll im Intermediarstadium der akuten Appendicitis operiert werden?) A. Fromme and T. Haagn.
63 Inguinal Hernia. (Zur Behandlung der indirekten Leistenhernie.) H. J. Lameris.

54. **Heliotherapy of Tuberculous Spondylitis.**—Straube was a patient at Rollier's sanatorium for surgical tuberculosis among the Swiss mountains for nine months during 1910 and returned there for two months' study of the method of treatment in 1912. She thus writes from extensive personal experience and emphasizes a number of the details of the technic. As previously mentioned in THE JOURNAL, May 25, p. 1646, and June 15, p. 1885, Rollier's treatment is by a combination of nourishing food, out-of-door life and total exposure to the sunlight. She gives the details of ninety-six cases of tuberculous spondylitis with several illustrations showing particularly the remarkable strengthening of the muscles of the back by the method of reclining adopted. The patient lies on his stomach with a hard wedge-shaped cushion raising the upper part of the trunk. The patient thus resting lightly on his elbows, is able to read if a book is placed before him. Both children and adult patients lie in this position for several hours a day and find it agreeable after becoming accustomed to it, actually enjoying more freedom of movement than when reclining in the dorsal decubitus. Both the intercostal and vertebral pains disappear in this case and there is no danger of bed sores over the vertebral processes. Straube lay in this position for seven or nine hours a day during the first months of her course and the muscles in her back, atrophied from twenty-two years of orthopedic corsets, were soon strengthened so that she now can be about at work for hours at a time without any support. Ventral position is applied in all cases of middle and low dorsal spondylitis. It not only prevents development of a hump but corrects already existing deformity as is conclusively shown by two photographs of a girl, a pronounced hunchback, in whom fifteen months later the spine was of normal outline. The course of treatment ranged from six to three and one-half years, being a year or a little less in the great majority of cases and only 12 per cent. of the patients required longer than eighteen months. The cases are classified according to course, complications, etc., with the ultimate outcome. Of the thirty-seven children 84 per cent. were cured and 11 per cent. much improved; one child with fistulas and various complications died. Of the fifty-nine adults 78 per cent. were cured and 15 per cent. improved, while 5 per cent. have died. The prospects of complete recovery are much more favorable in case of abscess formation so long as it has not broken outward. The four deaths were all in patients with fistulas.

58. **New Indications for Resection of Spinal Roots.**—Leriche has performed Förster's operation in seven cases, three times on account of tabes, three times for paralysis agitans and once for the intense pains of recurring intercostal herpes. He has found 124 cases on record, including sixty-two for gastric crises and twenty-one for neuralgia. The results have been so encouraging, he says, that he thinks it is time to apply the operation to cure other rebellious trophic disturbances and his success in his case of herpes confirms his views. The slightest contact induced intense pain and there were lancinating paroxysms of pain rendering life unbearable. The immediate cure after resection of the fourth and fifth dorsal roots on the side involved was most striking. It suggests that the same measure might cure rebellious perforating ulcer of the foot which persists after all other measures have been applied, indicating that the trouble originates in the roots rather than in the peripheral nerves. He thinks that section of the fifth lumbar and first sacral root would probably improve the ulceration at once. Obstinate hyperchlorhydria, causing spasms of pain, might be effectually modified by stretching the solar plexus and if this fails severing the fifth to the tenth dorsal roots. The same principle might be applied in certain cases of obstinate mucomembranous colitis displaying the characteristics of neuritis of the abdominal sympathetic and not to be explained by any other findings in the abdomen.

Münchener medizinische Wochenschrift

November 26, LIX, No. 48, pp. 2601-2656

64 The Thymus as Leukocyte Producing Organ. (Die Thymus des erwachsenen Menschen als Bildungsstätte ungranulierter und granulierter Leukozyten.) F. Weidenreich.
65 *The Lymphatic Constitution. (Die Diagnose des Status thymolymphaticus.) H. Schridde.
66 *Serotherapy of Skin Diseases. (Erfahrungen über Behandlung Hautkranker mit Menschenserum.) W. Henck.
67 *Treatment of Cholera with Transfusion and Permanganate. (Zur rationellen Therapie der Cholera asiatica.) R. Emmerich.
68 Parathyroid. L. Jacob.
69 *Wage-Earners' Insurance in Germany. (Die Arbeiterversicherung in Deutschland, ihre sozialhygienische und sozialpolitische Bedeutung.) F. Zahn.
70 Improved Technic for Salvarsan. (Versuch einer "Richtung" bezw. Anreicherung der Salvarsanwirkung.) V. L. Neumayer.
71 *Treatment of Electric Accidents. (Fall von elektrischer Starkstromverletzung mit tödlichem Ausgang.) W. Sandrock.
72 *Spasm of Intestines from Presence of Helminths. (Enterospasmus verminosus.) Schaal.
73 Endemic Goiter in Bavaria. A. Schittenhelm and W. Weichardt.
74 Great Importance of Bass and Johns' Method for Cultivation of Malarial Plasmodia. G. Olpp.

65. **Criteria of the Lymphatic Temperament.** Schridde has been searching for years to determine the special changes which occur constantly in the condition known as the status thymolymphaticus, and which the physician can recognize on a cursory examination. Discovery of such criteria would warn of the liability to sudden death from slight causes, which is the special danger in this condition. He has had two recent fatalities from this cause after an injection of salvarsan. Both patients were typical examples of the status thymolymphaticus. The main features of the condition are the pale, pasty and flabby skin, the large thymus, swollen lymph-nodes and tonsils and lymphocytosis, but none of these is a constant finding and nearly all may be induced by intercurrent infections or other processes, while only a few of them can be readily detected. But he has found in every case without exception that the follicles at the base of the tongue were invariably materially enlarged. This constant finding in the cadavers and patients examined seems to offer an easy means of recognizing the lymphatic temperament at a glance. When hyperplasia of the lingual follicles is found, careful search should be made for other signs of the status thymolymphaticus. It is most common in blondes, according to his experience.

66. **Serotherapy of Skin Diseases.**—Henck was unable to detect any benefit in the twenty cases of various skin affections in which he applied Bruck's method of venesection plus saline infusion to free the blood of toxins. Better results were obtained with intravenous injection of normal human serum according to Mayer and Linser. This proved effectual in a number of cases of chronic obstinate itching affections, especially urticaria, strophulus in infants and senile pruritus. Only transient benefit followed in pemphigus and similar skin affections, while psoriasis and eczema in adults were not modified by the serotherapy. He has made about 350 injections in forty patients, injecting 10 c.c. of the centrifugated and defibrinated blood once or twice a week.

67. **Treatment of Cholera.**—Emmerich states that war, cholera and famine have combined to make the catastrophe in Turkey more terrible, and that those must act quickly who have anything to offer that promises relief of any of the misery of the nation that is now fighting with its last reserves of energy. For this reason he reiterates anew his views in regard to the importance of free nitrous acid and nitrates as causal factors in the symptoms of cholera, and calls attention to L. Rogers' curative treatment based thereon (reported in the *British Medical Journal*, 1910, p. 835). He reiterates here that in the mildest cases of cholera one-third of the blood fluid is drained out of the system, and two-thirds in the severe cases. The alkaline rice water effusion is poured out into the digestive tract to neutralize the free nitrous acid formed by the cholera germs from the nitrates in the food. The alkaline effusion transforms the free acid into the comparatively harmless sodium salt and washes out the gastro-intestinal tract in the diarrhea and vomit. Treatment should aim to restore the fluid and alkalies lost in this copious outpour of alkaline effusion. Rogers regards the specific gravity of the blood as the guide; when it is 1062 or over he injects 3 or 4 liters of a hypertonic salt solution (7.8 gm. sodium chlorid 0.4 gm. potassium chlorid and 0.26 calcium chlorid to the liter of water). This is supplemented by heart tonics

and epinephrin to combat the drop in blood-pressure from the toxic action of the absorbed nitrites. The primary cholera toxin is neutralized by permanganates, especially calcium permanganate. Rogers' patients drink copiously of a 0.1 or 0.5 per thousand solution until they have taken up to 3 gm. in two days. Emmerich has found that the permanganate becomes transformed in the stomach and intestines into a colloid hydrated manganese dioxid and that this colloid oxidizes the nascent toxic nitrous acid into the harmless nitric acid, and he proposes to give the colloid directly as a routine measure in cholera. It is easily prepared by the action of potassium permanganate on gelatine. The dark brown solution keeps well and can be given freely, well diluted and rendered slightly acid with hydrochloric acid. Rogers has reported that the mortality of cholera at Calcutta dropped, under these measures, from 59 to 23.3 per cent., and Emmerich is convinced that the use of the gelatine will still further reduce the mortality. In treatment of cholera, the nitrous acid content in vomit, stool and urine should be determined with Gries' reagent and the specific gravity of the blood and the blood-pressure should also be supervised daily, to permit transfusion of the hypertonic salt solution at the proper moment. Emmerich adds that abstention from nitrate-containing food is the main point in prophylaxis, and, on suspicion of incipient cholera, sipping a 1 per thousand solution of amidosulphonic acid which almost instantaneously transforms nitrous acid into free nitrogen.

69. **Wage-Earners' Insurance.**—Zahn's article was read at the recent International Congress on Hygiene and was summarized in The Journal, Oct. 19, 1912, p. 1483.

71. **Electric Accidents.**—Sandrock suggests that lumbar puncture might prove a life-saving measure in cases such as the one he reports, in which the head had come in contact with a live wire. The young man's skull bulged at various points and the skin of the face was swollen. No measures were applied in treatment except the care of the superficial burns and the young man died in the evening without regaining consciousness. Necropsy revealed comparatively slight injuries of the internal organs and brain, suggesting the possibility that the paralysis of the respiration center might have been the result of compression from a sudden increase in the amount of cerobrospinal fluid. Jellinek has reported cases which suggest this possibility and that lumbar puncture might relieve. Sandrock advises several repetitions of the puncture, drawing only small amounts at a time. With cerebral edema a decompressive trephining operation would be indicated.

72. **Enterospasm from Helminths.**—In Schaal's case a woman of 36 presented symptoms suggesting a possible gastric ulcer. After two weeks of medical measures the symptoms became so severe, with collapse, that the assumed ulcer was supposed to have perforated. An exploratory laparotomy showed nothing abnormal in the viscera except that one loop of the jejunum was contracted for a distance of 25 cm. This stretch felt hard like a pencil at first but then relaxed and an ascaris could be felt inside. Swain has recently reported in England some similar cases of enterospasm from ascarides. In a case of tuberculous peritonitis in a boy of 8, ascarides repeatedly appeared in a fistulous opening into the bowel. Even a single ascaris may induce violent reflex spasm, but the discovery of ascarides in the stools by no means proves that the ileus or other symptoms observed are due exclusively to the helminths.

St. Petersburger medizinische Zeitschrift

November 28, XXXVII, No. 22, pp. 325-338

75 Experimental Research on Reabsorption of Fats and Lipoids. E. S. London and M. A. Wersilowa.
76 Biology of the Blood. (Zur Biologie der roten Blutkörperchen, Blutstäubchen und Blutplättchen.) H. Pander.

Wiener klinische Wochenschrift, Vienna

November 28, XXV, No. 48, pp. 1897-1932

77 *Campaign Against Uterine Cancer. (Vorschlag zur Förderung der Frühoperation bei Gebärmutterkrebs.) O. Frankl.
78 *Hypertrophy of the Parotid Gland in the Obese. (Parotisvergrösserung bei Fettleibigen.) H. Sprinzels.
79 *Albumin in Sputum. S. Aes-Nagy.
80 Cretinism in District of Austria. (Die Tostenhuben in der Gemeinde Sirnitz in Kärnten.) A. K. v. Aichbergen.
81 *Prophylaxis of Infection from Gunshot Wounds. (Zur Frage der infizierten Schrotschlussverletzungen.) G. Schmidt.

77. **Campaign Against Uterine Cancer.**—Frankl states that the cancer of the cervix in 1,007 cases at Schauta's clinic at Vienna was in an incipient, that is, strictly localized, stage in only thirty-four instances, 1901 to 1912. In the first seven years of this period there were only fourteen, but eight patients in this last group have been free from recurrence to date, over five years. This material confirms anew that a permanent cure is the rule in the early cases, and he declares that greater efforts should be made for the early discovery of cancer of the cervix. He urges the education of young physicians, midwives and others in the importance of suspecting cancer, and that arrangements should be made by which a histologic examination of scrapings should be within the reach of every practitioner, free of charge. Central stations for examination of scrapings and repeated appeals to practitioners at large and in particular, with convincing arguments, would certainly lead to the earlier detection of malignant disease. The number of women with atypical hemorrhage and suspicious local findings renders it necessary for every practitioner throughout the country to be able to determine the true nature of the disturbance as a common routine measure.

78. **Enlargement of the Parotid Gland in the Obese.**—Sprinzels is convinced that it is more than a mere coincidence that he has found the parotid gland symmetrically enlarged in thirty-three obese male patients; in eighteen the mammary glands also showed considerable enlargement. He never found this hypertrophy of the parotid gland in persons whose corpulence was general and merely a sign of being unusually well nourished. The parotid enlargement belongs to the type of true obesity in which the fat alone is present in undue amounts and is mostly restricted to the face, breast and abdomen, while the arms and legs are almost lean in comparison. These findings suggest that the parotid gland has something to do with the anomaly in metabolism responsible for the obesity.

79. **Albumin in Sputum.**—Nagy examined the sputum of sixty patients with pulmonary tuberculosis and a number of healthy controls. He found albumin present in some of the tuberculous and absent in others, showing that determination of the albumin has little importance for the practical diagnosis.

81. **Prophylaxis of Infection from Gunshot Wounds.**—Schmidt insists that the paper and plugs in cartridges should be thoroughly sterilized before they are offered for sale.

Zentralblatt für Chirurgie, Leipsic

November 30, XXXIX, No. 48, pp. 1633-1664

82 Needles to Aid in Locating Foreign Bodies in Soft Parts. (Zur Technik der Fremdkörperextraktion: Orientierungsnadeln.) H. Freund.
83 Bone or Periosteum Flap for Gap in Skull or Dura. (Ersatz von Schädel- und Duradefekten.) F. Berndt.
84 Suspension of Wandering Kidney from Rib. (Zur Operation der Wanderniere.) A. Narath.

December 7, No. 49, pp. 1665-1696

85 *Anastomosis Between Liver and Intestine. (Hepato-cholangioenterostomie.) H. J. Lameris.
86 *Feeding the Patient His Own Bile or Small Intestine Content in Case of Debilitating Loss Through Fistulas. (Verwertung von Fistelgalle und Dünndarminhalt aus hohen Dünndarmfisteln im Haushalt des Organismus.) Schmilinsky.

85. **Anastomosis Between Liver and Intestine.**—In removing a tumor in the cystic and common bile ducts and encroaching on the liver in a man of 44, such a gap was left in the biliary passages that the stumps could not be brought together. Lameris cut a piece 2.5 by 6 cm. out of the margin of the right lobe of the liver, arresting the copious hemorrhage with the actual cautery. An opening in the side of a loop of small intestine was fastened to the raw surface of the liver and a drain left in the stump of the hepatic duct for nearly a month and then removed. The patient, by the end of two months, had entirely recovered and was free from jaundice; the stools were apparently normal and the man was able to resume his occupation. He succumbed eight months later to metastasis of the tumor and necropsy revealed

that new biliary passages had formed at the anastomosis, 'en small openings being found at the point of junction of the liver and intestine. They had all the characteristics of biliary passages and had apparently functionated satisfactorily for eight months, until death.

86. **Refeeding of Digestive Juices Lost in Fistula.**—Schmilinsky reported in 1910 the case of a patient gradually dying from loss of practically all her bile through a postoperative fistula. He poured back into the stomach twice a day through a funnel and tube about 400 c.c. of the bile collected as it ran from the fistula. This was kept up for two months without by-effects, the patient recuperating until the fistula could be corrected. In a more recent case after an operation for appendicitis in a boy of 12 there was complete ileus. The pus in the pelvis was evacuated and a high loop of small intestine was fastened to the skin. Through this fistula the contents of the intestine escaped constantly, with progressive debility notwithstanding ample ingestion of food. A Witzel fistula was then made in the transverse colon near the hepatic flexure and the contents of the small intestine, well mixed in a dish, were injected through the Witzel tube into the large intestine, with saline. The stool by the anum was after this of normal consistency and the general condition improved remarkably. The lad was tided along in this way for two weeks when conditions in the intestines returned spontaneously to approximately normal and the artificial anus could be closed; the trouble had probably been paralysis of the intestines from localized peritonitis. It is not only the loss of fluid and nutrients which debilitate so rapidly the patients with a fistula high in the small intestine, it is also the loss of valuable products from the liver, pancreas and glands of the small intestines. In normal conditions these products are reabsorbed by the intestinal mucosa and are thriftily returned by the blood to their original sources for further utilization. Nutrient enemas do not answer the purpose in such cases; the contents of the small intestine represent a norishment prepared by the body in its own "kitchen." He thinks it is better to inject the contents into the colon rather than into the rectum as they might irritate the latter. The small intestine contents might be diverted into the colon at the first operation, or the bile might be reinjected through a jejunostomy.

Zentralblatt für Gynäkologie, Leipsic

November 30, XXXVI, No. 48, pp. 1601-1640

87 Moisture Collecting in Rubber Gloves. (Der Handschuhsaft: Klinische und bakteriologische Beiträge zur peritonealen Wundinfektion.) H. Hellendall and W. Fromme.
88 Instrument Perforates Uterus and Pulls Down the Tube. (Ueber Uterusperforation mit Tubenherabzerrung.) F. Eberhart.
89 Pregnancy in Uterus with Myoma the Size of Adult's Head. S. S. Cholmogoroff.

December 7, No. 49, pp. 1641-1680

90 Cytologic Examination of Pus Unreliable for Diagnosis of Gonorrheal Salpingitis. A. Wolff.
91 *Technic for Classic Cesarean Section with Uterus Infected. A. Mueller.
92 The Field of Gynecology More Than Merely the Organs in the Lower Abdomen. (Was ist Frauenkunde?) M. Hirsch.

91. **Cesarean Section.**—Mueller is loyal to the classic technic in aseptic cases. Even when the uterus is found infected he states that it is possible to prevent the spread of the infection by the technic which he has applied in two cases. The principle is the same as in extraperitoneal cesarean section, as he walls off the abdominal cavity. On opening the uterus and finding the membranes green, he covered the abdomen, the lips of the wound and the uterus itself with compresses and then turned the uterus over to the right, allowing the waters to escape. He then wiped out the interior of the uterus with sponges dipped in 92 per cent. alcohol until the cavity was quite dry. He also wiped off the outside of the uterus with the alcohol. The uterus contracted while this was being done, suggesting that this might prove useful to stimulate the uterus to contract even in the clean cases. He then tamponed the cavity toward the vagina and sutured the wound with button sutures in three tiers. He then formed a sheath-like roof over the wound out of the parietal peritoneum, fastening it first to the fundus and then around the wound, thus completely walling off the wound and its vicinity from the open abdominal cavity. He then covered all that was left exposed of the surface of the uterus with iodoform gauze, the end brought out through the lower angle of the wound and the peritoneum was sutured above it and then the rest of the abdominal wall. The third day he removed the strip of gauze and a little pus and one suture came with it, after which the wound healed. The tampon in the uterus was also removed and three days later the discharge became fetid for the first time but, after the uterus had been rinsed and disinfected, healing was soon complete. Six months later the uterus was found small and movable. He commends this technic as having all the advantages of the classic cesarean section while it permits the proper management of the case if surprised by discovery of infection.

Gazzetta degli Ospedali e delle Cliniche, Milan

November 26, XXXIII, No. 142, pp. 1489-1496

93 Transmission of Bovine Tuberculosis to Man. (Gli errori di valutazione della transmissione della tuberculosi bovina all'uomo.) E. Bertarelli.

November 28, No. 143, pp. 1497-1504

94 *Increased Experimental Resistance to Strychnin After Castration. (Ancora a proposito della castrazione e sostanze convulsivanti.) T. Silvestri.

December 1, No. 144, pp. 1505-1520

95 Italian Contributions to the Study of the Relations Between Human and Bovine Tuberculosis. E. Bertarelli.
96 *Secondary Septicemia in Convalescence from Typhoid; Two Cases. (Le setticemie secondarie nella convalescenza dell' ileo-tifo.) A. Bizarri.

December 3, No. 145, pp. 1521-1528

97 Mineral Waters in Pediatrics. (Infanzia e crenoterapia.) G. E. Senzi.

94. **Castration Enhances Resistance to Strychnin.**—Silvestri ascribes to its influence on calcium metabolism the remarkable effect of castration in reducing the sensitiveness to convulsive poisons in laboratory animals. Parhon and Urechia of Bucharest have recently reported research which corroborates the results obtained by Silvestri as published in 1910. The normal animals injected subcutaneously with 0.003 gm. of strychnin per kilogram died in about twenty-one minutes, while the castrated animals had entirely recovered by the third hour. Silvestri's hypothesis of hypercalcification consecutive to castration is sustained by the experiences recently related by various writers on the prophylactive and curative action of large doses of calcium salts in regard to strychnin and tetanin, nullifying the effects of the minimal fatal dose of these substances.

96. **Secondary Septicemia Simulating Typhoid Relapse.**—Bizzarri declares that mixed infection is much more common in typhoid than is generally realized, and that the secondary infection may run a very severe course. Ebstein has pointed out that secondary infection should be suspected when the height of the fever, the localization in the intestines and the brain symptoms fail to display the usual correlation. Secondary infections are particularly liable to occur during convalescence, and the natural assumption of a relapse of the typhoid can be disproved only by bacteriologic examination of the blood. This alone permits proper serotherapy and justifies a nourishing diet which would be contra-indicated in case the trouble were really relapse of the typhoid fever. The patient may succumb practically to inanition if the diet is restricted on a mistaken basis, but it takes considerable courage, he says, under these conditions to feed the almost moribund patient with the nourishing food he needs. In his first case a young man convalescing from typhoid developed fever of an atypical course, without roseola or apparent localization, but with neutrophil leukocytosis, and the tetragenus micrococcus was cultivated from the blood. Solid food was gradually resumed and recovery was soon complete. In the second case the *Staphylococcus pyogenes albus* was cultivated from the blood the ninth day after entering on convalescence; no typhoid bacilli could be found in stools or urine. The first symptoms of the secondary septicemia in this case were noted the thirty-ninth day of the typhoid, but under gradual resumption of ordinary food the patient had completely recovered the forty-fifth day after the return of the fever.

Policlinico, Rome

December, Surgical Section, No. 12, pp. 529-570

98 Experimental Resection of the Testicle. (Ancora su la resezione del testicolo.) V. Larnabo.
99 Experimental Kidney Disease. (Sul decorso e sugli esiti di alcune lesioni sperimentali del rene.) B. Agazzi.

Riforma Medica, Naples

November 23, XXVIII, No. 47, pp. 1290-1316

100 *Action of Iodin on the Vascular System. G. Lucibelli.

November 30, No. 48, pp. 1317-1344

101 Pharmacologic Action of Bromin Ions on the Metabolism of Purins. (Sull'azione del Bromo-jone sul ricambio purinico.) A. Jeppelli.
102 Experimental Research on Pharmacologic Action of Salvarsan. L. Ferrannini. Commenced in No. 47.
103 *Kala-Azar in Children; Seven Cases. (Sopra 7 casi d'anemia da Leishmania.) G. A. Petrone.
104 *Improved Technic for Nerve Grafting. (Modificazioni alla tecnica degli impianti nervosi.) C. Barile.

100. **Action of Iodin on Vascular System.**—Lucibelli reviews the recent literature on this subject and then gives a chart of the findings in a healthy young man treated with potassium iodid, and compares this with the tabulated findings in ninety-nine patients with various affections given an iodin salt, generally potassium iodid. The results of tests with the same technic on dogs and rabbits are also given. His conclusions are very favorable in regard to the advantage of small doses over brief periods with free intervals in case of high blood-pressure. In torpid tuberculosis the iodid may be given by increasing doses and continuously, as also with an unduly low blood-pressure when the aim is to whip up the metabolism and raise the blood-pressure.

103. **Kala-Azar in Children.**—Petrone does not apply this name to the disease he has encountered in seven children in Southern Italy, stating that while there are many points of analogy between it and Indian kala-azar yet there are also differences. Chief among the latter is the fact that it attacks mostly children under the age of 4, while true kala-azar in India affects young and old indiscriminately. Petrone knows of only five cases on record of Leishmaniosis anemia in adults. The disease also runs a longer course, generally subacute, lasting from five months to a year or chronic through several years, while true kala-azar generally occurs in an acute form and rarely lasts longer than a year. The Leishman anemia has been experimentally reproduced in dogs and encountered as a spontaneous disease in them while this has never been accomplished in Indian kala-azar. Cultural methods also differ for the germs of each. Until further knowledge is obtained he thinks a distinction should be made between the two diseases.

104. **Technic for Nerve-Grafting.**—Barile has obtained superior results in experimental nerve-grafting by the technic which he illustrates. He cuts a transverse groove in the sound nerve, running two-thirds or three-fourths around its circumference. The paralyzed nerve is cut so that the stump terminates in an inverted acute angle. A suture thread is passed through the tissues on each side just before it is cut, which leaves a thread in each of the pointed tips of the stump. These tips are then drawn horizontally around in the groove on the sound nerve, thus securing very close coaptation as the paralyzed nerve fits into the sound nerve and the threads in the tips are passed through the sound nerve just above and below the groove, each being fastened separately.

Brazil-Medico, Rio de Janeiro

November 8, XXVI, No. 42, pp. 439-448

105 The Spirochaeta Didelphis. (Sobre uma espirochaeta da gamba.) G. Vianna, C. B. de Figueiredo and B. G. Cruz.

Revista de Medicina y Cirugia, Havana

December 10, XVII, No. 23, pp. 661-686

106 Treatment of Mania. (Estudio sobre la mania.) R. P. Vento.
107 The Sweat in Tuberculosis. (Sudor de los tuberculosos.) L. M. Cowley.

Semana Medica, Buenos Aires

November 7, XIX, No. 45, pp. 933-980

108 Intravenous Ether Anesthesia; Two Cases. (Anestesia Descarpentries.) A. Chueco.
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110 *Fracture and Dislocation of the Pelvis. (Bækkenbrud.) J. Jensen.
111 Present Status of Electrocardiography. O. V. C. E. Petersen.

110. **Fracture of the Pelvis.**—Jensen's attention was attracted to this subject by a recent case in which roentgenoscopy revealed an unsuspected fracture in the pelvis which had not caused any objective symptoms. This suggested that the pelvis might be fractured more often than is generally recognized. The records of four Copenhagen hospitals during the last five and a half years show 80 cases of fracture of the pelvis, ascertained by roentgenoscopy, operation or necropsy. The list does not include a number of other cases in which the diagnosis was probable but not certain. In the 25 fatal cases the trauma causing the fracture had had even more serious consequences at other points, except in 3 cases in which the patients succumbed to complications of the fractured pelvis and a weakly child who died from the direct accident. In 7 cases there had been a double vertical fracture of the pelvic ring; in 10 both fracture and luxation or dislocation alone. In 6 cases the pubis alone and in 2 others the sacrum or ilium alone had been fractured. In the 55 clinical cases the pubis was fractured alone in 22 and with the ischium in 7, the acetabulum alone in 5, and the ilium in 9, in 2 the sacrum or ischium alone. In 2 there was double vertical fracture, in 6 fracture and dislocation, and in 2 the latter alone. There were complications on the part of the urinary apparatus in 21 cases including 5 with a fatal outcome. There was retention of urine in 16 cases, but the urine was normal in 5 in this group; there was dysuria in 2 cases; the urethra was ruptured in 3 cases and the bladder also in 3 cases, the latter proving fatal. In only one case during this period had the presumptive diagnosis of fracture of the pelvis proved to be erroneous. Even when the diagnosis of the fracture is beyond question, it is important to locate the exact site by noting the suggillation in the skin or hematoma below, which may be several days in developing. The pelvis should be palpated and examined with the patient reclining on back, side and abdomen in turn, flexing and moving the limbs, the patient sitting down, standing up, twisting and turning. Local tenderness is important but may be due to the contusion alone; the indirect tenderness may subside and the rupture thus escape discovery. A grating on movement of the parts is of rare occurrence. Palpation through the rectum and vagina is an important aid in diagnosis. In a number of the cases the trauma had been so slight that no one thought of the possibility of fracture in the pelvis; in 6 the fracture occurred from a fall in getting out of a street car, in 3 a fall from a bicycle, and in 4 on the stairs; one elderly woman had tripped on the floor. Once realizing that the pelvis can be fractured by a slight trauma, the diagnosis is an easy matter in most cases, but in others it may escape detection by all measures until disclosed by the Roentgen rays. Consequently roentgenoscopy should be a routine measure after contusion of the pelvis. In one case after recovery from a fracture of the skull, persisting pains in the pelvis and limbs were ascribed to a traumatic neurosis or hysteria until roentgenoscopy revealed a fracture of the horizontal ramus of the pubis with vicious callus. In other cases the coincident fracture of the femur masked the fracture in the pubis or acetabulum. In 3 cases the patients were treated at various hospitals for the effects of the contusion before roentgenoscopy cleared up the diagnosis. In 4 cases the fracture had escaped detection and the patients had been crippled for nearly a year or more. Roentgenoscopy may reveal a fracture at first which may heal and cast no shadow after a time. Plenty of time must be given a fracture in the pelvis to heal with good consolidation. The patients have to stay in bed a long time, and this is especially necessary for the young and particularly for young women, to forestall complications in pregnancy. He thinks it probable that many blunders in this respect have been committed, both at home and abroad, as well as in overlooking or disregarding a fracture in this region.

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THE DIAGNOSIS OF GALL-STONE LODGED IN THE COMMON DUCT*

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A gall-stone is apparently a small and insignificant object; yet it is frequently sufficient, as in the case about to be reported, to account for a long, painful and incapacitating illness. This particular stone, removed from the patient's body, marks the difference between previous months of invalidism and present good health.

Clinical History.—The patient, a woman aged 40, was first seen at Lane Hospital Oct. 7, 1912. She had always been fairly well except for occasional attacks of malaria until seven years before, when she began to have attacks of pain in the upper abdomen, ultimately recognized as due to gall-stones. After suffering from these for four years she was finally operated on at her home in Louisiana. She was told afterward that approximately 300 stones were removed, that there was a liver abscess and that gall-stones were found imbedded in the liver. Four weeks after operation she passed gall-stones through the open drainage wound. Six months later, after the wound had healed, she had another attack of severe pain similar to that experienced before. These items are important because they prove that the operator did not find and remove all the stones at the first operation. After this, however, the patient remained fairly well and suffered no more attacks of pain until four months previous to the time that she presented herself at Lane Hospital. Then the present illness began, with a feeling of weariness and exhaustion, gradually increasing jaundice and finally recurring attacks of pain in the upper abdomen that had persisted ever since. For two months she had been in bed most of the time because of her ill health. Her attacks, she said, came irregularly; at times every day, at other times only every week or ten days. In the interval between attacks she had no pain or fever and her skin grew clearer. The site of pain was the pit of the stomach, whence the pain radiated into the back and upward under the right shoulder blade; it was very severe, requiring opiates constantly for relief, was cramp-like and colicky in character and lasted for from two to five hours, depending on how promptly the patient could get the opiate; sometimes she vomited during the attack, but not often; no tenderness or soreness followed.

After the pain ceased, she had a chill, followed by fever, which in turn was followed by sweat, the whole lasting several hours. Following an attack, the stools were always very light in color, the urine very dark, and the skin and eyes a bright yellow, which persisted for only a day or two, provided no other attack came on.

Examination.—Except for a chronic jaundice, a muddy, dirty skin and yellowish conjunctivae, all physical findings were negative. Neither the liver nor the spleen was enlarged. There was no tenderness over the right hypochondrium or the epigastrium. This absence of objective evidence in gall-bladder cases is not uncommon; repeatedly in patients who have come to operation it has been a surprise to find the extent of pathologic change existing in and around the gall-bladder, although before operation no abnormality could be made out.

The laboratory evidence likewise showed only the presence of jaundice, with moderate secondary anemia. The urine was very dark and contained bile; the feces were very light and lacking in bile; the hemoglobin and red corpuscles were slightly reduced, while at the outset the count of white cells was normal, 7,200.

Course.—The next indication was to watch the course of events for a time to see whether or not the patient's story was correct, for, so far, her statement constituted all the data on which we could depend for diagnosis. Fortunately, the incidents of the next few days were in exact accord with what she had told us of her recent illness. At 4 p. m. on the 8th she began to have pain in the epigastrium and right hypochondrium; at 6 p. m., with a rising temperature, she had a chill; by 8 p. m. the fever reached its highest point, 101.5 F.; then with perspiration it rapidly fell during the night and the next morning was subnormal. This group of events, pain, chill, fever and sweat, repeated itself on the 9th and again on the 10th, with a most remarkable periodicity, the paroxysm recurring at almost precisely the same hour each afternoon. Each time morphin hypodermically was required for relief, but in the interval between attacks there was no pain at all. Each paroxysm was followed by decided deepening of the jaundice, manifested in skin, eyes, urine and feces. At the time of the paroxysm on the 10th, when the fever rose to 103.8 F., the leukocyte count was 15,600. After the 10th there were no further violent attacks, but a daily abortive rise of temperature each afternoon, never above 100 F., without severe pain, without chill and without sweat.

Operation.—Convinced by the manifestations described, for reasons that will be discussed later, of the presence of a gall-stone lodged in the common duct, we referred the patient to Dr. Stanley Stillman, who operated October 17. The stone in the common duct was found and removed; the duct above it was greatly dilated; the gall-bladder itself was small, contracted and thickened, but contained no stones. The patient made a prompt recovery and has had no pain since. The jaundice has all disappeared and she is well.

The diagnosis of stone in the common duct depends on several different factors. First in importance comes the patient's previous history. Gall-stones are almost invariably formed in the gall-bladder. There they lie quiescent after their formation, or else they attempt to escape. In either case they give rise to symptoms. These symptoms may be only those of chronic indigestion, due to the hyperchlorhydria reflexly induced, or to mechanical interference with the pyloric outlet by adhesions; or they may be those of recurring painful attacks due to the passage of a stone out of the gall-bladder through the cystic duct and the common duct to the intestine. The patient's previous history thus becomes of considerable importance, giving evidence of gall-bladder disturbance extending over a longer or shorter period of time before symptoms of a different character arise which indicate that a stone has lodged in the common duct.

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* Read before the Cooper Clinical Society, Nov. 4, 1912.

Even when a stone does lodge in the common duct, two possibilities are open: the stone may become fixed or may remain free and movable. If it is fixed, the immediate result is persistent, deep jaundice from blocking of the lumen; but even so there are likely to be remissions from time to time, as some bile occasionally gets past. There is also more or less continuous pain of a dull character, but with exacerbations and acute colicky attacks. Finally there are irregular attacks of chill, fever and sweat, lasting but a few hours, with an apyretic interval. Ultimately a stone becomes movable, by dilatation of the duct above it, even though at first it is fixed.

The movable stone in the common duct gives rise to attacks of intermittent hepatic fever that are characteristic. These were first described by Charcot in 1877 and the symptom-complex still bears his name "Charcot fever." Later, in 1881, Osler described these cases fully and called attention to the significance of their peculiar symptoms. The diagnostic features are the occurrence of attacks of severe colicky pain in the epigastrium or right hypochondrium, radiating along the right costal margin and under the right shoulder blade; coincident with this pain or following it closely there is a chill, rise of temperature and sweat, the whole paroxysm of brief duration and giving rise on the temperature chart to peaks that have been described as "steeple-like;" finally, transitory jaundice follows each attack, with manifestations in conjunctivae, skin, urine and feces. These attacks come irregularly. Between them the patient has no pain, no chills, no fever and no jaundice, except that the skin is likely to remain muddy, sallow and dirty in appearance, even though the yellow tint disappears. With the repetition of attacks the patients gradually lose in weight and strength and their condition becomes one of chronic invalidism.

It is quite important to note that negative physical findings are the rule in these cases, except such as point to jaundice. Particularly is it noteworthy that the liver and gall-bladder are not enlarged; and, in general, it is the absence of discoverable organic abnormalities that is diagnostic, while their presence speaks for other complications or a condition altogether different from the one under consideration.

It remains to ask what other diseases may simulate this characteristic picture produced by stone lodged in the common duct. The one most nearly like it is malaria. In the case reported, as in others observed, the periodicity was remarkable, the chill coming at almost exactly the same hour every day; while the fever and sweat following and the hours of normal temperature intervening between paroxysms made the resemblance very close. But the characteristic pain of biliary colic that forms a part of the attack, the jaundice that follows and the leukocytosis that accompanies it can never be explained by malaria; the blood shows no parasites, and quinin does not cure. Liver abscess causes a dull continuous pain, not sharp attacks of colic; the fever is continuous, the leukocytosis is constant, and the liver is enlarged. Finally, cancer, that specter that always lurks in the background, must be given consideration as a possibility in every case. But cancer, to resemble the picture of stone in the common duct, must either involve the wall of the duct or, originating elsewhere, must press on the duct in such a way as to obstruct it. Chronic jaundice results in either case, variable in degree at different times; but in cancer there are none of the characteristic attacks of colic or of sepsis. The one important point on physical examination is the discovery of an enlarged gall-bladder; for as Courvoisier long ago pointed out, when jaundice is due to obstruction by a gall-stone the gall-bladder is small; but when it is due to cancer of the duct, the gall-bladder is large.

In conclusion, then, the diagnosis of gall-stones lodged in the common duct depends most on history, and though hours must sometimes be spent in eliciting it, the result is often in itself conclusive. The physical examination is of most value in eliminating other resembling conditions. But the final determination of the true nature of the affection comes from careful observation by the diagnostician of the course of events in the case, verifying the patient's own story, and from intelligent weighing and sifting of all the evidence, no matter how it is obtained.

ANOMALOUS INTERNAL CAROTID ARTERY AND ITS CLINICAL SIGNIFICANCE IN OPERATIONS ON TONSILS

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In view of the increasing number of operations on the tonsil because of the focusing of medical eyes on it as a primary source of metastatic infections, because of the discovery of more cases in the systematic inspection of schoolchildren, and because of the popularity of complete ablation of the tonsil in preference to partial tonsillectomy, a timely note of warning should be sounded of the liability of serious if not fatal hemorrhage from wounding a loop of an anomalous internal carotid artery. The following specimen, found in the Anatomical Laboratory of the University of Pennsylvania, serves as a striking example of this:

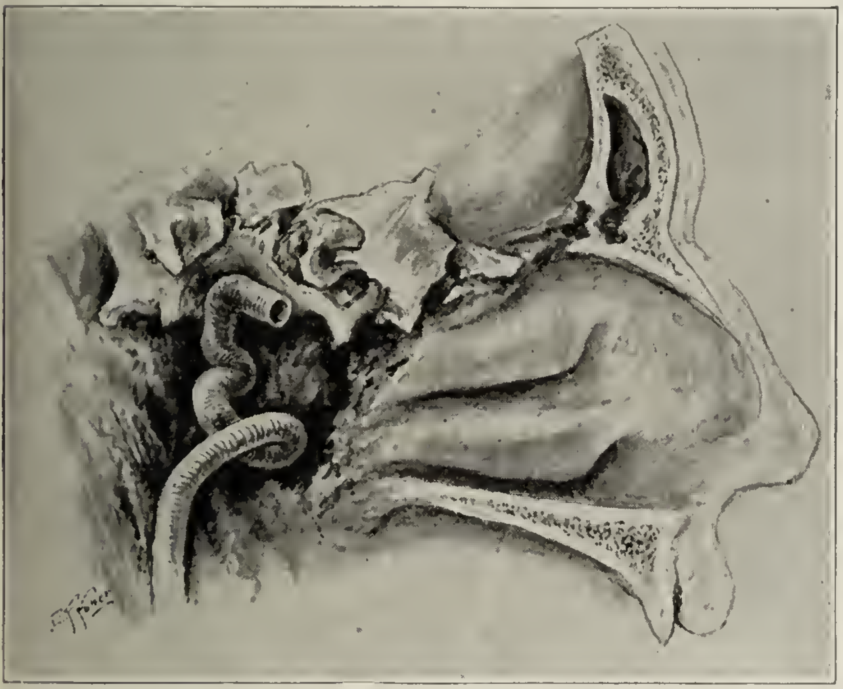
Anomalous Sigmoid Tortuosity of Cervical Portion of Internal Carotid Artery.—Specimen consists of left side of skull containing the internal carotid artery *in situ* and dissected free from surrounding tissues. The artery is of uniform caliber throughout its length, and its walls neither thickened nor calcareous. Beginning at the skull and extending two-thirds of the distance to the bifurcation of the common carotid artery, the vessel shows an S-shaped tortuosity, the bends of which extend at no time more than 1 cm. from a line representing the axis of the normal artery. The artery overreached from its normal position of about 2.5 cm. behind and to the outer side of the left tonsil over toward this organ. The right internal carotid artery was normal. Removed from male cadaver about 60 years of age.

This may be called the red-flag signal in approaching the tonsil. That disturber of Nature's sweet restorer, consecutive postoperative tonsillar hemorrhage, is usually due to wounding the congested tonsillar venous plexus, or enlarged branches of the ascending palatine, tonsillar, or ascending pharyngeal arteries. That bogey of bygone days, the internal carotid artery, while usually protected by its remoteness of 2.5 cm. from the tonsil and additionally by the pathologic thickening of the pharyngeal aponeurosis and superior constrictor, looms up as an actual reality when this great artery loops forward to the tonsil.

Wood[1] describes two examples—one in a girl aged 5, another in a boy aged 7—of this anomaly as follows:

> On the right side of the pharynx, projecting at times almost to the median line, is a large pulsating vessel about the size of a lead-pencil. By forcibly depressing the tongue, this blood-vessel can be seen running from below upward and slightly inward until it reaches a point about opposite the uvula, whence it takes a course slightly outward and upward.

A similar case has been observed by A. Brown Kelly.[2] Sack[3] found in a girl aged 10, who complained of throat trouble of long duration, a strongly pulsating carotid which coursed with a slight curve directly under the mucous membrane from below upward. Thompson[4] mentions a woman, aged 29, who suffered from catarrhal laryngitis, and in whom he found a strongly pulsating, large carotid artery on the left side immediately beneath the mucous membrane. Hulke[5] reports an example of great tortuosity of the common carotid artery simulating an aneurysm, and states that such looping of the carotid has been noticed more often at its upper part just before the artery enters the skull. McBride[6] writes of a case in which the posterior palatine pillar seemed to pulsate, and in which a large vessel was found immediately behind, and a systolic bruit was audible.


Sigmoid tortuosity of left internal carotid. Pharynx removed, but relation to palate can be seen.

As regards sex, Moritz Schmidt[7] states that this anomaly is observed more frequently in women than in men. As to frequency, Demme,[8] who for ten years had looked for vascular anomalies in the pharynx at the request of Waldeyer and Fraenkel, saw, in 10,000 patients, pulsations of the pharyngeal wall in 2 per cent. He has seen anomalous carotids extending as vascular loops distinctly visible on the posterior wall of the pharynx between the vertebral column and the pharyngeal mucosa, although usually this vascular arch lies at the level of the apex of the tonsillar recess, appearing somewhat behind the tonsil from the side and visible as far as the torus eustachius. Often, he says, the coil begins to be distinctly visible at the level of the sinus pyriformis, but rarely extends beyond the fossa of Rosenmüller. He has often observed both internal carotids bent inwardly in such a way that at the pulse-beat both bends approached each other. Objective symptoms noted were tickling in the throat;[3] sensation of a movable foreign body;[9] and tinnitus compared to the hissing of escaping steam.[10]

The practical lesson this report teaches is to "stop, look and listen" before operating on any part of the pharynx. Since this anomaly may be present in any given case, thorough ocular and digital exploration of the pharynx for arterial pulsations must never be omitted. In case operation is indicated in the presence of this anomaly, preliminary ligature of the internal carotid opposite the upper border of the thyroid cartilage should be made. If doubt arises as to whether the anomalous artery is the ascending pharyngeal or the internal carotid, the common carotid artery should be occluded in the same situation with a Matas metal clip. If the artery be discovered and damaged during an operation, control of the situation may be effected by compressing the common carotid artery against Chassaignac's tubercle (the prominent anterior tubercle of the transverse process of the sixth cervical vertebra), and ligation then performed.

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[1] Wood: Am. Jour. Med. Sc., 1902, n. s., cxxiv, 478.
[2] Kelly, A. Brown: Cited by Burnett, Ingals, Newcomb in Diseases of Ear, Nose and Throat, 1901, p. 488.
[3] Sack: Monatschr. f. Ohrenh., 1907, xli, 277.
[4] Thompson: Milwaukee Med. Jour., 1898, vi, 12.
[5] Hulke: Lancet, London, 1893, i, 1385.
[6] McBride: Edinburgh Med. Jour., December, 1896, p. 510.
[7] Schmidt, Moritz: Die Erkrankheiten der oberen Luftwege, 1909, p. 22.
[8] Demme: Wien. med. Wchnschr., 1901, li, 48, 2245.
[9] Kyle: Diseases of Nose and Throat, 1900, p. 479.
[10] Burnett, Ingals, Newcomb: Diseases of Ear, Nose and Throat, 1901, p. 488.

PERSISTENT HYALOID ARTERY *

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There is no doubt that many cases of persistent hyaloid artery are unrecognized, and it is my object, as a general practitioner, to report a case as an aid to the pediatrician or the general practitioner who first sees one of these cases and may be at a loss to account for the complaint of a shadow or dark object floating before the eye, as well as the persistent headache or ocular pain which may accompany this condition. Or, as in the case which I shall report, a young child may shake its head to get the loose end of a persistent hyaloid artery out of the line of vision. There is usually defective vision, although Kranss[1] found the vision normal in both eyes of a colored woman aged 41, who complained of a dark object floating before her eyes, which she had noticed for three weeks. She also had symptoms of accommodative weakness, associated with headache and ocular pain.

In fetal life the hyaloid artery is continuous with the central artery of the optic nerve, generally extending as a single artery through the hyaloid canal to the posterior pole of the lens, where it branches into smaller vessels which supply the posterior vascular sheath of the lens. Instead of continuing as a single artery through the hyaloid canal it may divide several times. The artery does not usually extend to the center of the posterior pole of the lens, but a little to one side.

Fuchs[2] states that of the hyaloid artery normally the only thing that is left in the new-born is a short and slender cord which disappears during the first year of life.

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* Read before the Chicago Pediatric Society, Nov. 19, 1912.
[1] Kranss: Ophth. Rec., April, 1907.
[2] Fuchs: Text-Book of Ophthalmology, Ed. 4, 1911, p. 534.

Shoemaker[3] reported a case of persistent hyaloid artery in both eyes. Ruewandl[4] observed in a man aged 31 not only the stem of the hyaloid artery, but also its distribution on the posterior capsule of the lens in form of a network of fine whitish threads, and the remnants of two blood-vessels of the vitreous branching off from a swelling of the stem of the artery, one upward and outward, the other downward and inward.

There may be other abnormalities present, as in the interesting case reported by Gärtner.[5] The patient was a girl aged 18 who had a bridge-coloboma of the iris and chorioid, accompanied by amblyopia, nystagmus, strabismus, deformity of the cornea with microcornea and microphthalmos.

The various anomalies are classified by Norris and Oliver[6] as follows:

1. The whole artery, with a cellular sheath around the posterior part of it, may remain as in the fetal eye, and continue to carry blood.
2. The artery may persist as a band through its whole length, but does not carry blood.
3. There may be a remnant of the artery attached to the optic disk which ends in a free extremity in the vitreous, and in which there is also an opacity at the back of the lens. The remnant attached to the disk is often a long, thin cord which is seen by the ophthalmoscope to lash about in an undulating way on movement of the eye.
4. The lenticular end of the artery may alone remain, its hindmost end being free and mobile in the vitreous. It is a variety which is rarely encountered. DeBeck[7] could find only eight recorded cases of it.
5. The neural end of the artery remains, the lenticular extremity having completely disappeared. This is the commonest variety of any. With the ophthalmoscope a thin, narrow cord is seen attached by one end to the optic disk, the other end being free in the vitreous. The free end may be knob-like or tapering. It generally oscillates with an undulating motion on movement of the eye, but occasionally is fixed and immobile.
6. The artery may become obliterated, but the sheath may remain as fibrous membranes or shreds of tissue attached to the optic disk filling up the depression normally left in the nerve-head by the divergence of the nerve-fibers.
7. Little rounded bodies of a steel-gray color, which appear to be fluid-containing cysts attached to the optic disk, are occasionally met as a congenital abnormality, and must in some way be connected with the fetal vascular apparatus for the persistent sheath of cystic distentions of the artery itself.
8. Some observers have seen appearances in the vitreous which they have thought pointed to persistence of the hyaline canal in which the artery lies, it and its cellular sheath having disappeared.
9. Many of the congenital opacities at the posterior pole of the lens are probably due to persistence of portions of the fibrovascular sheath of the lens, the vessels of which are derived in the fetal state from the division of the central hyaloid artery.

REPORT OF A CASE

In 1910 I was called to see Miss K. C., aged 13, who had been having persistent headaches ever since early childhood. There never had been any ocular pain. The sight in the left eye was much impaired and if the right eye was covered the patient could read only the large and heavy letters of the headlines of the daily papers, while the small or fine print could not be seen.

The patient also complained of a shadow which kept moving in front of the left eye. This was not so noticeable when using both eyes, but if the right eye was covered it was quite marked.

The father stated that when the patient was a baby, if he would go into the room where she was sitting she would shake her head two or three times before recognizing him. As the patient grew older this passed away.

The past history of the patient is negative. The father is a strong, robust man who keeps a saloon, but is outside most of the time doing mason and cement work. The mother is also in excellent health, but says that she has shadows pass before her eyes if she reads very long or if the eyes get tired doing needle-work. Dr. F. I. Brown examined her eyes, however, and found them normal except for accommodative weakness.

I referred the patient to Dr. Brown, who examined the eyes thoroughly Sept. 15, 1910, and gave the following description of the conditions found:

"The external parts of both eyes are normal except for a mild form of conjunctivitis. Pupil reactions are normal to light and accommodation. Cornea and iris normal.

"Examination of the interior of the eyes shows the right eye normal, and a posterior polar cataract in the left eye.

"In the vitreous chamber I find projecting from the disk a long, slender object which moves freely in the vitreous when the position of the eye is changed. This is attached by the posterior extremity to the optic disk and extends a little more than half way to the posterior capsule of the lens. This condition is known as persistent hyaloid artery and is quite frequent. Its presence lowers the vision of the left eye to 20/200, but vision is slightly improved with a + 2 sphere as her left eye is hypermetropic to that extent.

"The patient has one-half diopter of astigmatism in her right eye, which probably accounts for her severe headaches when she uses her eyes excessively."

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REPORTS OF UTERINE MALFORMATIONS

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Many text-books on gynecology assert that a double uterus, or the absence of the uterus, is a rare occurrence. This has not been my experience. Although my surgical work is confined entirely to private patients, I have seen half a dozen of these anomalies in the course of a few years, so that I can but wonder why in the large clinics embracing the enormous amount of charity and private surgical work, they should be classed as "extremely rare."

These malformations are caused by developmental defects in the early embryonic stage. The vagina and uterus are both developed by the coalescence of the lower two-thirds of the müllerian ducts, and the absorption of their inner wall. If these ducts fail to unite, or the septum is not absorbed, a deformity results to a more or less extent. If the ducts unite and the septum persists there will be a double cavity, but the uterus is normal externally. If the ducts do not unite at all, there will be two separate uterine bodies. The absence of a uterus is said by Kelly and other writers to be an "extremely rare condition." This malformation is caused by the absence or the imperfect development of the müllerian ducts.

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[3] Shoemaker: Ann. Ophth., April, 1906.
[4] Ruewandl: Ztschr. f. Augenh., 1906, p. 245.
[5] Gärtner, C.: Beitr. z. Augenh., 1909, lxxiv, 232.
[6] Norris and Oliver: System of Disease of the Eye, 1897, i, 454.
[7] DeBeck: Persistent Remains of the Fetal Hyaloid Artery, Am. Ophth. Monog., Cincinnati, 1890-1891, iii, 1.

The three following cases seen by me would lead one to conclude that the condition was not so extremely rare:

Case 1.—Mrs. B., of Bessemer, came to me on June 1, 1909, saying a separation from her husband had resulted on account of her inability to fulfil the requirements of married life, and requested that I do something from a surgical standpoint to overcome this deformity. Her past history as to any serious illness was negative. She had never menstruated; her age was 19 years; she had the appearance of a robust, healthy girl. The breasts, labia majora, labia minora and clitoris were normal. The vagina was about 2 inches deep, ending in a blind pouch. Rectal examination disclosed a large mass in the pelvis just posterior to the bladder. Supposing this to be the uterus, I thought that perhaps the vagina could be made to connect with it and advised operation. The patient said that a former attempt had been made to dissect up to this mass from the vagina, but that failure had resulted.

The operation was begun by opening the abdomen, and the mass was found to be post-peritoneal. On incising the posterior peritoneal cavity or covering, I came on the mass, which was covered with fat and was recognized to be a double kidney, with the two ureters opening up into the bladder. These seemed to be about 1 inch in length. On making a search for the kidneys in their proper location I was unable, of course, to find them there. There was nothing that resembled a uterus, ovary or tube. The broad ligaments seemed to come together in the midline. I closed the abdomen without doing anything for the patient, who made a good recovery.

Case 2.—Nov. 17, 1911, a young woman was brought to the infirmary by Dr. Givham. The patient was suffering with a severe attack of appendicitis. Temperature at the time was 103.4 F., pulse 124, leukocyte count 16,000, and there were other symptoms of an acute appendicitis. She had never menstruated. Operation was advised and the patient at once sent to operating-room. The incision was made along the outer edge of the right rectus muscle, and on incising the anterior parietal peritoneum, I came down on a second layer of peritoneum which could be pressed back, and the entire hand and forearm introduced into a very large cavity. On the withdrawal of the hand this peritoneum would come in contact with that lining the abdominal wall. After determining that there were no abdominal viscera in this cavity, I incised the next layer of peritoneum and found the intestines in this cavity which had no posterior peritoneal lining. I began the search for the appendix, which was found in the left inguinal region. A second incision was made in this region and through it the appendix was removed and drainage established, as the appendix was in a bad condition. The search of the abdomen revealed the fact that the uterus, ovaries and tubes were absent in this case.

After convalescence was well under way I made some further investigation and found that the breasts, labia majora, labia minora and clitoris were normal, and that the vagina was only a few inches in depth. I regret that I did not ascertain whether or not the stomach and liver were in the anterior or posterior cavity, but I was so occupied in the lower abdomen that I overlooked the investigation of the upper abdomen. This girl left the infirmary after three weeks.

Case 3.—This was one in which the uterus was absent, and only one ovary was present. Also two testicles were found in the labia majora. A report of this case has appeared in The Journal.[1]

Case 4.—The patient was a married woman, aged 38 years. Figure 1 shows a double uterus which was removed Aug. 14, 1908. The woman had borne four children; at the birth of the last child she had quite a severe infection which left her with the double pus tubes shown in the illustration. The cervix opened into the vagina by two separate openings, surrounded by one common cervical ring. The woman made an uninterrupted recovery.

Case 5.—The patient, a married woman, aged 34, was operated on Nov. 13, 1911. The uteri were bound down in the pelvis and were very tender to the touch. The patient had borne no children, and was of a very nervous temperament. The uteri opened into the vagina by one common cervical canal. One ovary was removed, as shown in Figure 2. The patient made a good recovery, and since operation has been in perfect health.

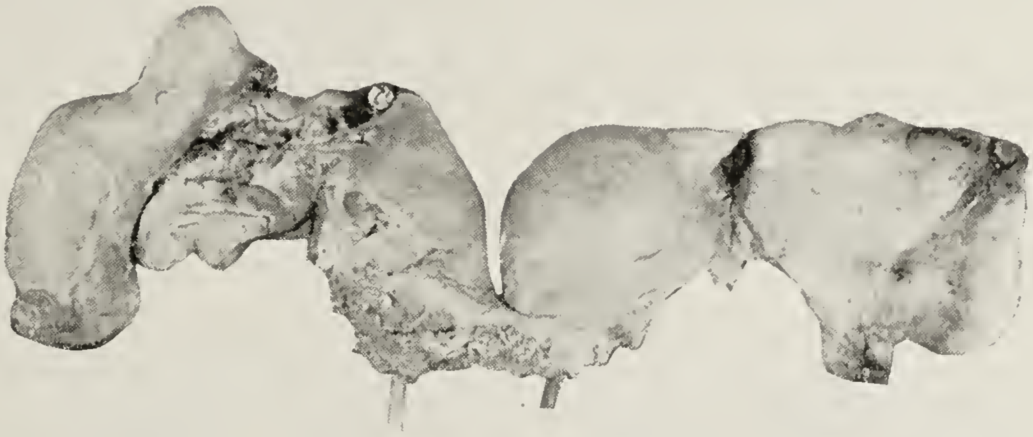

Fig. 1.—Double uterus, Case 4.

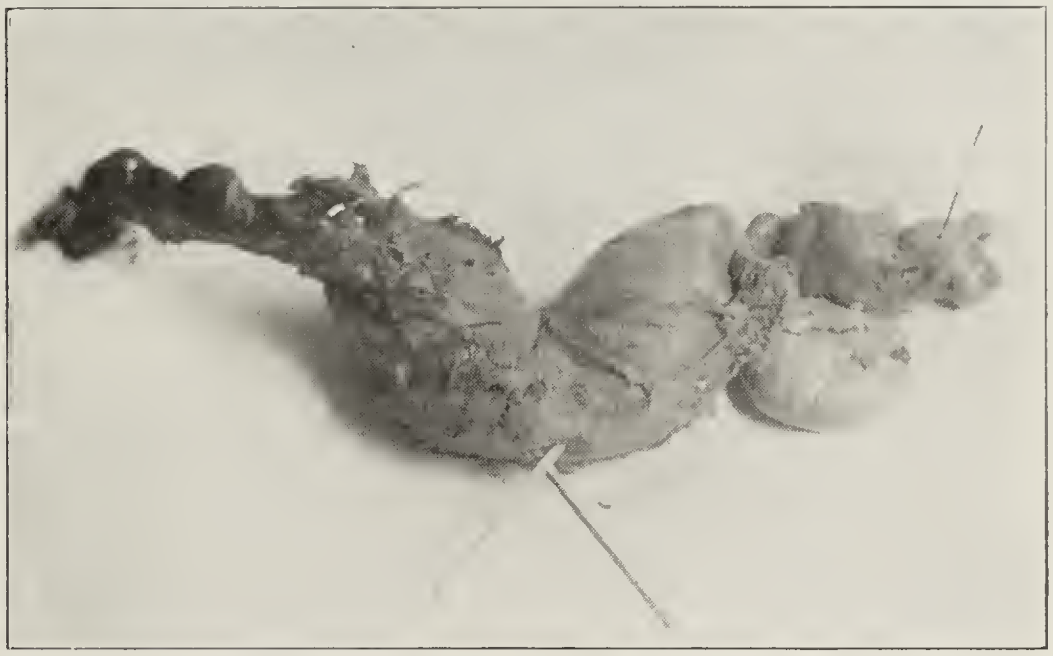

Fig. 2.—Double uterus with one ovary, Case 5.

Case 6.—The patient was an unmarried girl, fleshy, robust and well-developed, aged 18 years, operated on May 19, 1912. Her past history was negative, except that for the past year she had suffered from three attacks of appendicitis, and during this time had indigestion and constipation. Her menstrual history had been normal in every respect, with the exception of a slight pain at the time of the flow. On examination she complained of pain on pressure in the right inguinal region, and I was of the opinion that I could feel a mass in this location. The leukocyte count was 8,500, temperature 99 F. and pulse 116. The diagnosis of appendicitis was concurred in and operation advised. On making a small McBurney incision the first thing I encountered was the omentum, which was perfectly black, together with all the contents of the abdominal cavity. I then found a mass in the right side, extending over into the midline, which I saw could best be dealt with through a median incision, which was made, and two uterine bodies were found with this large mass beneath them, which mass was perfectly black, as were the surrounding tissues. I then suspected the true condition present, and called attention to it: there was a double vagina; one was passing out the menstrual flow; the other, the hymen (?) being unruptured, was retaining it, and the menstrual accumulation was being squeezed out by pressure through the distended vagina. This blood was being taken up by the omentum and the surrounding tissues, which gave to them the very dark appearance. Much of this blood had seemingly become organized on the tissues, and could not be removed. The appendix was found, to be covered with this dark material and inflamed. It was removed. The mass was incised posteriorly, and an enormous amount of clotted blood was removed; the membrane was ruptured at the lower opening of the closed vagina, in order that there might be drainage through the vaginal and abdominal incisions. As to what was best to be done with the omentum and other surrounding tissues it was hard to decide, but I concluded that the best policy was to let them alone, and depend on drainage and nature to care for the problem. The patient was returned to bed and for two days her temperature and pulse ran normal. On the third day the temperature rose to 99.2 F.; pulse, 108, and she began to vomit. Enema was given and bowels moved freely. She continued to vomit and the temperature and pulse continued to rise a little higher, until on the fifth day I decided to open the abdomen again, which was done, and it was found to be full of what seemed to be broken-down blood-clots, and a great quantity of serum, which had become pocketed. The uteri were very dark and were bound down by adhesions. A great quantity of fluid had again collected in the vaginae, which had been drained in two directions. I decided that hysterectomy was the best procedure on account of the appearance of the uteri and tubes, and this was done. The two vaginas were demonstrated to be separate and distinct. The lumina of both tubes were full of the dark material. One ovary only was removed (Fig. 3). The girl died within twenty-four hours from shock and peritonitis.

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[1] Prince, E. M.: A Case of True Hermaphrodism, The Journal A. M. A., April 27, 1912, p. 1278.

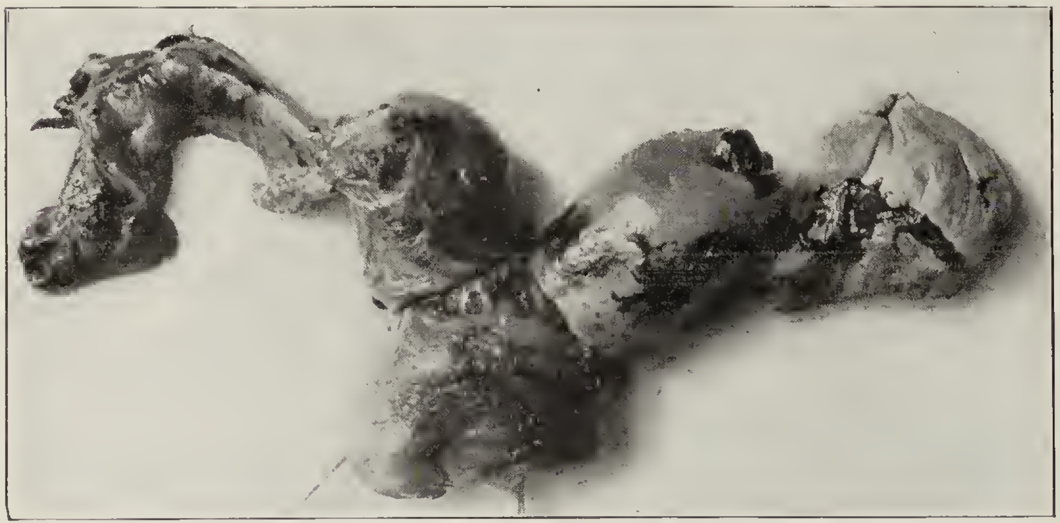

Fig. 3.—Double uterus with one ovary, Case 6.

A peculiar point in these cases is that three patients were without uteri, and three had double uteri.

1127 South Twelfth Street.

Myelitis and Neuritis of Psychic Origin.—M. Bernheim reports in the *Revue Médicale de l'Est*, 1912, xliv, 21, eight cases in which grave organic lesions—neuritis or myelitis—followed severe emotional shocks of various kinds. He maintains that these conditions are caused by auto-intoxication brought about by the psychic disturbance, just as gastritis, enteritis, jaundice or urticaria may be caused in a similar way. He refers to the work of Roux, who has shown that in states of psychic depression creatinin and other animal albuminoids are excreted in abnormally small quantities. These cases must be carefully differentiated from purely hysteric ones in which there is never development of any organic lesion. It is possible, however, that hysteric states may coexist with organic disease.

FAMILY PERNICIOUS ANEMIA

WITH REPORT OF CASES

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Pernicious anemia is no longer to be regarded as a rare disease. It is fairly common, and, as Cabot well says, is most common wherever most carefully searched for. As a family affection it appears rare. In a somewhat cursory examination of the literature I have found but few reported instances of multiple cases of the disease in the same family. Ehrlich and Lazarus in their extensive article on "Pernicious Anemia" in Nothnagel's "Encyclopedia of Medicine" state that there is no evidence in the literature that heredity plays any rôle in the origin of the disease. They add: "The report by Sinkler and Eshner, quoted in all books, of three cases of essential anemia in one family, is so incomplete that it is useless. Schmaltz quotes an observation of Klein's who saw a brother and sister succumb to progressive anemia." They make no further mention of multiple cases in single families. Cabot, writing in Osler's "Modern Medicine," says that he has seen two sisters with the disease in one family and a brother and a sister in another family. Altogether up to that time he had seen 337 cases of the disease. Ellermann[1] refers to Weil and Gilbert as reporting pernicious anemia in two brothers and in the child of one of them. I have not had access to the original article. The most remarkable series of family cases of the disease which I have met was reported by Patek.[2] These are particularly interesting because of the care with which he has been able to follow them over a period of ten years or more. In his series two brothers and a sister died of pernicious anemia; two other sisters of the family had secondary anemia, one of a severe type; a paternal cousin had the pernicious form of the disease, dying of some terminal infection; and an uncle of the family of five referred to above died of what appears to have been the same trouble.

For some years I have been interested in what seemed to be an instance of family pernicious anemia, several cases of the disease occurring in one family. This family lived in the northern part of Vermont. A close professional friend of mine, a relative of the family, had repeatedly called my attention to the number of cases of anemia occurring among its members and I had the opportunity some years ago to make the blood examination in one of these cases and later to perform an autopsy in the same case. Accordingly when I was asked to examine another member of the family nearly two years ago and again found a typical case of pernicious anemia my interest was further stimulated. I have had opportunity for repeated study of this case and some months ago I visited the locality where the family has lived for years in order to see if any evident cause for the condition could be discovered. As will develop in the discussion of these cases, blood examinations were not made in some of them which I have included in the list. We have here to rely on the symptoms, fatal outcome and autopsy findings for the diagnosis. These tally closely with those cases in which blood examinations have confirmed the diagnosis. And further the condition has come to be so well recognized by the local physicians as differing from others which they meet that they refer to it as *the* anemia.

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[1] Ellermann: Ugesk. f. Læger., 1911, lxxiii, 1485.

[2] Patek, Arthur J.: Family Pernicious Anemia, The Journal A. M. A., May 6, 1911, p. 1315.

The family under consideration consisted of the parents, five sons and one daughter. Another son died in childhood of scarlet fever and has not been included here. They are of Scotch descent and belong to the class of well-to-do farmers. The conditions of life, which will be referred to later, were good. Of the eight members of this family, the father and three sons have died of anemia, while the daughter has marked secondary anemia. The mother, though decidedly anemic for years, had symptoms so unlike the others that it is probable that her death was not due to primary anemia. The brief outline of the cases follows:

REPORT OF CASES

CASE 1.—The father T. died when 43 or 44 years old. He was born on the same farm where he spent his whole life with the exception of a short period after his marriage. He was married at the age of 23, and for four years lived about a mile from the home farm. Following this he returned to the old place. From the time he was 19 the patient was never rugged. He had bilious attacks, particularly in the spring, but there was no history recalled of any more serious illness until about four years before his death, when an enlargement of the neck on both sides and in front began. This mass appears to have reached considerable size and remained some months. It did not suppurate. Also for a short time there was an enlarged node in one axilla. These nodules disappeared, but from this time on he was constantly ailing, and was under the physician's care periodically for two years before death. During the latter part of this sickness he developed the slight yellow color and extreme weakness with peculiar sensations in his legs which have characterized all of these cases. He did not emaciate and he developed some edema; he had nosebleed occasionally. He was troubled much of the time with a sore tongue and mouth. Indigestion was present with a dislike for sweets but a craving for cream and other rich foods. The autopsy did not show the cause of death or anything to account for the apparent anemia. This report has been obtained from relatives and from local physicians who knew about the case. Those who attended the patient and made the autopsy are no longer living. I appreciate its lack of scientific accuracy and have included it here simply because it has all the earmarks of this group of cases.

CASE 2.—The preceding patient's wife died at 60. For years she had been emaciated and anemic. Six or eight years before death she was practically blind from double cataracts, and the ophthalmologist who was consulted refused for some time to operate because of the anemic condition. Somewhat later the operation was done with good results. In spite of the apparent anemia in this case, it does not appear probable that it was of the pernicious type. The sore mouth, the repeated bilious attacks, the extreme weakness with difficulty in using the legs and the slight yellow, waxy color which characterized the other fatal cases in this family appear to have been lacking here. On the other hand, the patient was markedly emaciated. The cause of death was undetermined. No autopsy was made.

CASE 3.—F., the second son, was the first of the five children to die. He was a healthy boy though he had the usual children's diseases. He appeared anemic for three years before death. He lived on the home place, worked on the farm a part of the time and for a portion of the time in a saw-mill. After becoming too weak to keep up this laborious employment he went to a small village a few miles away where he was engaged in a store two years before his death, which occurred at 29. His sickness, like that of the other sons, began with bilious attacks in the spring of the year. He, like the others, had a sore mouth, with tongue cracked and so tender that it bothered him about eating. Also he complained about soreness of the anus. He had the usual waxy color and gradually became so weak he could hardly move around, but was confined to the bed for only a few days before death. Here again we lack blood examinations, but an autopsy was performed at which Dr. Jay W. Seaver of New Haven, Conn., was present. Nothing was found at autopsy except the extreme anemia, flabby heart, etc., unless it was chronic nephritis. One of the kidneys was sent to me for examination and I did not find evidence of this condition. Clinically and at autopsy the case was one of fatal anemia with no cause discovered.

CASE 4.—W., the eldest son, a farmer, died at 35 of pernicious anemia. This was nearly twelve years ago. I saw the patient once a few days before death. The picture with its waxy paleness was the typical one of the disease. Although I did not make a physical examination of the patient, I did make a single examination of the blood and urine and a few days later made an autopsy. The urine gave no evidence of nephritis. The blood examination showed red blood-corpuscles 475,000; hemoglobin approximately 14 per cent.; leukocytes 1,840. No nucleated reds were seen.

At autopsy there was found the extreme paleness of the organs characteristic of the disease without any discoverable cause for the anemia. The history is much like that of the others except that the patient was not so rugged. He had the usual diseases of childhood. His father died when he was young and, as the oldest son, he had the care of the work on a large farm. After he was 18 or 20 he could not endure the hard work that the others did, and was pale. For three or four years before death he had considerable bleeding from the nose, one summer having the nostrils plugged much of the time. Nothing else suggesting hemophilia was present in the case. His legs were so weak that for about three years before death he had difficulty in walking. He developed the typical waxy color. He was married three years before death. About a year before death there is a history of his becoming unconscious, and from this time there was permanent blindness in one eye, and the face on that side showed evidence of a slight degree of paralysis of the facial muscles.

CASE 5.—L., a farmer, aged 39, the next to the youngest son, is the patient whom I have had an opportunity to study somewhat carefully. His was a typical case of pernicious anemia with a fatal termination a few months ago. Aside from the acute infectious diseases of childhood he had no other serious illness until about eight years ago. Before this, however, he had had spells of vomiting once a month or six weeks for years and often had sick headache with such an upset, and was worse in the spring. This indigestion may have been due to his continual indiscretion in diet, as he ate much sweet food and always ate in the evening before going to bed. He was a consistently hard worker from 5 a. m. to 7 p. m. When 31 years old, while serving as a juryman at the county seat, he had an attack of vomiting and diarrhea with jaundice. This was in March. That this was more than an ordinary case of catarrhal duodenitis would appear from the fact that he continued to grow worse and was confined to his bed during April, was still sick in May and was poorly all summer (typhoid fever?). He was jaundiced and there was diarrhea during this time. Even during the fall he continued to have attacks of vomiting and diarrhea. The following spring he was still sallow with the same evidences of indigestion. Following this he was limited in his diet by Dr. Seaver and he entirely recovered his health, and appeared quite well for five years. In January or February, 1911, he found difficulty about doing his work. He had to sit down frequently to rest. Without any acute illness he gradually became weaker through the spring until he could walk only a short distance without resting. In May of that year he came to New Haven, where I saw him. He was a strongly built man, not emaciated, with a typical waxy color and was extremely pale and weak. The eyes showed a slight yellowish color of the sclera. Accommodation was normal. There were no enlarged nodes of the neck. The tongue, aside from its anemic condition, was normal. Examination of the teeth showed those remaining in good condition except for one root, but so many of the molars were gone that there were no teeth back of the canines of any use for mastication. The tonsils were not enlarged. The chest was broad with fair expansion. The percussion note was good over the entire chest with breath sounds clear.

Heart: The apex was a little inside the nipple line and the right border did not extend beyond the right edge of the sternum. There was a loud blowing murmur over the whole lower part of the precordial region, heard faintly at the base of the heart and transmitted toward the axilla but not heard distinctly in the axilla. Neither the second aortic nor the second pulmonic sounds was exaggerated. Pulse, 84, regular, quite full, easily compressed. Radial artery not thickened.

The liver did not extend below the free border of the ribs and was not tender on pressure. The spleen was barely felt on full inspiration, and there was a little tenderness on deep pressure over it. The abdomen was not distended. The stomach extended about 3 cm. below the costal margin. There was some tenderness on deep pressure over the abdomen, particularly over the lower part of the descending colon and in the region of the sigmoid flexure. No masses were made out in the abdomen. The kidneys were not felt. There were no enlarged nodes in the groin. The tibiae were smooth. There was no edema of ankles. Tenderness was present on pressure on the under surface of each heel. Knee-jerks were more lively than normal. There was no ankle-clonus.

The first blood examination, made May 20, 1911, gave hemoglobin, 35 per cent.; red corpuscles, 1,420,000; white corpuscles, 6,400. The red cells showed considerable poikilocytosis, and variation in size. No nucleated red corpuscles were found at this examination. The urine examination gave negative results except for the presence of abundant indican. During the summer and fall of that year the improvement under arsenic was rapid. On August 9 the blood examination gave hemoglobin, 85 per cent.; red corpuscles, 5,400,000; leukocytes, 2,900. A differential count of leukocytes gave 16 per cent. eosinophils. The patient appeared and felt well. In the winter and spring recurrence of the symptoms developed rapidly. The blood examination made in December, 1911, and in January, February and March, 1912, again gave the characteristic picture of pernicious anemia with the exception of some eosinophilia. February 18 the hemoglobin was 35 per cent.; red corpuscles, 1,400.000; leukocytes, 2,800. When 300 leukocytes were counted, seven nucleated red corpuscles, chiefly megaloblasts, were seen. The differential count of the leukocytes gave polymorphonuclears, 50.3 per cent.; small mononuclears, 23.3 per cent.; large mononuclears, 13 per cent.; eosinophils, 12 per cent.; basophils, 0.7 per cent.; myelocytes, 0.7 per cent.

March 10, the red corpuscles had fallen to 980,000 and the hemoglobin to 20 per cent. Most of the nucleated cells were megaloblasts. The eosinophils were 5.4 per cent. of all leukocytes. This was the last blood examination made as the patient returned to his home shortly after this and died there in June, 1912. No autopsy was made in this case.

It may be worth recording that one intravenous injection of salvarsan was given without any beneficial results. This was not done on the supposition that the patient had syphilis, as this could be excluded by the history and by a negative Wassermann test. It was used when the arsenic given by the mouth no longer produced satisfactory results in the hope that arsenic in the larger quantity might be of value, and because of the favorable results which appear to have been obtained by its use in the few reported cases in which it has been used in pernicious anemia.

The relative high percentage of eosinophils suggested an examination of the stools for intestinal parasites. Repeated search failed to show any ova present. According to Cabot,[3] however, a relative increase in the eosinophils is not uncommon in pernicious anemia, being reported in 83 of 389 cases as over 7 per cent. He says that fluctuations in the number of eosinophils is rapid and has no known significance. The stools constantly contained large numbers of Gram-positive bacilli, thus agreeing with Herter's[4] findings in this class of cases. The urine did not give evidence of nephritis at any of the examinations but constantly contained a large amount of indican.

Case 6.—A few words should be said about the sister of these brothers. She is 49 years old. She lived at her father's house until her marriage and since then has lived only about half a mile from there. She is well developed but her appearance immediately suggests pernicious anemia. The two examinations of blood which I have made do not confirm this. In June, 1911, the red corpuscles were a little over 5,000,000, the hemoglobin 40 per cent. and the leukocytes 5,800. Her history is interesting. As a girl she was unusually sleepy and this condition has persisted so that when sitting up, even riding, she will drop off to sleep a few minutes in spite of her efforts not to do so. She has always had difficulty about walking ever since she was 18 or 19, but has improved in this respect in the last few years so that now she can do a part of her housework. She has been as pale as now, or paler, for nearly twenty years. She has had three children, all healthy. I did not have an opportunity to study this case sufficiently. A superficial examination of the chest through the clothing showed an enlarged heart with a systolic murmur transmitted to the apex. The urine examination was negative for albumin, indican and casts. An examination of the stools for ova gave negative results. Her condition appears to be a persisting chlorosis or a marked secondary anemia.

The two sons of the family still living, when examined about eighteen months ago, showed no symptoms of the disease. It is noteworthy that they have been away from the old home more than the other members had, one of them living in an adjoining town and the other, though living only about a mile from the home farm, frequently going off for trips to some distance. The younger of these two, who is also the youngest member of the family, now 36, has frequent epistaxis which is hard to control but shows nothing else suggesting hemophilia.

We have then in this family of eight, within a period of thirty years, four deaths, two of them definitely due to pernicious anemia, and the other two, judging by the most evident symptoms and the autopsy findings, also due to the same disease; also another case of marked prolonged anemia, of either the chlorotic or secondary type. All five patients lived either on the home farm or, in one case, a short distance from this nearly all their lives.

I had hoped to find some condition to account for this rare instance of family anemia. The first thought naturally was of intestinal parasites, particularly of the *Dibothriocephalus latus.* No history of tapeworm being passed could be obtained and the examination of the stools for ova in the cases of the fifth patient (I.) and his sister were negative. And, in fact, there is no reason to suspect that this rare parasite should be found in the locality where these cases occurred.

The house occupied by this family was in a valley. On one side of the house the ground was somewhat marshy, enough to provide a breeding-place for mosquitoes, which in fact are numerous. Malaria does not appear to occur there. The water-supply was the chief thing which aroused my suspicions. It came through an iron pipe about 60 rods from a spring located only a short distance from the buildings on a neighboring farm and on a lower level than the stables and yards of this farm. An opportunity for contamination of the water-supply seemed possible. The same supply, however, had been used for many years by two other families living in the buildings just mentioned without any evident injurious results.

One factor stands out prominently in the four fatal cases. That is the evidence of disturbance in the digestive tract. Most of the patients complained of continued sore mouth and tongue. Each had repeated attacks of bilious vomiting. They felt that these came on more often in the spring, and as that is the season of the year when maple sugar is made and eaten in large amount a popular belief obtains locally that the eating of this is in some way connected with the beginning of the disease. Further evidence of intestinal trouble was noted in the case reported at length in which the urine was continually loaded with indican.

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[3] Cabot: Osler's Modern Medicine, iv, 612.

[4] Herter: Jour. Biol. Chem., 1906, ii.

The information obtained regarding the parents of Patient 1 (T.) and his brothers and sisters was rather meager. His father appears to have been very robust, "never sick a day in his life" and was killed by an accident when between 60 and 70 years old. His mother died when rather young after a prolonged illness, probably pulmonary tuberculosis. T. had three own brothers and one half-brother, and two own sisters and one half-sister. Two of the sisters are living and are said to be healthy. The third died when 19 years of age of appendicitis(?). The half-brother died when about 40 years of age, and the cause I have not learned. Of the other three brothers, one is living and well at 76 years of age. One of the other two lived about two miles from T.'s home and died when 60 or 65 years of age. He was sick for about three years, did not emaciate, and appeared to his relatives to be in the same condition that T. was. He had loss of power of his legs. I have not learned whether or not an autopsy was performed. The other brother went to Nebraska when between 30 and 40 years of age. After a period of thirty years he returned to the old home for a visit in the early spring, apparently in good health. Shortly after reaching there he had acute indigestion with vomiting of bile. During the four months he was there he continued to get worse and lost partially the use of his legs. No blood examination was made. His physicians considered the symptoms similar to those seen in the several members of T.'s family and advised his removal to Nebraska where he apparently recovered but died the following spring. The nature of his final illness I have not learned.

In conversation with physicians who cover this district as well as several of the adjoining towns in their practice, I found them confident that this portion of their territory within a few miles of the residence of the family that I have discussed has more unexplained anemia than they see elsewhere, and that this includes the anemia of young women. They will tell you of a man who had the typical symptoms and at autopsy showed nothing except anemia; of another who was sick for four or five years and showed the same waxy picture together with the other usual symptoms; of the minister who came to one of their little villages, drank cistern water, developed symptoms of the disease, and died within five or six months; and so on. I appreciate that this has not been controlled by any modern methods of diagnosis and can only be accepted as of interest in any study of these cases. I know, however, that the most pronounced case of chlorosis that I have met for years was seen recently in a girl in college in Boston who came from this district; also that I saw one other case, that of a man living but a few miles from this farm which I have so frequently mentioned. He was suspected of having the anemia, and a blood examination showed this to be correct (pernicious anemia) and he has since died of the disease with his hemoglobin at least reduced to 10 per cent. The impression which I gained is that there is some ground for the belief of these physicians—that for some reason there is in this particular region an unusual amount of severe anemia and that its cause offers an interesting problem for some one to solve.

I am indebted to Dr. J. W. Seaver, New Haven, Conn., for calling my attention to these cases and affording me an opportunity to study them, and to Dr. C. W. Dustin and Dr. William E. Bailey of Craftsbury, Vt., for courtesies shown, and wish to express my appreciation to them.

309 Humphrey Street.

CORRECTION OF NASAL DEFORMITIES

PARTICULARLY EXTERNAL LATERAL DEFLECTIONS AND DEPRESSIONS WITH OBSTRUCTING DEVIATIONS OF THE SEPTUM

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All degrees of the above-mentioned deformities exist. This paper is concerned with disfiguring deformities only, most of which are combined with serious nasal obstruction. Commonly they have resulted from blows or falls, especially from baseball, football or fist encounters, yet, strangely enough, many unsightly nasal deformities start in infancy, with no record of injury. In the early period, before ossification has made much headway, the frequent habit in a child of lying always on one side of the face may undoubtedly result not only in a marked deviation but also in depression, and the frequent trick of flattening the nose in bed, against the window-pane or the school desk is not without its effect. Then the nasal processes of the superior maxillary bones, the chief buttresses of the nose, may, with advancing ossification, be fixed in a lower plane, in which case the nasal septum must adapt its redundant tissue to its abnormally limited space by single or double lateral curves or by sharp angular deflections, obtruding into and obstructing the nasal passages. With the approach of puberty, the nose enlarges, but the abnormal position of the bone continues and the disfigurement is emphasized to an unsightly and often mortifying degree. It is at this time that the patient often seeks for relief, and although nasal obstruction may be making inroads on the health or hearing, pride as to personal appearance is the moving factor for seeking relief.

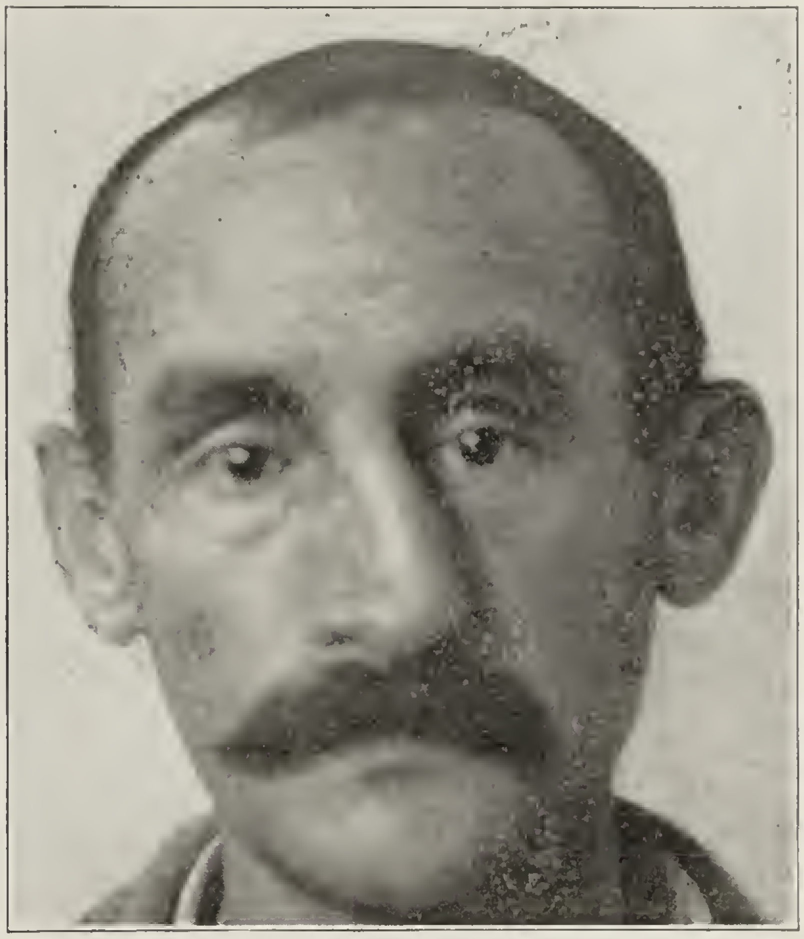
Fig. 1.—Patient with nasal deformity, before operation.

A radical operation such as I am about to describe is likely to give a brilliant result, not only as to the external appearance but to the free nasal breathing. The septum, when once freed from the depressing effect of these lowered flying buttresses which are now to be elevated, is allowed to rise and straighten, thus overcoming at once the deformity of depression and the obstruction of nasal breathing. At the same time a straight alignment is made, and the nose is brought to the middle point. Often, however, a submucous operation on the septum must follow in order to free completely the nasal obstruction.

HISTORY OF THE OPERATION

About seven years ago, during my service in the throat and nose department of the Philadelphia General Hospital, three house patients applied to me in one day, each with a nose unsightly and misshapen, from violent encounters. The time that had elapsed since the accidents ranged from seven to twenty-three years. The men were anxious to have their noses straightened, as they said their personal appearance was against them in getting work. They had been refused operation in two hospitals, which was perhaps natural as they were very unpromising-looking candidates. The fact that they were so earnest, however, induced me to undertake the work.

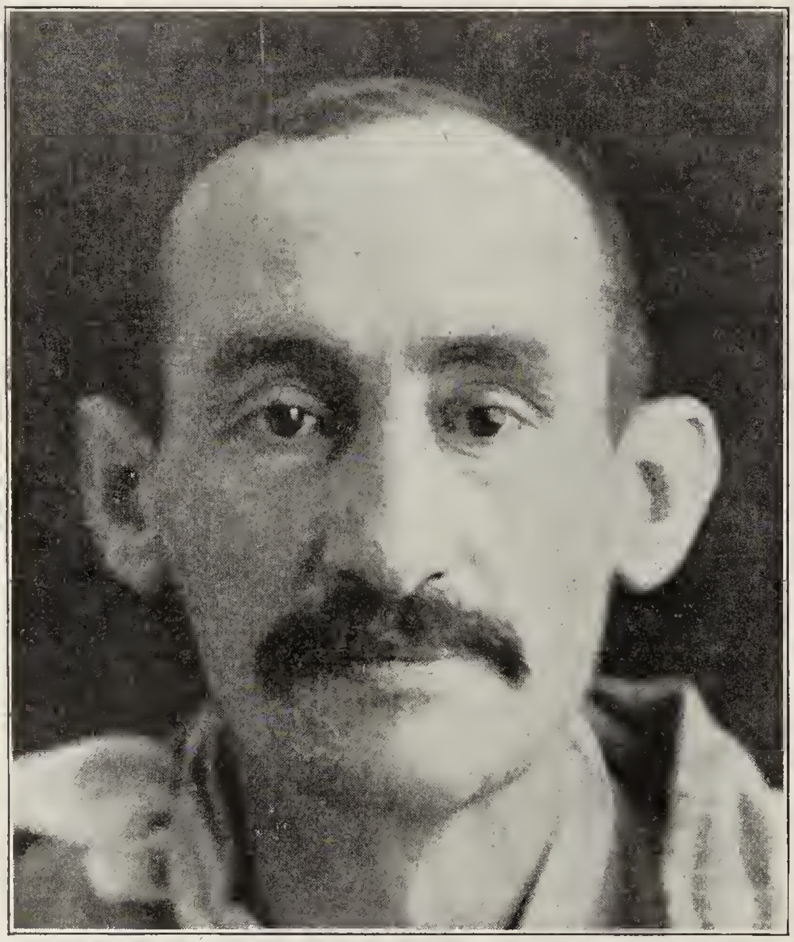

Fig. 2.—Patient shown in Figure 1, after operation.

I then devised the following operation and applied it to the three men at one time; five or six weeks afterward I presented the three patients to the College of Physicians with the description of the operation. Now, after about thirty additional cases, I shall describe the operation in detail.

The operation is indicated in cases in which the external nose departs markedly from the straight line or is depressed on one or both sides, especially if, in addition, the breathing is obstructed by the external deformities, which are apt to produce a deflected septum or to force the turbinates to hypertrophy because of their vicious position. The essential feature of the operation is to cut through the nasal process of the superior maxillary bone, avoiding injury to the lacrimal duct.

TECHNIC

The patient is admitted to the hospital the day before the operation; the urine is examined, the nasal passages thoroughly cleansed, the skin of the nasal region thoroughly scrubbed and left for the night with an antiseptic dressing over the surface. In the morning the patient is etherized, the dressing removed, the skin washed with alcohol and an incision made with a narrow-bladed knife directly over the nasal process of the superior maxillary bone at the point where the elevation which makes the nasal prominence begins. The incision is made parallel with the normal line of the nose, a length of about 0.25 cm. Pressure is made at this point, after the incision, with a beveled chisel, the width of whose blade is about the length of the incision. With a light blow of a mallet the chisel penetrates the nasal process at this point, great care being observed not to go beyond the bone. Without enlarging the skin incision, the chisel may cut the bone as far as desired. After the chisel is withdrawn pressure is again instituted by an assistant, while the operator proceeds in like manner with the opposite side. Then by means of a long-handled, broad-bladed forceps, such as the Ashe septal forceps, or better still if the blades are longer and heavier, such as I myself use, the operator enters the nasal passage with one blade, the opposite blade remaining outside, completing by a fracture the mobility of the nasal process along its entire line, for the upper part of the nasal process can usually be made mobile at the sutures along the lacrimal bone and the nasal bone on the corresponding side. The operator proceeds in like manner with the opposite side. If there is a nasal obstruction through the malposition of the septum, the septum is seized with the broad blade of the same forceps and forced into a correct position, by loosening its articulations without separating them. In many cases the

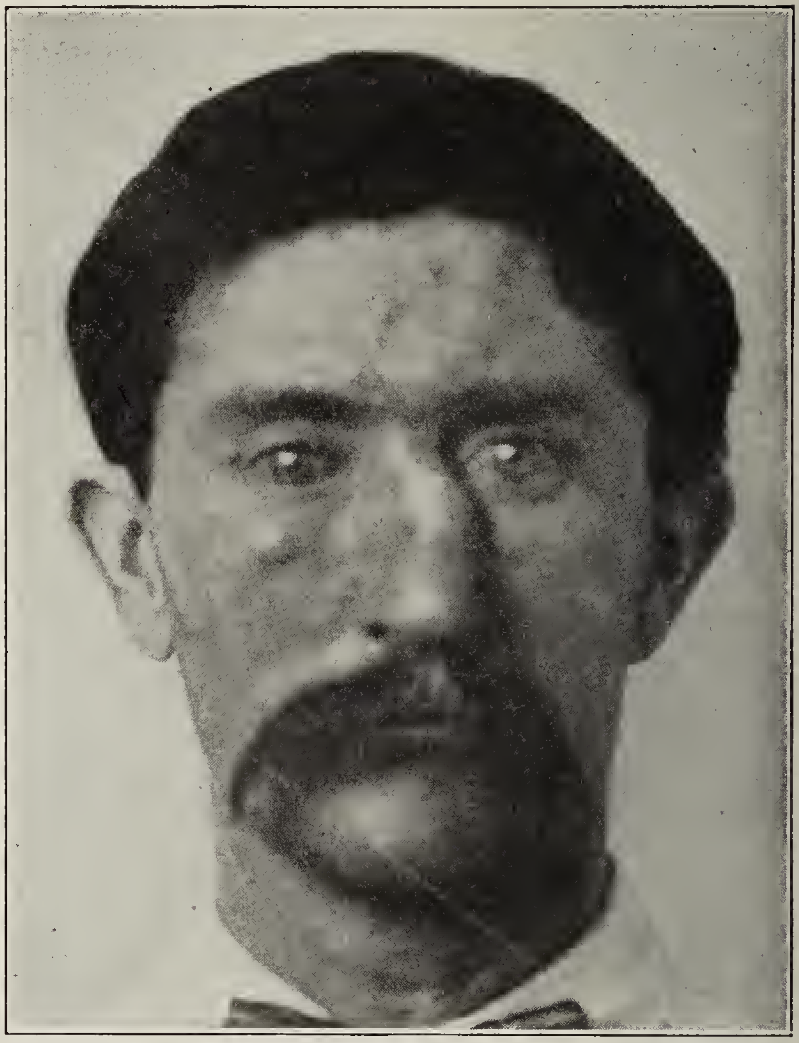

Fig. 3.—Patient with nasal deformity, before operation.

septum takes a correct position, as if released from the compression of the superimposed nasal bones and nasal process of the superior maxillary, but it is chiefly the latter which I consider the key to the situation.

The nose is not likely yet to be in a straight line, the defect lying at the suture between the frontal and upper extremities of the two nasal bones and both processes of the superior maxillary. This faulty angle can be straightened by a sharp stroke with the mallet at this point guarded by a rubber-covered lead plate, the force being directed downward from the frontal bone, but toward the obtuse angle (that is, against the deflected side). Elevation can be assisted sometimes to advantage with a large urethral sound. If pressure has been kept on the point of incision for a few minutes, there should be no extravasation of blood, and the wound will heal by first intention. It is my custom to keep these lines of incision covered by a bit of iodoform gauze and collodion. In some cases I insert nasal splints for twenty-four hours or more, to insure continuance of the correct position of the septum. The lower part of the external nose is incased in a collodion dressing. Before the final dressing is applied, the nose should be absolutely straight without being held in position.

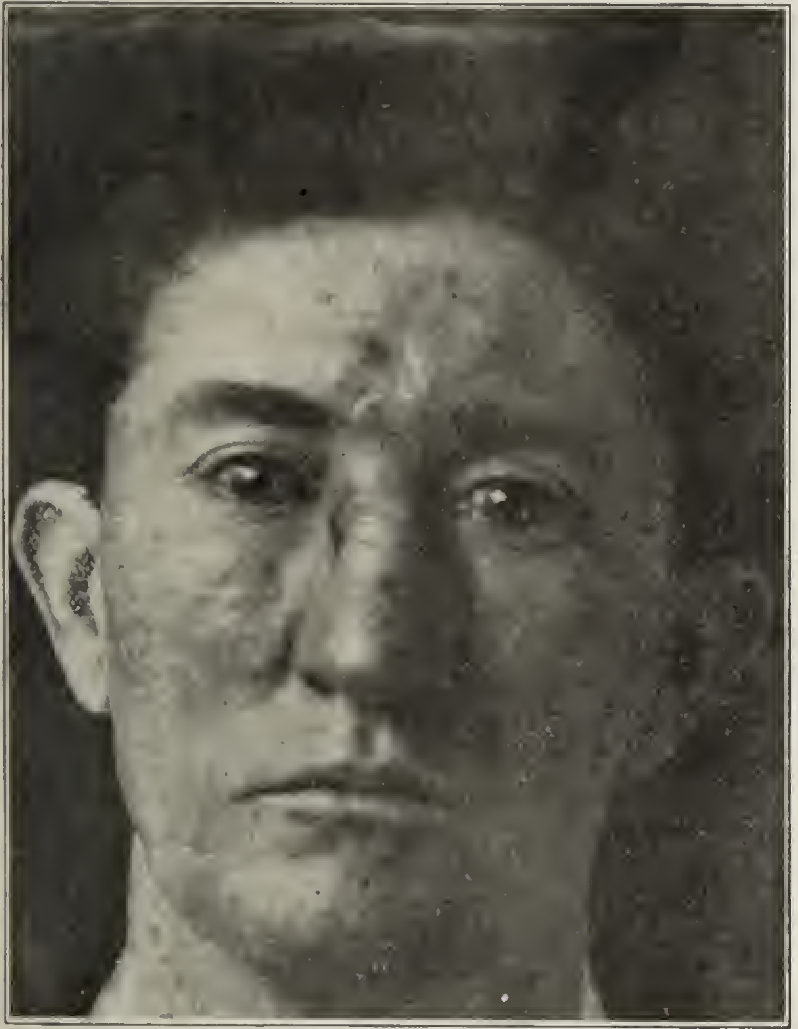

Fig. 4.—Patient shown in Figure 3, after operation.

For several days after the operation the patient is instructed to keep a moderate pressure on the originally deflected side as there is a tendency of the old position to be resumed. I have no doubt that you would suggest that the pressure be made by artificial means, arranging a cage with thumb-screws. This I advise against for the following reasons:

It is uncomfortable for the patient, and I believe that all such apparatus will unavoidably in some manner get out of place and result in faulty pressure.

Unless constant pressure be kept at the point of incision for a few minutes, extravasation of the blood is likely to cause a discoloration of the skin, which may persist for a week or ten days. This occurred in several of my cases. Infection appeared in two of my cases. One was due to the chisel passing beyond the nasal process into the nasal passage, thus making a double compound facture. The infection delayed the healing for about two weeks. In only one case—one of the two cases of infection—did the lacrimal duct give trouble. It continued, however, only during the few days of infection.

The reason for applying pressure after the first day—to insure the knitting of the bone in its new position—should be explained to the patient. I believe that the only unsatisfactory results have occurred from neglect of this precaution.

This operation does not restore bones that are lost, but it has the following points to recommend it:

1. It radically and simply corrects the position of the misplaced bones and relieves the disfigurement, the mental depression and the social disadvantages consequent on it.

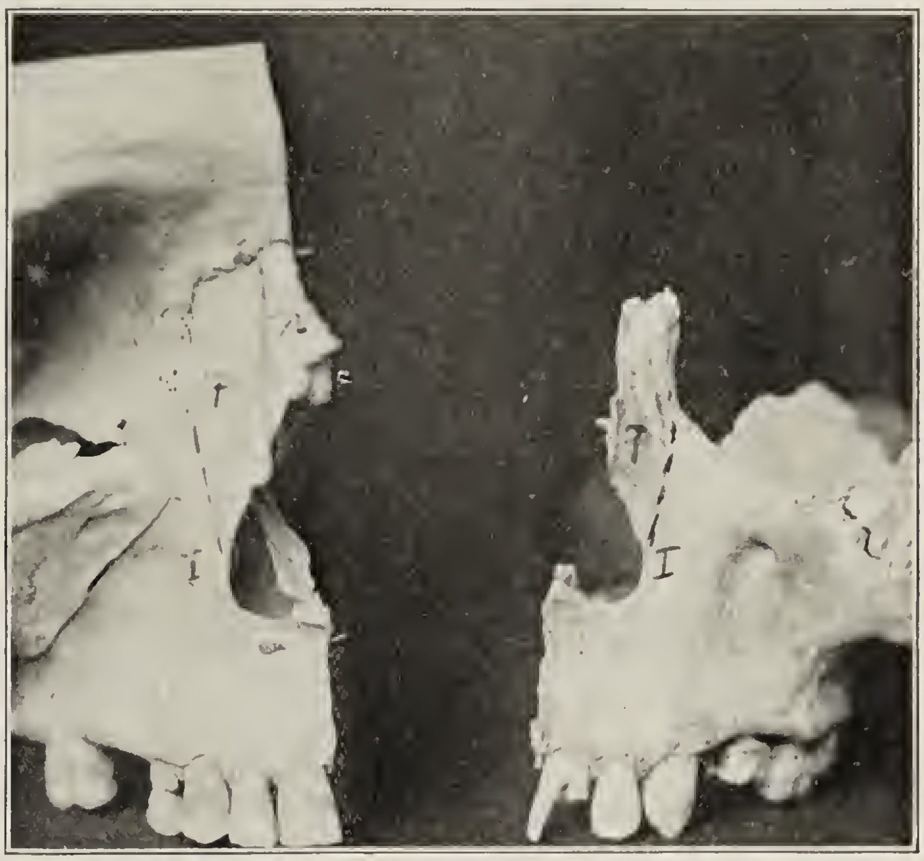

Fig. 5.—Relative position of incision for correction of nasal deformities by Marshall's operation. *N*, nasal bone; *P*, nasal process of the superior maxillary; *I*, line of incision and fracture.

2. It frees the nasal passage by straightening a buckled septum and by preserving the entire strength of the septal support.

3. It gives in every case free nasal breathing, and if septal spurs or angular thickenings are present it allows ample room for their removal.

1819 Spruce Street.

Diagnostic Cloaks for Carelessness.—"Neurosis," "neurasthenia," and "hysteria" are terms that are convenient excuses when patience and trouble are alike demanded in a reasonable search after the true cause of the woman's complaint. I know of no more dangerous terms in the gynecologic vocabulary than these. They are apt to lead the young and unwary practitioner into a diagnostic culdesac, missing in his stumble therein the track to some serious pathologic condition that this delusive impression has prevented his reaching.—H. Macnaughton Jones in *Clin. Jour.*

A LIGHT-CARRIER WITH LENS AND A RHEOSTAT FOR URETHROSCOPY *

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In a previous article[1] I described the light-carrier and lens in the following terms:

> It aims to meet those cases in which treatment requires dryness and applications, such as would be available through the old straight-tube urethroscopes, as the Chetwood pattern, for example. Any one having the Chetwood and the Buerger instruments might essay to avoid purchasing this extra attachment. The difficulty, however, is that of recognizing with the older instruments the exact point discovered with the Buerger instrument. After about a half year's use of this attachment, however, I am convinced of its serviceability. With the great aid of the magnification and irrigation of the Buerger instrument a definite lesion is located. The telescope is then removed without disturbing the sheath of the instrument, and the urethra is mopped dry. The attachment is then inserted and by means of its eye-piece, which repeats the degree of enlargement of the Buerger telescope, the lesion is again recognized. The magnifying eye-piece is then removed and the treatment applied.

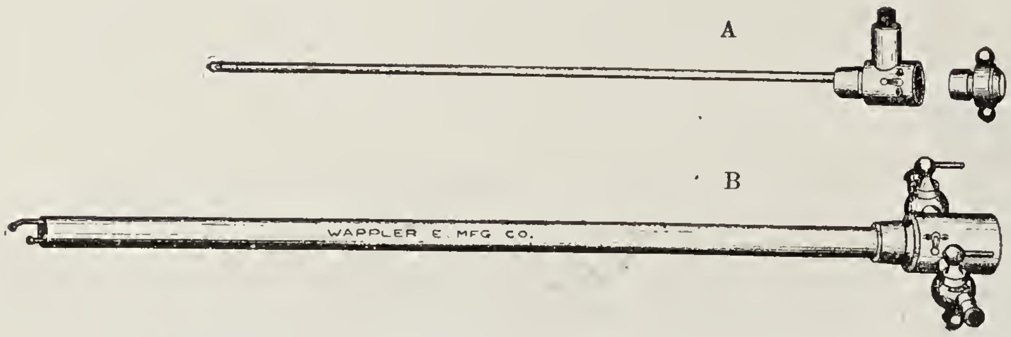

Fig. 1.—A light-carrier and magnifying eye-piece for urethroscopy *(A)*. The short eye-piece has been supplanted by one on an arm permitting applications under the eye. *B* shows the protecting tube suggested by Dr. Buerger.

> The parts of the attachment are extremely simple, as shown in the cut. They are only twofold, namely, a light-carrier with its electrical connections, practically in duplicate of the Chetwood light-carrier, which fits into the opening of the sheath of the urethroscope in such a way as to give the maximum space possible for the use of instruments. The second part is a magnifying eye-piece (Fig. 1).

In order to protect the sheath of the urethroscope Dr. Buerger has suggested an extra sheath for use inside the main instrument in connection with my light-carrier, so that chemical applications will not attack the urethroscope sheath itself (Fig. 1, *B*). The following objections to this plan appeal to me: 1. Applications strong enough to attack metal are not advised in the urethra. 2. It is impossible to make the inner and outer sheaths fit so tightly that capillary attraction will not carry fluids between them; thus the protecting sheath does not protect, particularly as it does not cover the margins of the fenestrum of the urethroscope itself, where the damage of chemicals will necessarily be greatest. 3. The inside diameter of the sheath of the urethroscope is already so small as to make treatment somewhat difficult, so that further loss of space by the extra sheath is very serious. 4. The fulgurating wire is a far better means of treatment than chemicals strong enough to attack the metal; furthermore, if any one desires to employ the latter a silver sheath will correct the difficulty without loss of space.

Since the publication of this description, the addition of a magnifying lens with an extension arm permits the more ready introduction of applicators under the eye (Fig. 2, *G*). Thus the small removable eye-piece (Fig. 2, *F*) is virtually discarded, for the reason that in order to make an application it must be detached and laid aside—a procedure which, of course, changes the field considerably and rather adds to the difficulties in consequence. Figure 2, *E*, is the Buerger urethroscope and needs no description or commendation.

After considerable use of this light-carrier and attachment, I developed a difficulty with and objection to it, inherent in the fact that the cable to illuminate it had to be detached from the urethroscope and connected to the light-carrier. This act frequently moved the fenestrum from the point of treatment, which naturally is a serious matter, not only because of the loss of time and energy in locating it again, but also because of the irritation of the mucous membrane by the additional manipulation. A rheostat has been produced whose features are readily discernible in the photograph. It does not differ in any way from the standard rheostat, is mounted on a slate base with an extension cord (Fig. 2, *A*) for connection with the wall-socket and has four instead of two binding-posts for two cables instead of one (Fig. 2, *B* and *D*), placed at opposite sides of the base. Between them is a double-pole, double-throw switch of small size (Fig. 2, *C*).

For the sake of clearness, a twisted cable (Fig. 2, *B*) has been used for connection between the left-hand poles and the urethroscope, and a covered twin-cable (Fig. 2, *D*) for connection of the right-hand posts with the attachment. Thus it is easy at once to trace the method of using the appliance.

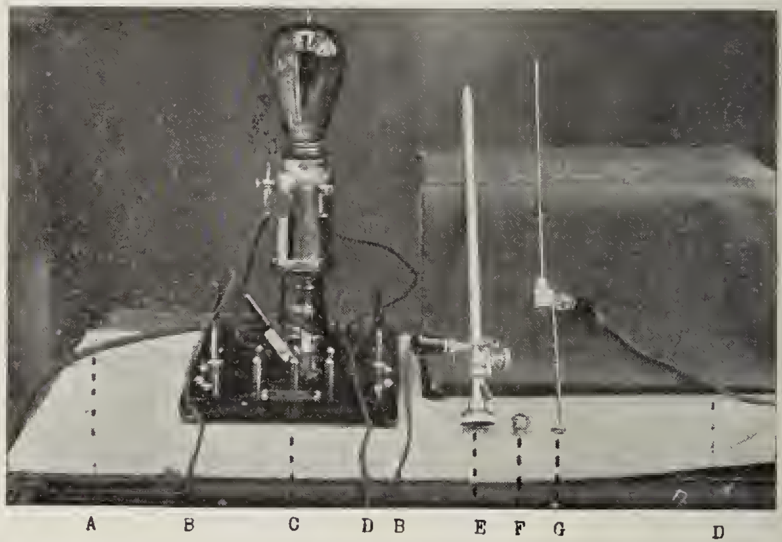

Fig. 2.—Rheostat and attachment. *A*, extension cable, leading from plug to base; *B*, twisted cable, leading from left binding-post to urethroscope; *C*, double-pole, double-throw switch, open, stands in front of socket and rheostat, the latter connected with the circuit within the base by special wires; *D*, right-hand binding-post with braided covered twin-cable leading to attachment; *E*, urethroscope; *F*, removable eye-piece, and *G*, attachment with extension eye-piece.

The switch is thrown to the left to connect the urethroscope; the lesion is located, diagnosticated and prepared for treatment. The telescope is now removed and the light-carrier introduced. The switch is then swung over to the other side, making connection with this attachment; by means of the eye-piece, the lesion is again recognized and appropriately treated. These manipulations are easily and readily performed with the right hand, while the left hand maintains the urethroscope in its proper position.

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* Presented before the Medical Progress Club, Nov. 18, 1912.

[1] Pedersen, V. C.: An Attachment for Dr. Buerger's Urethroscope, Am. Jour. Urol., August, 1911.

The rheostat and light-carrier will be found of inestimable value in the management of suitable cases. It will naturally be understood that the electrical systems of both urethroscope and light-carrier will be tested before use.

45 West Ninth Street.

HISTORY OF A TYPHOID CARRIER

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AND
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In a previous publication Sawyer[1] described the case of H. O., who, it was demonstrated, had infected with typhoid fever, twenty-eight persons, four of whom died. After closing this investigation and reaching the conclusion that H. O. had been the means of infecting these persons, the State Board of Health of California conferred with the United States Public Health Service in San Francisco, and the latter agreed to receive the patient at their hospital in San Francisco.

In accordance with this arrangement, H. O. was admitted to the United States Marine Hospital at San Francisco, March 19, 1912, for the purposes of study and observation, as well as to protect the public against further infection from this source.

The history of the patient was that he had had typhoid at the Marine Hospital in San Francisco in the latter part of 1907, being discharged from that institution as apparently cured, in January, 1908. The part of the history obtainable from Dr. Sawyer further showed that typical typhoid bacilli had been isolated from the stools of H. O. just previous to his entrance to the hospital; on the other hand, his urine had been negative as to typhoid bacilli.

From March 28 up to October 1, specimens from H. O. were received weekly or biweekly at the federal laboratory of the Public Health Service, and plated on Endo's medium. From twenty-four to forty-eight hours later all non-acid-producing colonies were transferred to Russell's medium; cultures showing typical reaction on Russell's medium were carried into bouillon, sugar medium, litmus milk and Dunham's peptone. They were also tested for agglutination with the blood of known cases of typhoid and with immune serum prepared by the Cutter Laboratories of Berkeley. As a result of these examinations, bacilli answering the morphologic, cultural and serum tests for typhoid were isolated on twelve different occasions by Passed Assistant Surgeon C. W. Chapin, then the assistant medical officer of the federal laboratory. The tests, with the exception of the twelve mentioned, all proved negative, showing typical *Bacillus coli*, except on one occasion when a somewhat atypical paracolon bacillus was isolated by one of us (Currie). The tests that showed the presence of typhoid bacilli in stools were all made during the period elapsing from March 28 to June 19; no typhoid bacilli were isolated between June 19 and October 14. The urine at all times was negative as to typhoid bacilli.

The next question that arose after the typhoid bacilli had been repeatedly isolated by the Public Health Service officers referred to was what means could be tried to rid this patient of typhoid bacilli in order that he might be released from custody without being a menace to persons coming in contact with him. With this in view the federal laboratory prepared an autogenous typhoid vaccine in the usual manner and administered this remedial agent as indicated in the accompanying tabulation.

DOSAGE AND REACTION IN ADMINISTRATION OF AUTOGENOUS TYPHOID VACCINE

Date of Administration, 1912	Dose, Bacilli	Reaction
April 27	25,000,000	Local redness; no general.
April 30	50,000,000	Local redness; no general.
May 5	125,000,000	Local redness; no general.
May 12	250,000,000	Local redness; no general.
May 19	500,000,000	Local redness and pain; general headache, nausea; slight rise in temperature; sweating.
May 28	250,000,000	Slight reaction.
June 5	400,000,600	Marked redness and swelling; headache and nausea.
June 11	400,000,000	Same as June 5 but less severe.
June 19	1,000,000,000	Severe local reaction; no general symptoms.
June 28	1,500,000,000	Moderate local but no general reaction.

In all, ten doses of the vaccine were administered during a period of two months. The injections were given subcutaneously; the general reactions invariably occurred within six hours after administration, and all general symptoms disappeared before the end of twenty-four hours. The patient was released from custody, October 14, with the understanding that he report himself for examination once a month for the next six months.

SUMMARY AND CONCLUSIONS

This patient suffered from typhoid in 1908 and from that date up to June, 1912, probably discharged virulent typhoid bacilli frequently. These bacilli apparently caused the illness of twenty-eight men, four of whom died.

After treatment with autogenous vaccine for a period of two months, during which ten doses were given, varying in size from twenty-five thousand to a billion bacilli, the patient no longer discharged typhoid bacilli for the three and a half months following the last dose that he was under observation.

This experience confirms further what has often been observed, that a patient after recovering from typhoid fever may carry virulent bacilli for a relatively long period of time.

Apparently autogenous vaccine may be of service in ridding such patients of their bacilli, but such a conclusion cannot be positively drawn, even in the case of H. O., until the patient has been observed further.

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[1] Sawyer, Wilbur A.: A Typhoid Carrier on Shipboard, The Journal A. M. A., May 4, 1912, p. 1336.

Neuralgia from Calcification of the Gasserian Ganglion.—F. Smoler reports a case (*Prager med. Wchnschr.*, 1912, xxxii, 388) which shows anew that trigeminal neuralgia has many causes. The patient was a woman of 63 who in 1895 had had the first symptoms of trigeminal neuralgia. Four peripheral operations were undertaken in the course of the years, some of which gave transient relief after the neurectomy, but the pains always returned in time with increased intensity, requiring constant sedatives to render life bearable. In 1911 vertigo and nausea were added to the clinical picture, and in the hope of even transient relief a fifth operation was undertaken, this time on the gasserian ganglion. The ganglion was found almost completely destroyed by a concretion in the center, 7 by 4 by 3 mm. in size. It was easily extracted; at one stroke the woman was freed from all pain, and there has been no recurrence of any disturbance since. Smoler cites from the literature a case of trigeminal neuralgia from compression by a sarcoma at the base of the skull, and two of a neoplasm in the ganglion itself.

AN APPARATUS FOR THE INJECTION AND LAVAGE OF THE PELVES OF THE KIDNEYS AND THE URETERS

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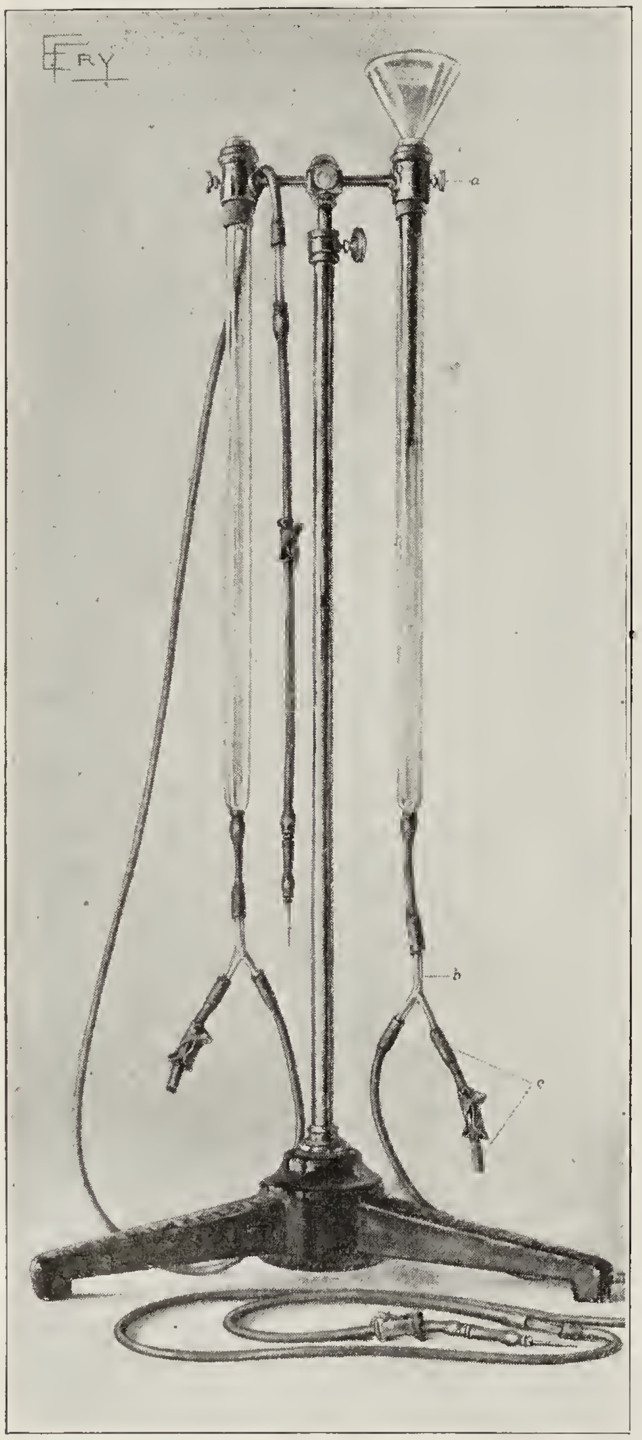
ROCHESTER, MINN.

In using a syringe or any other apparatus which has a pressure device to force fluid into the kidneys there is always danger of renal overdistention and colic. In a few instances large hydronephrotic kidneys have been ruptured by this overdistention by the pressure method.



Apparatus for the injection and lavage of the pelves of the kidneys and the ureters: *a*, control screw for raising or lowering single buret; *b*, Y-tube; *c*, tube for draining unused colloidal silver solution.

The frequency of overdistention and renal colic resulting from injecting the pelvis of the kidney and the ureters with shadow-casting fluids by means of a syringe suggested to me the idea of using an apparatus with only sufficient force of gravity to cause the flow to reach the kidneys.

In using the pressure method it is difficult to control the amount of pressure used and the examiner cannot always stop the pressure in time to prevent overdistention. This error causes the patient great annoyance and may cause intense pain for a number of hours following the examination. Moreover, in using the syringe we are not always able to withdraw the colloidal silver solution from the kidneys and the ureters.

By means of the apparatus here described the pelvis of the kidney can be thoroughly drained of all the fluid which has been injected. This procedure is especially helpful in large hydronephroses and pyonephroses, when it is necessary to inject a large quantity of fluid into the kidney.

DESCRIPTION OF APPARATUS

An ordinary small telescoping irrigating-stand with a cross-arm at the top of the telescoping rod is used. The cross-arm is made to hold two 50 c.c. titrating burets. At the lower end of the buret is a short piece of rubber tubing of small caliber which is connected to a Y-shaped glass tube. To one arm of the Y from 4 to 5 feet of pressure tubing is attached and to this tubing is attached the needle which is inserted into the lumen of the catheter. To the other arm of the Y is attached 3 or 4 inches of rubber tubing which has a stop-cock at its end. This is used to drain the colloidal silver from the buret before beginning to siphon. In this way the fluid which has not been used can be saved. Water may be poured into the burets to replace the colloidal silver before beginning to siphon. The control screw is used to obtain different heights of the tubes.

We have used this apparatus in the Mayo Clinic in more than fifty injections and in only one case did colic occur. This was in a case of stone in the ureter, and the catheter became plugged after passing the stone. There was a large hydro-ureter with hydronephrosis above the stone, and, since the backed-up urine could not drain off, the colloidal silver suddenly cleared the catheter and caused the temporary pain of overdistention. This was quickly relieved by lowering the instrument below the level of the patient and siphoning off some of the retained secretion.

In most of the cases in which injection has been employed no measured amount has been used because there is so little pressure that the colloidal silver will outline the pelvis or the ureter and return around the catheter without causing overdistention.

The pyelograph is taken while the fluid is being injected and the pelvis or the ureter is kept as full as possible at the time the exposure is being made. The instrument works mechanically, and the examiner is not exposed to the *x*-ray while using this method.

The apparatus has been used in cases of double pyelitis when it has been necessary to lavage the pelvis. Both pelves can be washed at one time and the fluid is allowed to run slowly until the patient complains of irritability of the bladder. In this manner irrigation may be continued for a longer period without pain.

The force of gravity only is depended on to cause the flow into the kidneys, the tubes being raised only far enough above the level of the patient to overcome the resistance of tubes and catheters. After allowing a few cubic centimeters of the colloidal silver to run in, the pyelograph is taken while the solution is still running, and after this has been completed, the tubes should be lowered at once below the level of the patient, and the colloidal silver siphoned out.

The improvements in technic which we have noted in using this method of injecting the pelves of the kidneys and the ureters are: (1) distention of the pelves of the kidney or ureter or both can be produced without causing colic; (2) a pyelograph can be taken while the pelvis is under the pressure of constantly running fluid, and without exposing the examiner to the *x*-ray; (3) colloidal silver or other solutions can be siphoned off quickly after the plate has been made; and (4) it is useful in slow and prolonged lavage of both renal pelves.

The instrument shown in the drawing is a modified Boehm salvarsan apparatus. An instrument used to inject the kidney should be larger than the Boehm apparatus so that it can rest on the floor and be raised to a height of 6 feet.

THE RESULTS OF TWO HUNDRED CHROMO-URETEROSCOPIES EMPLOYING INDIGOCARMIN AS A FUNCTIONAL KIDNEY TEST *

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The province of a functional kidney test, in my mind, is not so much to determine the diagnosis in a particular case as it is to prognose the sufficiency of the supposedly healthy twin organ. Often the precise nature of the kidney lesion can be definitely diagnosed without recourse to the estimation of the renal function—witness the skiagram in nephrolithiasis, palpation in conjunction with the other physical and clinical findings in renal tumor, etc. Moreover, it is often absolutely unimportant, from the point of view of treatment, to determine by functional kidney tests the extent of involvement as to sufficiency or non-sufficiency of a kidney, the seat of such diseases as calculus, sarcoma, hypernephroma, surgical tuberculosis, etc. The paramount question to be decided is the unilateral or bilateral involvement of the organs and above all the functional integrity of the presumably healthful kidney. It is seldom that the functional test, alone or associated with ureteral catheretization, either for the collection of urine for microscopic and bacteriologic examination, or for collargol injection and skiagraphy, will fail to establish the true nature of conditions.

There is perhaps no function in the human economy more treacherous under ether anesthesia than the renal function. The prevalence of impairment of this function is always a concern to the surgeon undertaking major surgical intervention; the solicitude becomes acute when either kidney is the object of attack; the anxiety grows, frequently to the magnitude of a specter solemnly forbidding the conscientious surgeon to proceed, when nephrectomy is contemplated.

Consequently there have arisen untold functional kidney tests in the endless search for the ideal practical one, which has not yet been found.

No one can dispute the greater reliability of a quantitative metabolic study, in the estimation of the renal function, but impracticability rules it out of the question as a routine procedure.

I have discussed elsewhere the relative value of the various other functional tests.[1] Dependence on two or more tests is obviously more productive of conclusive information than deductions drawn from a single one.

In my opinion the two functional kidney tests deserving greatest consideration to-day are those employing indigocarmin and phenolsulphonephthalein. Each possesses advantages over the other, but the superiority of the former as a practical test has been duly weighed and judged.[2] In brief, indigocarmin is entitled to the preference for the following reasons:

1. Trustworthy deductions relative to kidney sufficiency or insufficiency are possible simply by observing the elimination of the dye from the ureteral orifices, obviating the necessity of ureteral catheterization, an act occasionally impossible of accomplishment, for mechanical reasons, under certain forms of prostatic enlargement, and inadvisable, at least theoretically, for a normal ureter in the presence of vesical tuberculosis.

2. The elimination of ureteral catheterization dismisses any possibility of stimulated or suppressed renal function, reflexly incident to the introduction of a catheter into the ureter, an act predisposed to influence the physiology of the kidney.

3. The lumina of ureters vary with the age, sex and size of patients; hence the employment of ureteral catheters commonly selected frequently fails to occlude the ureters completely. Consequently any test dependent on the collection of the total urine for a given time may be productive of erroneous quantitative results. I have occasionally observed the elimination of a dye from the orifice into the bladder, around the ureteral catheter, several minutes prior to its appearance at the free external end of the catheter.

4. In unilateral determination the necessity is avoided of allowing the catheters to lie in the ureters for two or more hours, thereby inviting infection. In some cases, even after successful introduction of the catheters, the urine will fail to flow from one or either catheter, owing to occlusion of the eyes by blood coagula, pus or mucosa, thereby vitiating the examination.

5. The test is simple, enabling the surgeon to draw immediate conclusions — even as preliminary to operative intervention, should the patient require general anesthesia to conduct the cystoscopy — and obviating the necessity for the employment of reagents, colorimetric readings and calculations, a procedure which consumes considerable time.

The indigocarmin test for functional kidney sufficiency may be performed either qualitatively or quantitatively. The latter method with the aid of the Duboscq colorimeter is of interest scientifically, but does not commend itself practically and is open to the same objections that hold for phenolsulphonephthalein. Qualitatively two methods are utilized: ureteroscopy and ureteral catheterization.

Kapsammer and others have urged ureteral catheterization in conjunction with the test, observing the elimination of the dye from the external end of the catheter. The objections to this technic have already been enumerated.

AUTHOR'S TECHNIC OF CHROMO-URETEROSCOPY

In my opinion the maintenance of the simplicity of the indigocarmin test has not only added to its value as a reliable method for the determination of renal permeability, but has enthroned it among functional tests as the most practical, useful and best test for the estimation of kidney sufficiency or insufficiency at the command of the surgeon to-day.

The patient is placed in position as for simple cystoscopy. Indeed, the test itself consists merely in cystoscopic observation of the onset, character and intensity of the coloration of the dye injected intramuscularly, as it is ejected directly from the ureteral orifices into the bladder. Attention to the following details will greatly facilitate the procedure:

1. Preparation of the patient for general anesthesia, although it will be unnecessary in more than 2.5 per cent. of cases.

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* Read in the Symposium on Tests of Kidney Function in the Section on Genito-Urinary Diseases of the American Medical Association, at the Sixty-Third Annual Session, held at Atlantic City, June, 1912.

* Because of lack of space this article is abbreviated in The Journal by the omission of the tables giving the details of the case. The complete article appears in the Transactions of the Section and in the author's reprints.

[1] Thomas, B. A.: The Relative Value of the Various Methods for the Determination of Functional Kidney Sufficiency, Pennsylvania Med. Jour., February, 1911.

[2] Thomas, B. A.: The Quantitative Determination of Functional Renal Sufficiency by the Duboscq Colorimeter; Indigocarmin Versus Phenolsulphonephthalein, Am. Jour. Med. Sc., September, 1911.

2. Position of the patient with knees flexed and abducted, feet supported, and thighs resting in same plane with the trunk.

3. Antisepsis of external genitalia, especially the anterior urethra.

4. Anesthetization of the posterior urethra and vesical neck with 4 per cent. beta-eucaine lactate, using one-half to one ounce of the sterile solution in a deep urethral syringe.

5. The selection and introduction, after lamp testing, of an evacuation-irrigation cystoscope of the Brown-Buerger or Schlagintweit type, thereby permitting of rapid evacuation and refilling of the bladder — a consideration of importance in marked pyuria or hematuria.

6. Deep and slow intragluteal muscular injection of 20 c.c. of a 0.4 per cent. solution of indigocarmin warmed to blood heat.[3]

7. Thorough vesical lavage to insure a perfectly clear return of the irrigation fluid, followed as a routine by injections in the male of 150 c.c and in the female of 200 c.c. sterile boric acid solution.

8. Careful study of the intravesical anatomy and pathology while waiting for the onset of the elimination of the indigo.

9. Maintenance of a brilliant illumination in a perfectly clear fluid medium, while alternately viewing the ureteral orifices for the first — often faint — appearance of the dye.

Immediately after the injection of the indigocarmin, the attention of the cystoscopist must be directed to careful and intelligent observation of the interior of the bladder, particularly the ureteral orifices. Alternate observations, in a brilliantly illuminated bladder, of the orifices in a case with normal kidneys, will soon demonstrate the elimination of the dye as a dark or light blue coloration as the urine is ejected. As soon as the excretion occurs, the precise time of onset and intensity of color reaction in minutes after intramuscular injection is noted. If the elimination is first observed as a light blue or possibly greenish coloration, instead of the customary dark blue, it should be noted whether or not and when the color reaction becomes intensified throughout a total period of thirty minutes.

Prior to the appearance of the indigo, the observer studies carefully any intravesical pathologic condition, the contractile and expansile activity of the ureteral orifices, the manner of elimination of urine as governed by ureteral peristalsis, and particularly the character of the ejected urine, whether perfectly clear or containing macroscopic blood or pus. Not infrequently a ureterovesical calculus, pyonephrosis, bleeding renal tumor or varix and tuberculosis of the kidney can be positively diagnosticated by simple ureterocystoscopy, or, if you please, ureteroscopy.

Conclusions drawn solely from the time of onset of elimination of the dye may prove erroneous. The analysis of cases demonstrates that due consideration must be given to the intensity of the color reaction.

The duration and quantity of the excreted dye is of interest, but of little practical importance.

VALUE OF THE TEST

In one of Philadelphia's leading hospitals, for a period of six years, the mortality following nephrotomies and nephrectomies averaged 16.6 per cent. Since 1906 in kidney cases with operation in which the indigocarmin test was applied, there have been but five deaths, none of which was due to the insufficiency of the supposedly normal twin organ. One death resulted from peritonitis on the fifth day, another from acute miliary tuberculosis four or five weeks after nephrotomy for renal tuberculosis, and two others from shock, four and eighteen hours, respectively, after operation; the fifth patient was operated on in a condition of uremia under scopolamin and morphin, when an absolutely unfavorable prognosis had been given.

A review of the cases submitted for analysis in this paper has so deeply impressed me with the value of the indigocarmin test, if properly executed, that I have not the slightest hesitancy in predicting that, in a given series of cases, the chromo-ureteroscopist will be enabled to make far more correct surgical diagnoses and prognoses than he who is accustomed or obliged to depend in all cases on bilateral synchronous ureteral catheterization.

In spite of the uniform excellent results of this test in my experience, I do not maintain that the indigocarmin test is infallible — what functional kidney test is? Obviously there are certain conditions in which the test should and must be supplemented by ureteral catheterization, microscopic and bacteriologic examinations, collargol injections, the *x*-ray, etc.

ANALYSIS OF CASES

Two hundred cases subjected to the indigocarmin test during the past six years, for the diagnosis and differential diagnosis of kidney and other genito-urinary affections, have been tabulated. In Table 1 have been placed the cases in which the kidneys are presumably normal or at least where the extent of renal damage has been negligible. Table 2 comprises those cases exclusively in which there is known disease of either one or both kidneys. This classification has been based on the physical, chemical and bacteriologic examinations of the urine, the cystoscopic and operative findings, the time and intensity of the elimination of indigocarmin and the subsequent history of the patient and course of disease.

The analytic study thus founded has necessitated the placing of ninety-one cases in the group "Cases with Normal Kidneys." From these patients and those with unilateral disease in Table 2, indigocarmin, for practical purposes, has sufficed to demonstrate functionally sufficient kidneys 289 times. I wish to call attention to the distinction between functionally sufficient and pathologic kidneys. A functionally sufficient kidney may or may not be pathologic and a pathologic kidney may be functionally insufficient or it may be sufficient. For example, consider nephritis, pyelitis, hydronephrosis, calculus, etc. All are pathologic conditions of the kidney, but the organ may at the same time be functionally sufficient. Insufficiency is directly dependent on the extent of parenchymal involvement. In Table 2 a number of kidneys are functionally sufficient from the operative prognostic point of view, but pathologic clinically, and therefore not to be regarded as normal kidneys. In short, *"sufficient"* and *"normal"* are *not* synonymous.

Although the exact time limit for functionally sufficient kidneys has probably not yet been definitely determined, my experience has indicated that, in the event of the excretion of the dye as a dark blue, it should be placed, for the present at least, at twenty minutes; while if the elimination occurs as a light blue, fifteen minutes should be the time limit. This applies strictly to prognosis in view of nephrectomy. In other surgical intervention, even in nephrotomy, the figures will vary and no time limit can at present be stated. In nephrectomy likewise surgical technic and skill, proper selection and administration of anesthetics, post-operative treatment and renal reflexes play a most important rôle with respect to recovery. These are variables which no functional kidney test will ever gauge. The onset of the excretion of the dye as a light blue after fifteen minutes and continuing as such undoubtedly indicates functional degeneration of the respective kidney. Precisely at what minute the ultimate time limit for functional sufficiency of such a kidney expires, is at present undetermined.

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[3] In my early cases 4 c.c. of a 4 per cent. solution of indigocarmin were employed. During the past four years the 20 c.c. quantity has been used as a routine. The advantage of the larger quantity is that the dye is completely in solution; in greater concentration it exists in suspension.

The earliest appearance of elimination as a dark blue occurred in three minutes, the case being one of cystitis. In 90.1 per cent. of kidneys, the indigocarmin was excreted as either a light or dark blue in from three to fifteen minutes. In 61.1 per cent. of kidneys it appeared in ten minutes. The onset of elimination, for the first twenty minutes, is summarized in Table 3.

TABLE 3.—TIME OF ONSET OF ELIMINATION

Minutes	Number of Cases	Minutes	Number of Cases
3	1	11½	2
4½	2	12	20
5	12	12½	2
6	21	13	11
6½	6	14	7
7	31	15	22
7¼	1	16	7
7½	4	17	4
8	26	17½	1
8½	3	18	9
9	38	19	9
9½	4	20	8
10	37		
11	14		302

As a general rule the dye makes its appearance in individuals with normal kidneys at the same time on both sides (68.1 per cent. of cases). When there has been a variance it has ranged from one to seven minutes.

In Table 2 are tabulated 109 cases of diseased kidneys; there were sixty-three major surgical operations of which sixty were either nephrectomy, nephrotomy, nephrolithotomy or ureterolithotomy, with five deaths. Of the deaths, surgery should not be charged with one, as the patient was in a state of uremia and operative intervention was clearly contra-indicated. Of the remaining four, one was due to peritonitis, one to acute miliary tuberculosis and two to shock. The report includes thirty-two nephrectomies with two deaths, neither of which are accountable to renal insufficiency, one patient dying of peritonitis, the other of shock from hemorrhage. The results in these cases are assuredly a fitting tribute to indigocarmin.

A review of both tables will show that the dye was eliminated forty-six times as a light blue. In the twenty-three times of excretion before or on the fifteenth minute, it occurred eight times in chronic parenchymatous nephritis, three times in mild prostatic hypertrophy, once in chronic appendicitis, twice in chronic cystitis, once in chronic interstitial nephritis, four times in tuberculous nephritis, once in renal calculus, twice in pyelitis and once in pyonephrosis. In the twenty-three times of its elimination before or by thirty minutes, it occurred once in essential hematuria, twice in chronic parenchymatous nephritis, twice in pyelonephritis, twice in nephrolithiasis, five times in retention with or without calculus or pyelitis, twice in prostatic hypertrophy, six times in tuberculosis, twice in renal calculus and once in ureteral stenosis. As a rule, in those cases in which the dye was eliminated as a light blue after fifteen minutes there seemed to be unmistakable evidence of grave functional degeneration of the respective kidney, necessitating the placing of a time limit for sufficiency in view of nephrectomy under these conditions at fifteen minutes.

Table 2 shows the various affections impartially analyzed with respect to the applied indigocarmin test. Those conditions in which it appears to be of greatest value are hydronephrosis, moderate-sized to large calculi of either the kidney or ureter, pyelonephritis, pyonephrosis, tuberculosis of moderate to extensive degree, involving approximately one-third of the parenchyma, ureteral stenosis and retention of urine because of urethral obstruction, particularly prostatic enlargement. In several of these conditions, the test has thus far in my hands proved itself not only reliable, but absolutely infallible. Those conditions in which it is of little or no value are movable kidney of slight mobility in which there is no kinking of the ureter or secondary disease of the parenchyma, essential hematuria, nephritis, pyelitis and tumors not involving the major portion of the organ. In the last two, however, the diagnosis may be established by the presence of pyuria and especially in the last, by the appearance of free blood from the ureter, in the absence of tuberculosis, calculus, bleeding papillary varix or essential hematuria.

The tabulations of cases are for the most part self-explanatory. The value of indigocarmin in two conditions, retention of urine and nephritis, is noteworthy, but as I have discussed these conditions elsewhere,[2, 4] no further consideration of them will be attempted here.

The effect of certain drugs on the renal function is still a mooted question, and occasionally provokes discussion. Cases 21 and 26 of Table 2 substantiate my belief that ether and morphin, even in small amounts, influence the excretory activity of the kidneys. The first case chromo-ureteroscoped under ether displayed no elimination of indigocarmin for twenty-five minutes; two or three days later without ether, the dye was observed in fifteen minutes. The second case, a patient to whom morphin sulphate, one-sixth grain, had been given hypodermically about fifteen minutes prior to chromo-ureteroscopy, demonstrated no elimination of the dye for a period of thirty minutes; four days later on reexamination without morphin the indigo was observed from the left ureteral orifice in eighteen minutes. Consequently we must conclude that the indigocarmin test conducted with the patient under the influence of either of these drugs may be fallacious and lead to erroneous deductions. Fortunately the use of morphin is seldom, if ever, required, and I have not been obliged to resort to general anesthesia to perform chromo-ureteroscopy in more than 2.5 per cent. of cases.

In concluding this analytic study of 200 cases with respect to indigocarmin, I can do no better than quote my own words,[5] with certain numerical changes necessitated by increased work.

CONCLUSIONS

1. Chromo-ureteroscopy based on the employment of indigocarmin is the most valuable single test for renal sufficiency or insufficiency that we possess, because it is the most practical, affording the same diagnostic advantages as the functional tests dependent on bilateral synchronous ureteral catheterization, the technic and

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[4] Thomas, B. A.: Ueber die Chromoureteroskopie in der funktionellen Nierendiagnostik, Ztschr. f. Urol., 1911, v, 259.

[5] Thomas, B. A.: The Value of Chromo-Ureteroscopy in Functional Kidney Diagnosis, Surg., Gynec. and Obst., April, 1911.

determination of which are tedious, complicated and consume much more time.

2. The test is particularly applicable to surgical affections of the kidneys and ureters, and almost invariably suffices to establish the prognosis and diagnosis, if, when the condition arises, it be supplemented by ureteral catheterization, urinalysis, collargol injection or skiagram.

3. Comparative observations of the onset and intensity of the color elimination have never failed to determine the functional sufficiency of the supposedly normal twin organ, in view of operative intervention.

4. It is of no value in movable kidney, in the absence of ureteral kink or hydronephrosis, pyelitis, essential hematuria, early tuberculosis and certain other forms of nephritis and small tumors not involving the major portion of the parenchyma, although ureteroscopy itself is not without value in these conditions.

5. It is of value in the differential diagnosis of hemorrhagic and chronic interstitial nephritis from other types of the disease.

6. Supplemented by ureteral catheterization and the *x*-ray, it will serve to diagnose practically every case of renal and ureteral calculus.

7. In hydronephrosis, pyonephrosis, pyelonephritis, ureteral occlusion and chronic tuberculosis of the kidneys involving approximately one-third of the parenchyma, chromo-ureteroscopy is of exceptional merit.

8. In simple hypertrophy and carcinoma of the prostate causing chronic retention of urine and *vis a tergo* urinary pressure on the renal parenchyma, the indigocarmin test promises to be of value in the differentiation of operable and non-operable cases.

9. Chromo-ureteroscopy is also of great value in the differential diagnosis of obscure abdominal conditions; also in facilitating difficult ureteral catheterization.

10. The duration and quantity of indigo excretion are of interest scientifically and also of some diagnostic importance, but as a routine are not practicable of determination and are unnecessary of notation.

11. Indigocarmin is eliminated from functionally sufficient kidneys as a dark blue in from three to twenty minutes, and as a light blue not later than fifteen minutes. In 90.1 per cent. of kidneys it appears either as a dark or light blue in fifteen minutes; in 61.1 per cent. it is observed in ten minutes.

12. If the indigo does not appear at the expiration of fifteen minutes (light blue) or twenty minutes (dark blue), it is evidence of serious insufficiency of the renal function.

13. If the elimination of the dye does not occur at all, the respective kidney or ureter is gravely diseased.

14. The intensity of the color reaction depends to some extent on the concentration of the urine, but largely on the individual excretory power of the organ.

15. A surgically diseased kidney eliminates the dye less intensely than its normal twin organ, or not at all.

16. The test is very simple and by alternate observations of the two ureteral orifices, differences between the two kidneys are readily, accurately and speedily noted.

I wish to express my deep appreciation to the numerous physicians and surgeons who have afforded me the opportunity, in part, to conduct this study.

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Cancer and Irritation.—Cancer is found in all vertebrate animals and always in a situation in which the habits of the animal cause an irritation of the parts affected.—Mayo in *Boston Med. and Surg. Jour.*

PRACTICAL VALUE OF BLOOD-CRYOSCOPY FOR THE DETERMINATION OF RENAL FUNCTION*

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The first attempt to measure osmotic pressure of animal fluids through molecular concentration or by means of determining their freezing-points dates back about twenty years, when Dreser[1] in 1892 published the results of his investigations on diuresis as dependent on pharmacologic agents. His method, though, was too complicated for practical purposes.

The merit of having established freezing-point determination as a definite clinical method of practical value belongs to A. von Koranyi[2] who, five years later, published his fundamental physiologic and clinical investigations on the determination of osmotic pressure of animal fluids by means of lowering their freezing-points. He was the first to show that the freezing-point of normal blood lies at about 0.56 C. below zero, and that blood taken from individuals with healthy kidneys shows a freezing-point varying between 0.55 and 0.58, while, through retention of end-products of metabolism and the thus resulting deterioration of renal function, a rise[3] of molecular concentration of blood to a freezing-point above 0.58 ensues.

Koranyi's work found its most enthusiastic endorsement at the clinic of Kümmell who, in conjunction with his associates and pupils, felt justified in drawing conclusions of eminently practical value from the results of more than 500 freezing-point determinations on their abundant material of surgical renal lesions. According to Kümmell,[4] a blood-point of 0.55 to 0.57, in the presence of a unilateral renal lesion, points to anatomic health and normal function of the other kidney; a rise above 0.58, while not necessarily contra-indicating operative interference, should be interpreted as a danger signal of more or less impaired renal function, and a rise to 0.60 and above points to definite renal insufficiency, strictly contra-indicating nephrectomy.

CRITICISM OF BLOOD-CRYOSCOPY

The diagnostic importance and reliability of blood-cryoscopy was severely and not unjustly criticized by some of the most competent and experienced renal surgeons (Israel, Rovsing, Tuffier, Barth, Kapsammer and others). The conclusion that a normal blood-point was necessarily coincident with anatomic health and functional sufficiency of the kidneys was proved to be incorrect. Normal renal function may exist in the presence of a low blood-point (0.52 and lower). A high blood-point of 0.60 and above, in the presence of a unilateral renal lesion, may be caused by a systemic toxemia, temporarily interfering with the functional capacity of the other kidney, which soon after removal of the diseased organ becomes functionally normal. Therefore, as emphasized by Rovsing,[5] it is just as erroneous to draw conclusions from a normal freezing-point in unilateral renal lesions on the functional deterioration of the diseased kidney, as to presume from a point of 0.60 and above that the function of both kidneys is impaired. The death-blow to general acceptance of blood-cryoscopy was dealt by Kapsammer.[6] After a most exhaustive study of the literature and on the basis of extensive personal experience he arrived at the conclusion that cryoscopy of blood and urine, though of interest theoretically, does not amount for practical purposes to more than the determination of specific gravity, which is obviously far less complicated and inaccurate.

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* Read in the Symposium on Tests of Kidney Function in the Section on Genito-Urinary Diseases of the American Medical Association, at the Sixty-Third Annual Session, held at Atlantic City, June, 1912.

[1] Dreser: Arch. f. exper. Path. u. Pharmacol., xxix, 1892.

[2] Von Koranyi, A.: Ztschr. f. klin. Med., 1897, xxxiii, xxxiv.

[3] All freezing-points of blood are below that of water and hence below zero; the greater the molecular concentration, the lower the freezing-point; i. e., the higher the figures; for simplicity the lowering of freezing-points below normal are spoken of as rise and vice versa.

[4] Beitr. z. klin. Chir., 1903, xxxvii.

[5] Rovsing: Arch. f. klin. Chir., 1905, lxxv.

The almost unanimous adverse criticism prevented cryoscopy of blood from receiving general approval in this country. The attitude of our clinicians was possibly best expressed in an editorial of THE JOURNAL,[7] which considered Koranyi's observations "interesting and suggestive," but insisted that "their clinical value must yet be determined," since the utility of the test depends not a little on its practicability. The American literature of the last decade contains but scant reference to the application of the test, the execution of which was found technically difficult, entailing considerable loss of time and giving, as Emerson[8] puts it, "little more than would be expected from the clinical observation of the case, and often not that much."

It is also not surprising that the keen interest directed toward cryoscopy of blood by many brilliant investigators of continental Europe gradually subsided; with the general application of bilateral ureteral catheterization, renal function was sought to be determined by examining the separated renal secretions, and blood-cryoscopy became limited to that small class of kidney-lesions in which, for obvious reasons, separated renal urines could not be obtained. Casper[9] particularly warns against overestimating the diagnostic value of the test, which is valuable only in the hands of an observer who arrives at the correct interpretation of its findings on the knowledge of the physical fundamentals of cryoscopy. At present blood-cryoscopy seems to be systematically applied only at Kümmell's clinic. As evidenced by various recent publications, Kümmell is still the most persistent advocate of the test, and from the normal or abnormal freezing-point of blood formulates strict conclusions on the anatomic condition and functional capacity of one or both kidneys. Kümmell and his collaborators[10] explain that the glaring discrepancies in cryoscopic findings by various authors occur through errors in technic; the test, as practiced at his clinic, gives uniformly reliable results and most important data in regard to operative indications.

We decided to substantiate or refute Kümmell's contentions by personal investigations which, if followed by results of practical value, might give an impetus to further work at the hands of American clinicians, who have at their disposal a larger material of surgical renal lesions. Since so much stress is laid by Kümmell on a faultless technic for the obtaining of uniformly exact cryoscopic results, it appears appropriate to describe somewhat in detail a few essential points of our own method of procedure.

AUTHORS' TECHNIC

We use the ordinary Beckmann apparatus with adjustable zero thermometer graduated to 0.01 degree C. The water used for rinsing the tubes as well as for determining the zero of the thermometer is doubly distilled — that is, we redistill the commercial distilled product in glass retorts. The fluids to be determined should not become contaminated by foreign salts. Thermometer, stirrer and the inside of the tubes are not touched by the hands. The tubes are cleaned with a brush and ordinary distilled water, finally rinsed with the doubly distilled water, and then dried and sterilized by dry heat.

The blood is collected by inserting a fairly large needle into the most accessible vein at the bend of the elbow and allowing it to flow into one of the tubes. As it flows, it is stirred until the fibrin separates. We use a glass stirrer in beating out the fibrin and a platinum one in the apparatus. Our usual method has been to collect the blood on one day, allow it to stand in the ice-box over night and determine it the next morning. Repeated comparative tests have shown that there is practically no alteration in the freezing-point if determined within twenty-four hours. The temperature of the freezing-mixture is kept constant, between — 3.5 and — 4.5 C. The distilled water must not be cooled too rapidly, for this would prevent its becoming sufficiently precooled before freezing. Often the blood fails to crystallize, though cooled several degrees below its freezing-point. This can be avoided by dropping in a small piece of ice, when the thermometer reads about 1 degree below the freezing-point, thus precipitating the freezing without altering its value. Extreme precooling should be avoided, as it is apt to give values which are too low.

After preliminaries have been attended to, the whole procedure (determination of points for water and blood) can be finished in less than an hour.

In our early work with blood-cryoscopy we wished to establish a standard for normal blood-points. We therefore selected individuals with apparently healthy kidneys, who were confined to the hospital for merely functional ailments (sexual neurasthenia, etc.). We gradually learned how to avoid technical errors and soon obtained surprisingly uniform results in this class of cases. Thirty-one normal cases were tested and determinations were repeated in a number of these for purposes of control. The points of all determinations varied between 0.540 and 0.578, and gave an average of 0.559; twenty-six cases, or 84 per cent., showed points between 0.550 and 0.570, or an average of 0.560.

In our work with pathologic cases twenty determinations were made on fourteen patients with unilateral renal lesions (hydronephrosis, pyonephrosis, nephrolithiasis, tuberculosis, perirenal abscess, etc.). In all these cases ureteral catheterization was done with application of the usual functional tests to the separated renal secretions, demonstrating good function of the other kidney. The blood-points in these cases varied between 0.546 and 0.580, showing an average of 0.558. In cases with operation there were good recoveries.

Twenty-nine tests were made in twelve cases of prostatic hypertrophy. Determination of renal function prior to a contemplated operation (prostatectomy) seems to be particularly important in this class of cases on account of the frequent impossibility of obtaining separated renal secretions for functional purposes. The usefulness of blood-cryoscopy in prostatic hypertrophy complicated by ascending infection is best illustrated by a brief description of the most essential clinical features of some of our observations.

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[6] Kapsammer: Nierendiagnostik und Nierenchirurgie, 1907.

[7] The Diagnosis of Renal Insufficiency from the Freezing-Point of the Blood, THE JOURNAL A. M. A., March 4, 1899, p. 495.

[8] Emerson: Clinical Diagnosis, Ed. 3, 1911.

[9] Casper: Handbuch der Cystoscopie, 1911.

[10] Neudorfer: Mitt. a. d. Grenzgeb. d. Med. u. Chir., 1906, xvi.

REPORT OF CASES

A man of 79 entered the hospital with complete retention, pronounced symptoms of general urosepsis and a blood-point of 0.626. After drainage had been established by means of a retaining catheter, under appropriate general treatment, the freezing-point gradually dropped to 0.601 and 0.598 until it reached 0.577. Prostatectomy was followed by a temporarily good result.

Another prostatic of 68 with a blood-point of 0.589 made a very slow but, in the end, satisfactory recovery from his prostatectomy.

The blood-point of a man of 74 with complete retention and urosepsis dropped, after drainage by a retaining catheter and appropriate treatment, from 0.595 to 0.576. Prostatectomy was followed by recurrence of uroseptic symptoms, suppression of urine, coma, etc., and a blood-point of 0.616. With the improvement of untoward symptoms this dropped to 0.579 and was 0.566 at the time the patient was discharged.

Another prostatic of 69, with several calculi behind the enlarged gland, showed on admission a blood-point of 0.588, which dropped to 0,579 before operation. Immediately following prostatectomy the patient became septic, developing symptoms of a general psychosis; his blood-point at the same time was 0.633, rising to 0.65 and remaining above 0.60 until his death. Autopsy showed ascending pyelonephritis.

A man of 64 with carcinoma of the prostate showed, on admission, a blood-point of 0.595. Owing to marked uroseptic symptoms and because his blood-point remained persistently around 0.60, relief for the patient's complete retention, which was very distressing on account of difficulty of catheterization, was attempted by cystostomy under local anesthesia. Following this the symptoms of urosepsis abated and the blood-point dropped gradually to 0.581. At the patient's persistent request prostatectomy was performed under spinal anesthesia four weeks after the first operation. Death occurred two weeks later under symptoms of sepsis and renal insufficiency; autopsy revealed ascending pyelonephritis.

A patient of 70, with prostatic hypertrophy and severe pyuria, rather suddenly developed uremic coma with complete suppression of urine. The blood-point was 0.755. Autopsy showed advanced deterioration of both kidneys through pyonephrotic foci.

The average blood-point of prostatics who died with or without operation was 0.600, while that of patients who recovered was 0.584. From our experience it therefore appears that blood-cryoscopy in this class of cases offers a definite aid as to indicating the time and nature of operative procedures, and especially in respect to prognosis.

Two patients with bilateral renal tumors (most probably cystic kidneys) gave interesting cryoscopic data. In one of them tests made at weekly intervals gave 0.607, 0.664, 0.628 and 0.625, respectively, an average of 0.631. The other patient showed a point of 0.607 on admission, which with the exacerbation of symptoms of urosepsis and urinary insufficiency rose to 0.627. With the improvement of the general untoward symptoms the blood-point dropped to normal, 0.558, 0.564 and 0.546 respectively, but at the end of the observation rose again to 0.600. Both patients left the hospital without submitting to operation, and nothing could be ascertained as to their subsequent condition.

A patient of 46 with bilateral pyonephrotic stone-kidneys, on one of which a nephrolithotomy had been previously done, resulting in complete loss of function of the organ operated on, showed a blood-point of 0.601; on these findings operative interference was deemed inadvisable.

In eleven determinations on three patients with chronic nephritis, blood-points were about normal, varying between 0.540 and 0.582, and averaging 0.561. Two fatal cases of uremic coma showed points of 0.597 and 0.596 respectively. In one case of nephritis of pregnancy (albuminuria, edema), with a blood-point of 0.551, there was prompt recovery after delivery.

Ten determinations were made on patients with marked cachexia or anemia complicated by systemic toxemia; in nine of them the blood-point varied between 0.494 and 0.546, giving an average of 0.516. One case of this class (grave diabetes complicated by pulmonary tuberculosis) showed at first a point of 0.554 which gradually, with the increase of cachexia and anemia, fell to 0.526 shortly before death.

Finally ten determinations were made on patients with grave organic lesions (diabetic acidosis, cirrhosis of liver, arteriosclerosis, apoplexy, tertiary lues) showing points varying between 0.558 and 0.595, an average of 0.579.

Altogether 132 determinations were made on sixty-nine individuals.

COMPARISON WITH OTHER FUNCTIONAL TESTS

In a number of cases comparative tests were made of blood-cryoscopy with the twenty-four-hour urea output. Quantitative estimations of urea, carried out for a series of days under hospital regimen, give an approximate idea of total renal function and are of practical value. Our comparative observations on continuous daily quantitative urea determinations and cryoscopy of blood show a marked coincidence between both methods which should be applied simultaneously if time permits, when other means (ureteral catheterization) are not feasible.

Cryoscopy unquestionably possesses the advantage over all methods of quantitative chemical analysis of metabolistic end-products (urea, chlorids, etc.), since it demonstrates not only reduced elimination of one substance but of the total sum of all fixed molecules as excreted by the kidneys. It likewise has an advantage over the various color tests (methylene-blue, indigo-carmin, phenolsulphonephthalein), by which total renal function is to be estimated from the time, intensity and quantity of excreted dyes. The results of control-tests of colorimetric determinations are not uniform and are particularly inaccurate in the presence of blood. Besides, they are theoretically objectionable as they depend on the absorption and elimination of extraneous substances not physiologically present in the circulation, while by cryoscopy the ability of the kidneys to eliminate substances normally present in the blood is measured. Nevertheless this criticism should not be interpreted as an attempt to minimize the value of the various color and other chemical and physical tests, from the study of which an insight into the all-important question of renal function is obtained. In our opinion blood-cryoscopy represents merely an aid to our clinical armamentarium; it deepens and intensifies the diagnosis and should be a routine procedure in doubtful cases.

CONCLUSIONS

The hope is expressed that our work will be an impetus to further investigations on a larger scale, at least as regards surgical renal lesions, in order to settle the question whether cryoscopy deserves a definite place in renal surgery. On the basis of our work with the method we feel justified in formulating the following conclusions:

1. Cryoscopy of blood, done correctly, gives a point of about 0.56 C. below zero in the presence of healthy kidneys.

2. This point is not materially altered through unilateral kidney-lesions, provided that the other organ is anatomically and functionally intact.

3. A lowering of the blood-point to 0.52 and lower is generally found in anemic or cachectic individuals with otherwise healthy kidneys.

4. A rise to 0.60 and above should be interpreted as a danger signal of derangement of renal function and should indicate caution against radical operative procedures.

5. In the hands of a critical observer, cryoscopy of blood is a valuable test for the estimation of absolute or total renal function, especially when estimation of relative function, through ureteral catheterization, is not feasible.

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A STUDY OF THE ACCURACY OF THE PHENOLSULPHONEPHTHALEIN TEST FOR RENAL FUNCTION *

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It is not sufficient to-day to be able to diagnosticate the presence of disease in any organ; we wish to know also to what extent the disease has interfered with the function of that organ.

The kidneys lend themselves particularly well to estimation of function on account of the ease with which their excretion can be obtained. It is for this reason that methods of estimating the functional ability of these organs have developed so rapidly and effectively. It is scarcely necessary to refer to the inadequacy of the most careful clinical examination of the patient, combined with the most thorough clinical and microscopic examination of the urine always to reveal the presence of kidney disease, even when it is far advanced. Again, when pathologic elements are present in the urine, the exact significance of these is not always evident. Abundant albumin and casts can be present when the renal lesions are slight, and absent when the lesions are grave. When certain clinical signs are present the nature and gravity of the lesions may be very evident, but these are not always present, or, if present, may be very difficult to interpret. Most of the criticism of functional tests has come from those who have not used them and are unfamiliar with the nature of the information supplied.

A small group of kidney surgeons with vast experience and ripe judgment, such as Israel, Rovsing and a few others, do not feel the necessity of any functional estimations and consider their adoption unnecessary, but other equally experienced surgeons, such as Casper, Kümmell, Kelly and the late Albarran, make use of one or more of the various tests in vogue.

The quotation of mortality figures of nephrectomy by the various surgeons who employ functional tests and those who do not, is not a fruitful source of information. So many factors must be taken into consideration in analyzing statistics of this kind, not the least of which is the individual skill of the operator, that comparative statistics are difficult to interpret as far as the value of any certain procedure is concerned. It may be stated, however, that mortality statistics of those using functional tests do not suffer by comparison.

The whole subject resolves itself into the question as to whether a knowledge of the renal function is of any value before operative procedures on these organs. If of value, then functional estimations should be made. The estimation of renal function, however, for the sole purpose of determining whether the remaining kidney can be depended on for its efficiency, forms a relatively small field of usefulness.

A wider field of usefulness is the determination of the total function, first in nephritis, in order to obtain an accurate knowledge of the extent of the renal lesion; secondly, the estimation of the total function in cases of urinary obstruction as an index to the degree of renal disturbance, and thirdly, its use for purposes of diagnosis in revealing unsuspected lesions or confirming the diagnosis of suspected, but not definitely proved lesions.

The kidney efficiency is tested in one of two ways, either by estimating the amount of retention, if any, of substances in the blood usually eliminated by kidneys or by measuring the excretion power. A measure of the kidney retention is of value only in bilateral disease and usually gives information only when the lesions are severe. Cryoscopy of the blood, estimation of blood urea, or, more valuable still, total nitrogen estimations of an albumin-free filtrate, are the methods most in use, and at times furnish information of great value, especially for prognosis. Two years ago Rowntree and myself[1] reported a method of estimating the excretion power of the kidneys by means of phthalein. The technic of the test as originally reported we have found reason to modify in only a few minor details.

TECHNIC

The technic of estimating total function without the use of ureter catheters is as follows: One c.c. of phthalein solution (6 mg.) is injected deep into the muscles, preferably the lumbar muscles, and the patient instructed to void at the end of one hour and ten minutes, and again at the end of two hours and ten minutes from the time of injection, each specimen being kept separate. The drug should appear normally in about ten minutes, and this much time is consequently allowed for its appearance. In this method no account is taken of the time of appearance, the main reliance being placed on the quantity excreted. This method is extremely simple.

In cases with urinary obstruction a catheter must be employed. The time of appearance is estimated in these cases, the collection being made for two separate hours from the time of appearance of the drug in the urine. When the phthalein excretion is high for the first hour it is unnecessary to continue the test longer. The estimation of the amount of drug excreted is made by means of a modified Hellige colorimeter. The estimations can be made quite accurately for practical purposes by means of two graduated test-tubes. When the test is used in conjunction with ureteral catheterization the injection is made intravenously, and the urine collected for two separate fifteen-minute intervals, the time of collection beginning with the appearance of the drug on the first side. When the kidneys are functioning smoothly, and the function is being measured simply to determine the efficiency of the remaining kidney, should nephrectomy be performed, a collection for fifteen minutes is usually all that is necessary. If the second kidney is normal, a high excretion of phthalein will occur, sufficient to indicate its efficiency. When, however, both kidneys are diseased or when the functional estimations are being made for purposes of diagnosis, comparison of the two kidneys being desired, periods longer than fifteen minutes must be employed. For short periods the kidneys normally vary much in the relative amount of work which each one performs, but if the the time of col-

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* Read in the Symposium on Tests of Kidney Function in the Section on Genito-Urinary Diseases of the American Medical Association, at the Sixty-Third Annual Session, held at Atlantic City, June, 1912.

[1] Jour. Pharm. and Exper. Therap., July, 1910.

lection is one hour the variation will be slight. When very accurate relative estimations are desired intramuscular injection and collection for one hour should be made. The total function without use of the ureter catheters is always determined in these cases for purposes of comparison with the separate function and to check up the amount of catheter inhibition should this occur.

RESULTS

The test has been employed now in over 200 cases of nephritis of varying types, approximately 350 cases of urinary obstruction, mostly prostatic cases, in 150 cases of unilateral or bilateral disease in conjunction with ureteral catheterization, besides being used in over a thousand other cases as part of a routine examination. Our added experience confirms entirely our early conclusions regarding the reliability and accuracy of the test.

In the milder forms of so-called glomerular or parenchymatous nephritis the definite clinical evidence of renal disease seemed at first rather irreconcilable with the relatively high phthalein output. Phthalein is eliminated almost if not entirely by the tubules, so the presence of glomerular disease would not necessarily cause decreased phthalein elimination. The glomeruli, however, are rarely severely diseased without considerable resultant damage to the tubules, and the greater the tubular injury the more marked the phthalein decrease. In these cases with disease of long standing, the elimination is markedly decreased. In the chronic interstitial type of nephritis individuals with low phthalein excretion are occasionally seen in whom no evidence of uremia is present, and there is somewhat of a tendency for this reason to doubt the accuracy of the test. There have been some such cases in our series, and in three of these death resulted some months later from uremia. Autopsy in each case proved the presence of a very advanced chronic nephritis. In the routine examination of patients, one was found whose excretion of phthalein was 7 per cent. for two hours, although no suspicion of any renal disease was entertained in this case. The most careful examination failed to give any evidence of the existence of a nephritis. The patient was kept under observation, and a few months later suddenly developed uremia which ended in death. Autopsy showed an extreme grade of chronic interstitial nephritis.

In thirty-five cases the opportunity has presented itself of verifying the accuracy of the test at autopsy. The lesions as revealed correspond closely with the efficiency, as shown by the test. In one case with a practically normal output, a moderate grade of double polycystic kidney was found. The urine itself showed no abnormalities, and the condition was unsuspected.

In thirty cases a nephrectomy has been performed and an opportunity afforded of comparing the pathologic picture with the function, as shown before operation. The phthalein excretion and the amount of kidney destruction seemed to correspond in a striking manner. It would be well to remind those using the phthalein test that it is only a test of the excreting power of the kidney, and not a test of the normal or abnormal function of other organs. It furnishes, when taken in conjunction with the ordinary clinical examination, accurate information which can be obtained at the present time in no other way. With added experience we find no reason to change our previous views as regards the accuracy of the test in measuring the excretion power of the kidneys.

330 North Charles Street.

ABSTRACT OF DISCUSSION

ON PAPERS OF DRS. THOMAS, KROTOSZYNER AND HARTMAN, AND GERAGHTY

Dr. Charles E. Barnett, Fort Wayne, Ind.: I wish to ask Dr. Geraghty to give us in closing the time of appearance of the phthalein. I think also that some of us do not know about his color solution; at least, in the West we are a little dark on that subject. He has changed the quantity of color solution in his colorimeter. I want to ask him also to dilate a little more on this polycystic kidney question which he spoke about. I have a case which I expect to report—the patient is still in the hospital—in which three weeks ago I took out a polycystic kidney on the right side. I did the phthalein test in that case, and got a 55 per cent. quantitative test. The excretion was more rapid in the second hour than in the first hour. The time on the left side (the good kidney) was fourteen minutes. On the left side the urine came in spurts in the normal way, while on the right side there was a continuous flow, such as one gets when tapping a hydronephrosis. The right kidney showed polyuria, while the left kidney showed a proper kidney function. I did not expect to find a polycystic kidney, but finding this kidney polycystic, and knowing that the left side seemed to be normal, I took the kidney out. A couple of days ago there was an average secretion of 33 ounces of urine, with an average specific gravity of 1.020. So it looks as if the other kidney was all right.

It seems to me that the phthalein test gives us as good a color test as the indigocarmin test; with the phthalein test we are able to check up the quantitative functional capacity of the kidney better than with any other test that I know of to-day.

Dr. Francis R. Hagner, Washington, D. C.: I have had quite a little experience with it, and in my hands it has been most admirable. Dr. Geraghty did not mention the fact that it does not make any difference in this test about the amount of fluid excreted by the kidney. In an hour, the kidney may excrete half an ounce, and yet that half an ounce of urine may contain the normal percentage of phthalein. On the other hand, the kidney may excrete 5 or 6 ounces, and yet the percentage of phthalein may be very low.

When I first began to use this test, I demonstrated before the class a patient whose urine examination showed no casts, low specific gravity and no albumin. He was turned over from the medical service to see if there was anything the matter with the kidneys. The phthalein test was made, and in an hour the patient excreted not over 5 per cent. of the drug. There was so little that it was difficult to see, and I began to think I might be mistaken in the amount excreted. This patient lived just two weeks. He had never had any casts in his urine. He had one attack of suppression but left the hospital a few days later and was brought to another hospital with which I was connected, in a comatose condition and died that afternoon. Necropsy showed a marked chronic interstitial nephritis, and yet the patient two weeks before did not appear as ill as the test would indicate.

Dr. William H. Schmidt, Atlantic City, N. J.: In the use of indigocarmin a case occurred recently in a patient who had an infection of the kidney and in whom there was no excretion of the dye until the end of thirty minutes, which would seem to substantiate Dr. Thomas' statement regarding the use of morphin. At operation, about three months ago, the kidney was found to be so badly damaged that it was removed. Since that time the patient has gone on to complete recovery. In a recent case my attention was called to the kidney condition by an accident. The functional kidney test was done, employing indigocarmin, and there was no excretion of the dye whatever. The patient was operated on and the kidney removed. It proved to be a polycystic kidney. The patient, after removal of the kidney, passed quite a large quantity of urine, as much as 60 or 70 ounces a day, but survived the operation only two weeks. At necropsy the other kidney was found to be polycystic.

Dr. H. D. Furniss, New York: I make the two tests, get the total capacity with phthalein, and afterward use the indigocarmin test to give the relative functional capacity of each kidney. In that way I have avoided leaving the catheters in. I have found the 0.4 per cent. indigocarmin solution very painful. I now inject 30 minims of 0.4 per cent. solution of beta-eucaine before injecting the indigocarmin, using the same needle but a different syringe. In this way the indigocarmin causes very little pain.

I recently had a case of polycystic kidney in which there was no elimination of indigocarmin and only 6 per cent. of phthalein in two hours; the patient promptly died. In a number of cases in which I have used the phthalein test it has cleared up the diagnosis. In one patient, who was sent to me on account of intermittent pain in the left renal region that had existed over a period of five years, both ureters were catheterized and phthalein was injected. There was no elimination of the drug on the left side; on the right side 35 per cent. was excreted in two hours. I made a radiograph and two large stones were seen in the pelvis of the right kidney. Because of the failure of elimination on the left side I again catheterized the left ureter to the pelvis of the kidney; a 10-ounce hydronephrosis was found. In another patient who complained of intermittent attacks of pain on the left side of a similar type there was a failure of elimination. I found a 2-ounce hydronephrosis on the left side with a stricture of the upper end of the ureter. I think that in either one of these cases I would have stopped in my examination and would not have investigated further except for the phthalein. One case that I have is very instructive. The patient is a woman with only one kidney and a stricture of the lower end of the ureter. When the stricture contracts, the amount of urine drops from 25 ounces down to 10 ounces, and the excretion of phthalein for an hour-and-a-half period is only 12 per cent. After dilatation of the stricture the amount of urine rises to 25 ounces, and the output of the drug to 35 per cent. Not only is this test useful in determining the functional capacity of the kidney, but it also helps to make diagnoses which we would otherwise overlook.

Dr. Louis E. Schmidt, Chicago: For the last fifteen years I have had considerable experience with functional tests, and I am now almost exclusively limiting myself to the cryoscopy of the blood and the phthalein test. My experience has convinced me that these are the two tests on which we can place some reliance. It is true, as Dr. Geraghty has said, that possibly our operative results are no better even if we do use functional tests, but it may in some instances permit us to give a more correct prognosis. I would rather reserve the indigocarmin test for cases in which I am unable to do catheterization. It is true that there are some objections to catheterization, as Dr. Thomas has pointed out, but I think that, as a whole, those objections are limited. I can corroborate what Dr. Krotoszyner has said in regard to cryoscopy of the blood. My own experience with cryoscopy of the blood has led me to place as much reliance on this test, as far as the prognosis is concerned, as on any one of the other tests, although, as Dr. Geraghty has stated, we should not depend on one, but on as many as is possible. I am familiar with the statistics of Kümmel and others abroad, and I know myself from personal conversations with these operators that they do not entirely depend on their figures, yet I am under the impression that it is desirable for us to come to some conclusions so that we can at least give more accurate prognoses.

Dr. Edwin Beer, New York: Although I am not an admirer of any single test, I believe they are of some use in estimating kidney function. I think, however, to draw extreme conclusions from the excretion of these substances is liable to lead to error, because we, first of all, know very little of all the underlying factors that make for negativity. If there is no excretion of indigocarmin or no excretion of phthalein one is liable to think that both kidneys are badly diseased. There are exceptions to that rule. We have to solve the negative cases, and I believe that this Section ought to make an attempt to get at all the negative results and to see by analysis why those cases were negative, and how long the patients lived after the tests were negative. In my own experience and the experience of others there have been a number of patients who survived a nephrectomy with a freezing-point of the blood much below 0.59 or 0.60, contrary to the law that Kümmel laid down.

We should study the combined and the individual function of the kidneys. I believe that in studying the combined function, with these tests we are a little nearer an accurate estimation of kidney function, but when it comes to studying the kidneys separately we are confronted with a different problem, though the same factor to a less degree may be present in the former type of cases, for instance, prostatism, chronic nephritis, etc. In this connection, I want to refer to the fact that the kidneys are considered as if they were independent structures, whereas as long as six years ago I published a report of a series of seven cases with obstruction, etc., on one side from one cause or another, in which, on making the phlorizin test, the glycosuria was absent on the other side. Professor Rovsing has reported a series of cases showing the effect of stone and tuberculosis on the secretion of the opposite kidney. Despite the negative test reaction these cases may stand nephrectomy well and after the diseased kidney has been removed, the remaining kidney works better and the tests become positive. In other words, negativity may and often does mean, in surgical kidney conditions, a transient inhibition. The essential thing is to analyze the negative cases, to report the end-results, how long the patient lived and whether there was uremia or not.

Dr. Hugh H. Young, Baltimore: This phenolsulphonephthalein test has been of considerable help to me, particularly in prostatic cases. In the early work with this test we were doubtful of its value, owing to the fact that in some patients who were in perfectly good health with no sign of uremia, the urine showing no sign of grave kidney lesion, the test showed that the kidneys were greatly diseased. At first we took that as an evidence that the test was all wrong, but time has shown that the test is practically always right. I believe that, with the exception of certain peculiar forms of glomerular disease, the test is usually almost perfectly right in its conclusions, and we have been led, as hundreds of cases have piled up, to have more confidence in the use of it. I would not think of operating without it in a great many patients. One patient presented urine that was almost normal in appearance. There were practically no signs of renal lesion, yet the drug did not appear in the urine in about fifty minutes, and the patient died of uremia within three weeks; necropsy showed two shrunken kidneys which were practically useless. Evidently an operation would have resulted in death.

This test is also of value in watching patients while preparing them for operation. From week to week one sees improvement with retained catheter or suprapubic drainage. Patients with an extremely bad appearance, with the percentage of excretion from 5 to 12 per cent. during the first hour, will at the end of a month or two become three times as good, both in appearance and in the percentage of the drug excreted. It gives an index as to when one can operate safely.

It is true that certain patients in whose cases the phthalein test is bad can be operated on safely. If a patient has a low phthalein test, which improves a little under prolonged catheterization, and if during that treatment the patient shows no sign of uremia, no sign of change in the kidney under the conditions under which he is living, he can generally be operated on without danger of suppression or uremia after the operation. In other words, those patients have reached a condition of renal stability, or excretion stability, under conditions in which they can be operated on safely. The test must be considered relative, not absolute. As compared with carmin ureteroscopy it seems to me that it is infinitely more simple. Take, for instance, a prostatic case. The cystoscope must be kept in place forty or fifty minutes to watch the appearance of the drug. If there is hemorrhage, one could not tell when it began. If the urine became cloudy one could not see the ureters. It seems to me that carmin ureteroscopy is out of the question for the great majority of prostatic cases for which the phthalein test is so simple. If the patient is able to void urine it is not absolutely necessary to pass the catheter.

Dr. A. J. Crowell, Charlotte, N. C.: An objection that Dr. Thomas mentioned in regard to the phenolsulphonephthalein test was that the urine would pass around the ureteral catheter and thus all the urine might not be accumulated. The same objection can be raised to the indigocarmin test, in that the greater the secretion of the kidney the less marked will be the color in the urine. The smaller the amount of urine secreted, of course, the greater the coloration in the urine as it comes away. So that one would be just as inaccurate, I think, as the other. About two years ago Dr. Geraghty, just after he discovered this test, gave me some of the material for trial, and I have been using it regularly since that time. The only case of hypertrophy of the prostate which I have lost since that time following operation was one in which there was about 12 per cent. excretion, as accurately as it could be estimated in two hours' time. Outside of the poor output, the patient was apparently in excellent health. His physician, Dr. Brennizer, was very anxious for the patient to be operated on, and thought he would stand the operation well. I advised against it, and put him off for a week or two, but he insisted; finally I operated and the patient died in about three days.

Dr. B. A. Thomas, Philadelphia: In supporting and advocating the indigocarmin test I do not wish to be understood as attempting to minimize the value of the other tests, such as phenolsulphonephthalein, cryoscopy of the blood, etc. I still believe, however, from my own experience, that the indigocarmin test is superior for the practical purposes of the surgeon. This is my belief simply because of the ease with which it can be carried out, not necessitating the catheterization of the ureters, on which the unilateral determination of kidney function by phthalein or any other test depends. As I said in my paper, the indigocarmin test may be carried out either qualitatively or quantitatively. The statistics submitted in these tables are of qualitative determinations. I have done some comparative work with these two agents, the drug phthalein on the one hand, and the dye carmin on the other, and it has been my observation that if you wish to do quantitative work the results are just as satisfactory with the indigocarmin as they are with the phthalein.

It has been my observation that if at the end of twenty minutes there is no elimination, that kidney is functionally insufficient. Therefore, there is no necessity for continuing the operation longer. If the bladder is well washed out before the examination is undertaken there are few cases in which the urine will become so cloudy as to interfere. If it is necessary, it is easily possible with the modern cystoscopes, employing the irrigation principle, to wash out the bladder and fill it up within one minute.

Dr. M. Krotoszyner, San Francisco: It appears from the discussion that very few have practical experience with blood cryoscopy, which if correctly done is a valuable functional method, and on account of its uniformly good results will amply repay for the time and labor spent on its performance. The test is, of course, not so easily carried out as the various other functional methods on account of its rather difficult technic. It took Dr. Hartman, who has carried out the technical part of our work, several months to perfect the technic to such a point as to obtain uniformly good results in normal cases. I therefore agree with Kümmel who advises that the results of blood cryoscopy, as published in the literature from various experimenters be taken with a grain of salt. One observer, Theodore Cohn of Königsberg, gets for normal cases an average blood-point varying between 0.51 and 0.62 and I dare say that his technic must have been faulty as that of others who obtained points at variance from what we have found to be normal. I consider the phthalein test a very valuable addition to our armamentarium of renal functional tests; nevertheless, it should not have preference before the other recognized methods and should not be used alone for the determination of renal function. I think that if the various tests will be applied in these cases in which they are indicated and if the findings will be interpreted with due criticism and judgment, renal surgery will in the end be materially benefited. Renal surgery has been very much advanced by the newer urologic methods, especially by the application of renal functional tests. According to Casper the mortality of kidney operations has gone down from about 30 per cent. in precystoscopic times to about 4 per cent.

Dr. John T. Geraghty, Baltimore: In answer to Dr. Barnett, the time of appearance generally runs parallel with the amount excreted; that is, if there is a marked delay in the appearance of the drug, there will be a very marked diminution in the amount eliminated. In estimating the bilateral function, we neglect the time of appearance simply to avoid catheterization. As far as reading the amount of the drug is concerned, you can make your own standard. We use 6 mg. to the liter.

Phlorizin is extremely sensitive and the results notoriously unreliable. The ureter catheter may produce sufficient inhibition of function to prevent the appearance of glycosuria in a kidney with a moderately good function. Inhibition of the kidneys does occur from the presence of the catheter. In the majority of cases this comes immediately after the introduction of the catheters. It will soon be overcome. If it is not overcome, it is usually equal and bilateral, so that it can be checked up by taking the total function.

We have had only two cases of polycystic disease, one of which was not very far advanced; there were little cysts in the kidney, and there was no diminution in the output. The other case was an advanced case, and the output was only 2 or 3 per cent.

We should all bear in mind, I think, the limitations of functional tests, and not expect them to make a diagnosis for us, neglecting entirely our clinical examination. I think cryoscopy estimations of total nitrogen or of urea in the blood measure an entirely different thing from the excreting power of the kidney; they estimate the retention.

QUARANTINE IN THE MARITIME CITIES OF THE UNITED STATES

BY THE

PUBLIC HEALTH, HOSPITAL AND BUDGET COMMITTEE *

OF THE

NEW YORK ACADEMY OF MEDICINE

INTRODUCTION

With the recurring appearance of cholera on the Continent of Europe and of the bubonic plague in Central America and Cuba, the matter of the quarantine again demands discussion and careful consideration. The Journal of the American Medical Association of July 27, 1912, devotes to it an editorial[1] which affirms that the plague on the eastern coast of the United States is already a national health problem, while Dr. Howard D. King[2] of New Orleans, in a long article in the same issue of The Journal, asserts that "the United States to-day is confronted with a problem of momentous import, and one whose very gravity should awaken the entire country . . . to the danger of plague invasion."

The sounding of these warnings will probably cause the several health boards concerned to undertake precautionary measures. It is also arousing an agitation among the general public. The time is therefore particularly appropriate for a discussion of the whole problem of the administration of the maritime quarantine as it is at present in the United States, with special reference to the port of New York, which is the largest and most important gateway for foreign commerce and immigration in this continent.

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* This report was written by E. H. Lewinski-Corwin, Ph.D. (17 West Forty-Third Street), the executive secretary of the committee, and approved by the committee. The members of the committee are: Drs. Charles L. Dana, chairman; James Alexander Miller, secretary; Algernon T. Bristow, Robert J. Carlisle, Haven Emerson, Arpad G. Gerster, S. S. Goldwater, Thomas W. Hastings, L. Emmett Holt, John H. Huddleston, Abraham Jacobi, Theodore C. Janeway, Egbert Le Fevre, Samuel Lloyd, Frank S. Meara, W. Gilman Thompson, Philip Van Ingen and Linsly R. Williams.

[1] The Steady Advance of the Plague, editorial, The Journal A. M. A., July 27, 1912, p. 278.

[2] King, Howard D.: Plague, the Menace of the United States of America, The Journal A. M. A., July 27, 1912, p. 237.

I. HISTORY OF QUARANTINE IN EUROPE

Early European commerce with the Orient was centered in the Mediterranean, the principal ports being at first Oriental colonies. During the crusades in the thirteenth century a number of islands and towns came under the sovereignty of Venice, and here maritime commerce became very active. Consequently it was Venice that first undertook measures of protection against the epidemics coming from the East. From 900 to 1500 A. D. the plague appeared in Europe sixty-five times, causing dreadful ravages. To prevent its introduction, Venice appointed in 1348 three commissioners of health. Their number was increased to six in the next century. They were vested with very large powers. A bureau of health, and later a lazaretto were established, which served as models for those established later on.

Genoa and Marseilles followed Venice in establishing quarantine, which was not altogether a new idea, as quarantine was known in the Orient as far back as the seventh century. It meant forty days' detention of vessels and their personnel arriving from infected places. Neither the South European quarantines, although administered in a most stringent and ruthless way, nor the sanitary police of the cities of the interior (as the *prévôts de santé* of Paris) succeeded in keeping the plague out.

In the seventeenth century the plague had become an almost endemic disease in Europe. Each city had established a quarantine and other means of defense, but the only result was to block trade and commercial intercourse between cities.

The first general sanitary regulations for the whole of France were issued by Colbert, minister of Louis XIV, Aug. 25, 1683. They invested the Board of Health of Marseilles with almost absolute power, but the punishments for infringements of the regulations had not the severity of those of the fourteenth century. The general unrest and fear were allayed.

At the beginning of the nineteenth century the measures of protection in the principal ports of the Mediterranean were in the hands of the local boards of health, whose power was absolute. Each had a different set of rules and regulations. The period of time for which vessels were quarantined depended wholly on the whim of the boards, and great inconvenience to commerce followed.

In 1815 England abolished the quarantine, her chief concern at the time being to improve the sanitary conditions of her ports. The Italian states and France began to take similar steps. In 1847 France created six medical posts in the Orient — in Constantinople, Smyrna, Beyrouth, Alexandria, Cairo and Damascus — whose duty it was to keep the government informed of the health conditions of their respective localities. The studies of the French medical officers at these places showed that the plague was not endemic in either Turkey or Egypt, and a modification of the French quarantine laws promptly followed. Moreover, the same studies of these French officers brought about the first international sanitary conference, held in Paris in 1851. Austria, Great Britain, the Roman States, Sardinia, Sicily, Spain, Greece, Portugal, Russia, Tuscany and Turkey sent delegates. A code of more scientific measures to be enforced uniformly at the ports of the nations represented at the congress was prepared by this congress, but only three powers—France, Portugal and Sardinia—signified their willingness to sign this international agreement. In spite of the fact that the congress failed to bring about an international agreement, it paved the way for future congresses of this kind, at which the administrative and scientific principles and policies of modern quarantine were laid down, and in 1903 at the congress in Paris twenty powers signed the international agreement for uniform quarantine rules and administration.[3]

II. GROWTH OF THE FEDERAL CONTROL OF QUARANTINE IN THE UNITED STATES

1. Need of Uniformity of Quarantine Regulations.—In colonial times the different legislatures had control over the quarantines, a power which was inherited by the states and municipalities, and is still exercised by them in the ports of New York and Boston, although all other ports have by this time come under national control.

As far back as 1851 the lack of a uniform system of quarantine laws was keenly felt. After the first sanitary conference, held in Paris in 1851, it became evident that the non-uniformity of the laws regulating quarantine in the different states not only caused great inconvenience to freight and passenger traffic, but was a positive menace to public safety. Some ports, for the purpose of attracting commerce, would be lax in following the strict regulations which they had imposed on themselves, while others would make mild regulations with the same object of getting trade, thus frequently admitting epidemic diseases.

2. Efforts to Secure Uniformity of Laws.—A. Quarantine Conventions:

The first step in this country to bring about a uniform system of laws was made by the Philadelphia Board of Health in 1856, when a conference of delegates from all the ports in the United States was called to discuss the matter. Resolutions were passed in an effort to establish the desired uniformity, but no direct legislative action followed.

The second national quarantine convention took place in 1858, and the third in 1859. The latter resolved that the adoption by all commercial nations of a sound and well-digested code of marine hygiene would tend greatly to alleviate the evils of the quarantine system.[4]

B. New York Chamber of Commerce: In 1892, owing to the grave cholera situation, the New York Chamber of Commerce investigated the New York quarantine and its relation to the federal government. These investigators found that they were not able to cope single-handed with the situation, and consequently declared themselves emphatically in favor of federal control. The following is a summary of their arguments:

1. As the federal government is an indispensable factor in every quarantine crisis, it is only by giving to the federal government complete control that conflicts of authority and the weakening effects of official jealousy can be avoided.
2. The federal government has at command the trained men who have to be summoned to the help of the state in time of peril. It is better to have the federal government directly instead of indirectly responsible.
3. The federal govenment in every crisis, through the various arms of the public service, is able to command an amount of expert cooperation entirely beyond the reach of a state.
4. The cooperation of consuls with the quarantine officials would be better insured if the latter were federal instead of state officers.
5. An international supervision of infectious diseases is a probable and a very desirable outcome of recent experiences.

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[3] Loutfi, Z. L.: La Politique sanitaire internationale, Paris, Arthur Rousseau, 1906, passim, pp. 51-87.

[4] Proceedings of the First, Second and Third Quarantine Conventions, passim.

Such an outcome of itself would necessitate a national quarantine.

In accordance with these arguments, the Chamber of Commerce resolved to urge Congress to place the quarantine at New York and at all other places under national control. But Congress was not yet ready to adopt these measures.[5]

The following year the Chamber of Commerce resolved to cooperate with the National Quarantine Committee of the Academy of Medicine in its effort to secure efficient legislation from Congress, with reference to the establishment of a permanent health organization, under the national government.

C. New York Academy of Medicine: The special quarantine committee of the Academy of Medicine, to which this resolution of the Chamber of Commerce refers, was appointed Sept. 12, 1892, to investigate quarantine affairs at the port of New York, and the desirability of establishing a national quarantine. They found that the quarantine establishment at this port was insufficient for dealing with the emergency then confronting it. It was pointed out there that the interests which center in this port are not solely, nor largely, local but national, and the committee believed that the quarantine here could be most surely made humane, prompt and efficacious by the establishment of a national system, some of the more manifest advantages being: the uniformity of system and practice which would be insured by a national quarantine; the large and varied resources, both in trained men and in material, which would be available; the power of rapid concentration of forces at a point of threatened invasion by infectious disease; the avoidance of wide-spread apprehension and panic which a national administration would favor; the full and direct command of consular assistance and the promise of international cooperation; the concentration of responsibility in a single administrative body; the equable distribution of the expenses of a protective agency in whose benefits all parts of the nation share; and the removal of disastrous conflicts and pecuniary ambitions often openly pursued regardless of the public weal.

The National Quarantine Committee of the New York Academy of Medicine subsequently prepared a bill to establish a bureau of public health within the Treasury Department of the United States. The bill provided (1) that a commission of fifteen be appointed, which should consist of the Surgeon-General of the Army, the Surgeon-General of the Navy, the Supervising Surgeon-General of the Marine-Hospital Service, an officer from the Department of Justice, one medical commissioner from each of the sanitary districts of the United States and two commissioners at large; (2) that the duties of the bureau should be to collect and diffuse information on all matters affecting public health, including the sanitary condition of foreign ports and places from which contagious and infectious diseases might be imported into the United States; to be the medium through which the government should adopt measures in regard to public health; to cooperate with and aid state and municipal health authorities in the execution and enforcement of the rules; and to perform many other sanitary and administrative duties.

The bill did not pass, but many of its provisions were incorporated in the act of 1893, as outlined below.

D. Convention of Southern Congressmen: In November, 1905, the congressmen representing fourteen Southern states met in a convention in Chattanooga, Tenn., to discuss the prevailing quarantine administrations in the South. The sentiment of the convention was that experience of many years had conclusively demonstrated that, in view of the well-known cause of yellow fever epidemics, the many antiquated methods of quarantine hitherto resorted to were futile and onerous, and that in the interest of public health and public business, uniform regulations must be adopted. They accordingly resolved to request Congress to enact a law whereby the coast maritime and national frontier quarantine should be placed exclusively under the control and jurisdiction of the United States government, acting in cooperation with the several state boards of health, and that the government also negotiate with the governments of Central and South America and the West Indies urging them to adopt similar methods in stamping out the mosquito. They also resolved to urge the governors of the several states to call the attention of the legislatures of their respective states to the wisdom and policy of the above-mentioned resolution and the desirability of uniform quarantine regulations.

The resolutions of the convention led to the appropriation by Congress of $600,000 in the quarantine act of 1906, approved June 19, 1906.

3. Quarantine Legislation.—In the meantime, although there were no acts passed which gave the federal government direct power over the quarantine at all the ports of the country, the trend of legislation was toward this goal.

The first national quarantine act was passed Feb. 23, 1799, requiring federal officers to aid the local agencies in the execution of state or municipal quarantine regulations. On April 29, 1878, March 3, 1879, March 27, 1890, and March 3, 1891, similar acts were passed. On March 3, 1883, $100,000 was appropriated for maintaining quarantine points along the coast, and in 1906, $600,000 was voted by Congress for the organization of quarantine in the South. From time to time acts were passed increasing the powers and broadening the sphere of work of the federal public health service.

4. The Act of 1893.—The Interstate Quarantine Act of March 27, 1890, and the law passed March 3, 1891, charged the Surgeon-General of the United States Marine-Hospital Service with the preparation of the rules and regulations necessary for preventing the introduction of certain contagious diseases from one state into another, and also the supervision over the medical inspection of alien immigrants.

These acts, however, provided that the national measures were for the purpose of aiding the state and local quarantine authorities, and did not give to the federal government the power of supervision and control over them. This was for the first time done in 1893, by the Harris Act, February 15 (introduced by Senator Harris of Tennessee), which granted additional quarantine powers and imposed additional duties on the Marine-Hospital Service. The act provides that:

> 1. Any foreign vessel clearing for any port in the United States must obtain from the United States at the port of departure a bill of health, in the form presented by the Secretary of the Treasury, setting forth the sanitary history and condition of the vessel.
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> 2. In order to make inspections of vessels at foreign ports and to furnish to the United States government information regarding health and sanitary conditions of foreign ports, the President is authorized to detail medical officers of the government to serve in the offices of the consul at foreign ports.

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[5] Thirty-Fifth Annual Report of the Chamber of Commerce, pp. 79, 80

3. The Secretary of the Treasury, through the Marine-Hospital Service, is empowered to promulgate uniform quarantine regulations for the ports of the United States, which rules must be enforced by the state and municipal authorities, if they choose to undertake the enforcement of them. In case of their refusal or failure to carry out these regulations the President is empowered to detail federal officers for this purpose.

4. The Surgeon-General is empowered to examine the quarantine regulations of all state and municipal boards of health, and cooperate with them in the execution and enforcement of the rules and regulations made by the Secretary of the Treasury.

5. The American consular officers at foreign ports (designated by the Secretary of the Treasury) are required to make weekly reports of the sanitary conditions of the ports and places at which they are stationed.

6. On the arrival of an infected vessel at a port in the United States not provided with proper facilities for treatment of the same, the Secretary of the Treasury may remand said vessel, at its own expense, to the nearest national or other quarantine station, where accommodations are provided for the necessary disinfection and treatment of the vessel, passengers and cargo.

7. Whenever there exists serious danger of the introduction of a contagious disease into the United States from a foreign country, the President is given power to prohibit, in whole or in part, the introduction of persons and property from such countries or places as he shall designate and for such period of time as he may deem necessary.

8. When a state shall surrender to the United States the use of buildings and disinfecting apparatus at a state quarantine station, the Secretary of the Treasury is authorized to pay a reasonable compensation for them.

5. Subsequent Legislation.—On Aug. 18, 1894, March 2, 1901, July 1, 1902, and Aug. 14, 1912, acts were passed giving to the service additional minor powers with regard to vessels plying between foreign ports on or near the frontiers of the United States, and United States ports adjacent thereto, also with regard to interstate quarantine regulations. The act of July 1, 1902, changed the name of the service to "United States Public Health and Marine-Hospital Service," and the act of Aug. 14, 1912, changed its name to "United States Public Health Service," and further enlarged its scope.

III. THE ORGANIZATION AND WORK OF THE UNITED STATES PUBLIC HEALTH SERVICE

1. Organization.—All maritime and interstate quarantine powers of the United States are vested in the Public Health Service, which is a branch of the United States Treasury Department, and is directed by a supervising surgeon-general. The service has six administrative divisions, each in charge of an assistant surgeon-general. These divisions, named in the order mentioned in the act of July 1, 1902, are as follows: (1) Marine Hospitals and Relief; (2) Domestic Quarantine; (3) Foreign and Insular Quarantine; (4) Personnel and Accounts; (5) Sanitary Reports and Statistics, and (6) Scientific Research and Sanitation.

2. Staff.—The service is composed of 135 commissioned officers, 283 acting assistant surgeons and 1,014 other employees. By a recent act of Congress, approved Aug. 14, 1912, the salaries of the officers were fixed as follows: Surgeon-General, $6,000; assistant surgeon-general, $4,000; senior surgeons (ten in number), $3,500; surgeon, $3,000; passed assistant surgeon, $2,400; assistant surgeon, $2,000.

3. Duties of the Service.—The service operates forty-eight quarantine stations on the Pacific, the Gulf and the Atlantic seaboards. It also operates the quarantine systems in the Philippine Islands, Hawaiian Islands, Porto Rico and Alaska. The duty of medical inspection of aliens for the determination of diseases deportable under the immigration laws also devolves on the service.[6] In twenty-three marine hospitals and 120 other relief stations it treats annually about 58,000 sick and disabled seamen. It has officers in the ports of China, Japan, India, Europe, Central and South America and the West Indies, to sign the bills of health of vessels, examine immigrants and give general sanitary information, and it also maintains a sanatorium for consumptives in New Mexico and an institution for the investigation of leprosy in Hawaii.[7] The service has its own Hygienic Laboratory in Washington, with a personnel of sixty men, and their bacteriologic and other researches as well as their sanitation studies have resulted in a number of valuable scientific and practical achievements.[8] All the new members of the staff are first attached to some large quarantine station for special training, and then are transferred to the Hygienic Laboratory for experience in the bacteriology of the quarantinable diseases. The service publishes weekly public health reports. These reports usually contain: (1) articles setting forth the results of the studies at the government laboratories, then (2) a survey of health conditions and of public health work carried on in the United States, and (3) a survey of foreign health conditions.

4. Quarantine Regulations.—The service has established uniform quarantine regulations for all ports of the United States. For the purpose of these regulations the following diseases have been made quarantinable: cholera, yellow fever, small-pox, typhus fever, leprosy and plague. Vessels clearing from foreign ports or any port in the dependencies must obtain a bill of health giving detailed information as to the ship, crew, cargo and passengers. Inspection is required of all vessels from infected ports and of all vessels carrying steerage passengers. If sailing from a healthful port the inspection of the vessel is limited to steerage passengers and their living-rooms. All vessels liable to have been infected by a communicable disease are required to be disinfected before the issuance of the bill of health.

IV. ADVANTAGES OF FEDERAL CONTROL OF QUARANTINE

1. Social.—A. The National Character of Modern Maritime Quarantine: Like modern commerce, modern maritime quarantine is not a matter of local character and importance, but is essentially national, or even international in its significance and its bearing on the health of the people. A highly contagious disease brought into one city or state will spread like a conflagration to other cities or states or countries without any regard to imaginary state lines. When New York quarantines vessels and passengers infected with malaria, it is not protecting the citizens of New York so much as those of the South.

B. The National Importance of the Port of New York: The magnitude of its shipping, and its importance as an immigration center, make New York preeminently national in character. As the *Survey* says:

> Here we have the largest quarantine station in the world. Eight hundred thousand persons and eight hundred million

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6. Cofer, L. E. (assistant surgeon-general): Quarantine Laws and Their Working, New York Med. Jour., Feb. 10, 1912, p. 304.

7. General Wyman: Work of the Federal Government in the Matter of Health Conservation, Proceedings of the Third Annual Meeting of Life-Insurance Presidents, January, 1910, p. 86.

8. Anderson, John F.: Some Recent Contributions by the U. S. Public Health and Marine-Hospital Service to Preventive Medicine, THE JOURNAL A. M. A., June 8, 1912, p. 1748

dollars' worth of goods come into the port in a year. Many ships do not so much as touch at a New York dock, but proceed directly from the New York Quarantine to a New Jersey landing, from which both goods and passengers may go directly to the interior of the country without crossing the Hudson. If there ever were a port in which quarantine should be national, it is that of New York.[9]

C. Distribution of Financial Burden: The financial burden of the administration of the New York quarantine, which serves the whole country, rests on New York state alone. For a number of years the New York quarantine was costing the state about $70,000 annually, and the expenses will be much larger in the future.† Under a locally administered quarantine the brunt of the expense of keeping disease out of the country at large is borne, not by the whole nation, but by individual states or localities.

D. Futility of Efforts of Local Quarantines to Keep Out Disease: The record of the work of local quarantines has shown repeatedly that they are unable, without help from outside, to keep out the various quarantinable diseases brought in. This has been admitted in many instances by the states, and many state stations have been voluntarily given over to the national government. In many cases the national government was asked for assistance, and in many other cases it had to give assistance on its own initiative.

In 1893 the Southern states opposed national health legislation, affirming that all fear of yellow fever becoming epidemic again was without foundation, although many people held contrary opinions. It did not take long to prove that there was no basis for this sense of security. The yellow fever epidemic of 1897 long defied all efforts of the local and state health boards to stamp it out, and they were finally obliged to ask aid from other sections of the country.[10] In 1897 Drake[11] wrote that the yellow fever outbreak in the South of that year fully demonstrated that state and municipal health authorities were inadequate to prevent the entrance and spread of infectious and contagious diseases, and emphasized the necessity of national action in dealing with cholera, yellow fever, small-pox and the plague, which was finally decided on by Congress in 1906.

As regards New York, the state was unable to cope with the cholera situation of 1892. Federal officers had to be sent to assist the state officers, and President Harrison had to act by issuing an order to hold cholera-infected ships at quarantine for twenty days.

The local administration of quarantine by men ill qualified to perform such duties led often to humorous absurdities through the tenacious and indiscriminate adherence to routine practice. Harrington cites, among other almost incredible instances, an incident when the municipal authorities at one port required thorough disinfection of a barrel of carbolic acid before it was allowed to be landed.[12]

2. *Administrative.*—A. Uniformity of Quarantine Regulations and Quarantine Procedure: As has been shown above in the cursory survey of the history of quarantine administration in Europe and in the United States, the need of uniformity of quarantine regulations and rules was appreciated long ago, but was not definitely formulated until the middle of the last century. All the quarantine conferences, national and international, strongly recommended uniformity of quarantine rules as a matter greatly desired for the safeguarding of health as well as a convenience to commerce. It is a great convenience to the maritime interests, no doubt, to know that the requirements of one port apply in the same way and measure to all the other ports. All the most important nations of the world have adopted a uniform system of quarantine rules and regulations in order to facilitate commercial intercourse and make discriminations against countries and individual vessels impossible. The United States is the only country subscribing to the agreement which cannot guarantee that these rules will be the only rules binding the whole country, as two of the most important ports can add anything they please over and above the requirements prescribed by the national government.

B. Conflicts of Authority: On account of the double set of authorities, conflicts sometimes occur which may be fraught with serious consequences to the public welfare. Such a conflict took place in New York in 1892, when the health officer declined to recognize the right of President Harrison to impose a twenty days' quarantine. In this conflict the state had to yield to the United States. Recently friction between the two authorities developed when a Havana liner, to which a clean bill of health was refused by the federal officers at the port of departure, was admitted to pratique by the state officers of New York on the ground that the violation of the rules on the part of the captain of the vessel was a matter to be attended to by the federal government.

C. Cooperation With Other Branches of the Government: The Public Health Service, through the courtesy of the Department of State and its consular bureau, is in direct and constant touch with all parts of the world. While the state quarantine officers receive the weekly bulletins of the bureau, they have not such intimate and direct knowledge of conditions abroad as have the officers of the Public Health Service. To obtain this they are sometimes obliged to send their own officers abroad.

The Treasury Department, by correlating the work of its custom division and revenue cutter division with the quarantine service, is able to furnish the latter with a great amount of assistance. Convenience, economy, efficiency and expediency could also be obtained if the quarantine inspection and the medical examination of immigrants could be conducted by the same set of officers at once, instead of by two sets, one state and the other federal, as is the case at present. The cooperation of other departments might also be obtained readily if need arose. The following incident may serve as an illustration: In the fall of 1892, when cholera was raging in Europe and when all the vessels arriving at New York were to be kept in quarantine for twenty days, the quarantine accommodations of the port were not large enough to hold the persons kept. The Public Health Service undertook to construct temporary camps. The Secretary of the Treasury immediately called on other departments of the government for necessary cooperation. The War Department furnished tents and officers to erect them, and the Navy Department furnished boats for the transportation of supplies and subsequently for the patrol of quarantine grounds. It also furnished marines to maintain the quarantine on land, and the whole camp, consisting of three pavilions, containing 209 staterooms besides nine other tents necessary for the administration of the camp, was finished and ready for service in eight days—from September 9 to September 17.

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[9] Survey, Jan. 27, 1912.

† The budgetary requests of the New York Quarantine for Improvements and Administration for the year 1913 amount to $2,314,780.

[10] Girdner, John H.: North Am. Rev., December, 1907, p. 733.

[11] Drake, C. M.: North Am. Rev., December, 1897, p. 749.

[12] Harrington, Charles: A Manual of Practical Hygiene, Ed. 2, p. 733

Furthermore, the federal government controls all the services incident to the administration of the port of New York, with the single exception of the quarantine. In addition to the customs and immigration administration, the government maintains the revenue cutter service which protects life and property; has control over the hydrography of the port, the navigable channels and the dredging, over lighthouses and exercises care over sick and disabled seamen. It seems but logical and consistent to extend its power to the quarantine and concentrate the whole administration of the port in the hands of the federal government.

3. Political.—The third and perhaps the most important reason for a national control of quarantine is the absolutely imperative need that the office of health officer of a port be taken out of politics. It is universally recognized that scientific work of any kind can be done efficiently only under the condition of permanency of office. The work of quarantine officers is essentially scientific, and the incumbents of these offices should be secure in their positions during good behavior and efficiency. Under state control, as it is at present, changes of personnel may, and often do, occur with each change of administration. Under the federal control there is continuity of service, uniformity of procedure and policy, constant supervision over the acts of the health officers and abundant opportunities for scientific and administrative training in the various parts of the country, such as is not available to the officers of any state.

V. ADVANTAGES OF STATE OR MUNICIPAL CONTROL OF QUARANTINE

The reasons advanced for the retention of state control of quarantine can be classified as: (1) administrative and (2) legal.

1. Administrative.—A. Lack of Experience on the Part of the Public Health Service in Administering Quarantine in Large Ports: It has been asserted that the United States Public Health Service has had no experience in administering large quarantine stations. The ports which are under its control are small ports with an insignificant amount of commerce and immigration. It would be dangerous, therefore, to entrust the administration of ports like New York or Boston to a service that has never dealt with large administrative units.

B. Convenience to Commerce: When reduced to more definite and practical terms, the special convenience to commerce from a local service means quickness of decision in cases of emergency on the part of the health officer who resides in the city, and dispatch in discharging their duties on the part of the officers of the quarantine who, in a port like New York, board vessels at night to prevent delays in landing. It is asserted that a service governed from Washington would be less responsive to the peculiar needs of large ports and the just demands of transportation companies. In extraordinary cases in which immediate and decisive action is needed, the health officer would not be able to undertake the responsibility of an important and special decision.

C. Uniformity of Quarantine Rules Undesirable: Uniform treatment of all vessels and persons subject to quarantine is inadmissible and undesirable, as each section of the country has its own climatic conditions and peculiarities, and should establish rules best fitted to its own conditions.

D. Federal Quarantine Rules Insufficient: The number of diseases which are quarantinable under the federal regulations is not sufficiently inclusive. Some localities quarantine beriberi and other diseases which are not included in the federal rules. Moreover, the federal quarantine examines only foreign vessels, whereas some local quarantines examine thoroughly the coastwise vessels as well.

E. Lack of Personal Responsibility Under Federal Control: Men appointed by the federal government under the civil service rules, who are possibly residents of other states, do not feel so much personal responsibility to the community in which they work as do men whom the community knows and entrusts with such responsible positions as those of the quarantine executives. Such men are liable to have local attachments and sense of responsibility, while this sense is weakened and diffused in the case of federal officers.

2. Legal.—A. Curtailment of Right to Local Protection: The state, it is said, as a matter of expediency and self-preservation, should not lop off any of its arms of protection. States and municipalities should protect the health of their citizens, and should not waive or avoid meeting this responsibility.

B. Federal Control of Quarantine Unconstitutional: In a paper read in Montreal before the British Medical Association in 1897, Dr. R. M. Swearingen, the state health officer of Texas, stated that as, according to the constitution of the United States, the national government cannot, through any of its departments or bureaus, assume any supervision of the police regulations of the states, and as the quarantine laws are among the police regulations, the act of 1893, giving the surgeon-general power to supervise and examine the quarantine laws of all the states, is a clear violation of the constitution.[13] The same question of constitutionality came up after the state of Louisiana transferred the exercise of quarantine laws to the federal government—an action which has found general popular endorsement.

ANALYSIS OF THE ARGUMENTS

The foregoing are the main arguments against a federal control of quarantine. They summarize the doubts and apprehensions of those who saw the federal government's failure to administer efficiently some other branches of government work. When analyzed, they are not, however, convincing. The following is a brief seriatim consideration of all the arguments:

1. The Public Health Service has under its control forty-eight stations, in which are included such ports as Philadelphia, Savannah, Portland (Me.), Mobile, New Orleans, San Francisco, and finally since the spring of this year, Baltimore and Providence. The statement that the Public Health Service has no experience in administering large quarantine stations is untrue at the present time. Moreover, the work done by the service in San Francisco and other large ports is highly creditable and inspires confidence in its competence. It has rarely happened that quarantine officers at New York, when taking office, have had so extensive quarantine experience as have many Public Health Service officers.

2. The advantages which accrue to commerce from an absolute independence of the health officer of the port seem to be exaggerated. In view of the fact that our knowledge of infectious diseases is becoming more accurate, and the quarantine methods more precise, scientific and uniform in application, and that well-recognized

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[13] The Sanitarian, 1907, p. 427.

principles are displacing former fanciful regulations, problems of an exceptionally perplexing character are likely to be less in number and less baffling. Should an extraordinary occasion arise, communication with Washington, if required, would not nowadays mean a serious delay or inconvenience to commerce. This the shipping interests fully realize, and their representatives, recently interviewed for this purpose by the executive secretary of the committee, expressed their total indifference to the matter of quarantine control, as long as the quarantine administration is efficient and based on modern scientific principles.

3. By uniformity of rules and regulations is not meant a rigid enforcement of one and the same set of rules at all the ports of the country, without any reference to the peculiar climatic, geographic and other conditions and needs of the several sections of the country. The character of commerce and shipping in one part is different from that in another, and methods which are admissible, practical and just at Southern ports within the yellow fever belt need not be enforced at the Northern ports. Deviations from uniform rules within certain limits are unavoidable, but the uniformity of rules renders impossible the shotgun quarantine methods of the past.

4. The federal control of maritime quarantine does not preclude the right of the seaboard states and municipalities to maintain their own quarantines in addition if they so desire. Bangor, Me., Philadelphia, New Bedford, Mass., and many other ports have established quarantine and inspection stations in addition to those of the national government.[14] This establishes cooperation and a double chain of inspection of passengers.

5. The argument that by substituting federal for state quarantine officials their sense of responsibility to the community is weakened does not carry much weight. This can equally well be said of all the other federal employees and agents. The public health officers are under the supervision of the service and are responsible for all their acts. Inefficiency can much more easily be discovered under the federal control than when the health officer is entirely independent, and under no direct supervision of any agency.

6. Confiding the care of maritime quarantine administration to a federal government bureau, which is amply provided with facilities and men to do the work efficiently, is not lopping off any arm of protection of the state. The rights and powers of the state and local boards of health are not curtailed thereby in any wise. Neither is it neglect of duty on the part of the state, but the entrusting of the protection of the public health from an invasion of disease to a body of men able to perform it reliably.

7. As to the question of the constitutionality of the federal control of maritime quarantines, it is now a well-established principle of the law that quarantine regulations are in effect regulations of commerce, and as such national in their nature, thereby coming under the authority of the federal government. Dean Walz of the School of Law of the University of Maine, in a study of the subject,[15] shows by numerous quotations from court decisions that the federal government has undisputed power to enact laws relating to maritime quarantine, and that whenever the federal and the state laws on the subject come into conflict the state laws are superseded by the federal laws by reason of the higher power given to the United States government by the Constitution. He further shows that whether the regulations of quarantine are within the scope of the interstate commerce clause or not is not a question for the courts to decide, but one to be determined by Congress "in the fair exercise of the legislative and political discretion entrusted to it by the people of the United States under the law of the land."

Discussing the same subject before the New York Academy of Medicine Mr. William Williams, commissioner of immigration of the port of New York, came to the same conclusion. He closed by saying that the federal government should perform those functions of government which are national in character, and that from every point of view the business of managing the quarantine at the great port of New York is national in character.[16]

VI. SUMMARY AND CONCLUSIONS

The report may be briefly summarized as follows:

1. Because of the international character of modern commerce the tendency of the last fifty years has been from local and provincial regulations to uniform national and international rules and laws.

2. Prior to 1893 there was no national system of quarantine in the United States. Since that time forty-eight ports have come under the control of the Public Health Service of the Treasury Department, so that there are at present only two ports whose quarantine stations are managed by local and state authorities.

3. In order that the United States may be a responsible party to international agreements regarding quarantine regulations, it must have control and supervision over all the ports of the country.

4. The record of the past work of the United States Public Health Service is such as to insure confidence in its efficiency. It has a well-trained staff of medical officers and is equipped for efficient quarantine administration.

5. Quarantine work is essentially scientific in its nature and cannot be carried on efficiently unless the tenure of office is independent of changes in administration and of politics.

6. From the point of view of convenience, efficiency and uniformity of administration, economy and law, the arguments are in favor of a national control of quarantine at all the ports of the United States.

RECOMMENDATIONS

The Committee on Public Health, Hospitals and the Budget of the New York Academy of Medicine recommends:

1. That the quarantine station at the port of New York be transferred to the United States Health Service; and

2. That the Council of the New York Academy of Medicine take appropriate action to further actively the above recommendation.

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[14] Bergey, D. H.: Principles of Hygiene, Ed. 3, p. 452.

[15] Walz, William E.: Federal Regulations of Quarantine, Mich. Law Rev., 1906, iv, No. 3.

[16] Williams, William: The Question of State or Federal Quarantine, New York Med. Jour., Feb. 17, 1912, p. 361.

Infant-Feeding.—No method of infant-feeding can be fairly assayed until puberty is either past or at least near at hand. It is not until the epiphyses are well on their way to fixation, and the sexual glands have taken up their part in the polyglandular complex, that we can be sure that the foundations have been well and truly laid.—F. G. Crookshank in *Brit. Jour. Child. Dis.*

EPIDEMIC POLIOMYELITIS

FOURTEENTH NOTE: PASSIVE HUMAN CARRIAGE OF THE VIRUS OF POLIOMYELITIS *

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The manner of conveyance of the virus of poliomyelitis to infected persons is not yet wholly worked out. The presence of the virus has been established on the mucous membrane of the nose, throat and intestines of persons ill of poliomyelitis, and on the mucous membrane of the nose and throat of monkeys in which the disease has been produced experimentally. Aside from infected persons and monkeys the virus has once been found in external nature; namely, in sweepings obtained from a room in which patients with poliomyelitis had recently been kept (Neustaedter and Thro). The latter finding indicates that the virus is capable of leaving the infected body in a manner that permits of its persistence as dust. Since the virus has been shown to occur frequently, if not constantly, in the discharges of the nose and throat, it is clear that it must escape into the surroundings of the infected, where, when dried, it would retain its activity for a considerable period of time.

Clinical observation has awarded a definite rôle to healthy human carriers of the poliomyelitic infection, but thus far indubitable experimental demonstration of the occurrence of such passive carriers has not been brought. The obstacles in the way of the demonstration are considerable but not insuperable. Since the virus may leave the infected body by the nasal and buccal discharges, it is to be presumed that if carried and transmitted at all by healthy persons, it would be through the medium of these discharges. This definition does not exclude the soiled hands, objects, etc., from being also a means of transportation. The investigation of the discharges mentioned offers the readiest opportunity to determine the presence of the virus. We possess at present one means only of detecting the virus, and that is its implantation on monkeys, in which it is capable of producing an experimental form of poliomyelitis resembling in all essential respects the spontaneous disease, so-called, occurring in man.

Considerable difficulties, however, surround the initial implantation of the virus on monkeys. Even when the human spinal cord, derived from a recent fatal case of poliomyelitis in man, is employed for inoculation, the experimental infection has not always been produced. We now know that the initial infectivity for monkeys of human strains of the virus varies greatly. In order to secure infection with this human material, large quantities of an emulsion may be required for inoculation. When such emulsions, sufficient to cause the experimental disease, are filtered through a Berkefeld or other candle, the resulting filtrate may fail to cause infection. Moreover, in the successful transfer of the disease from originally infected monkeys to other monkeys, certain strains of the virus have proved more readily inoculable than others.

It is to be presumed that passive carriers will harbor the virus in smaller amount than persons actively ill of poliomyelitis. In dealing with the discharges from the nose and throat it is practicable to employ for inoculation only washings that have been made bacteria-free by filtration. The filtrates consist of saline washings of the upper respiratory mucous membrane and therefore represent at best highly dilute suspensions of the human race of the virus, so to speak. The inoculations are best made simultaneously into the sheath of the sciatic nerves and the peritoneal cavity, or into the brain and peritoneal cavity, and the quantity of fluid employed for the injections may be as great as 200 c.c.

Monkeys possess a certain grade of resistance to infection with the virus of poliomyelitis, even when it is introduced directly into the brain or the nerves. This resistance is readily overcome by a highly active strain of the virus, the most active strains being those which have been passed successively through a large number of monkeys. It is overcome with difficulty, if at all, by the least active human strains. Hence the probability of highly dilute filtrates of human strains of virus causing infection in the monkey is not great.

Besides the frank and unmistakable instances of flaccid paralysis, constituting the most impressive symptom of poliomyelitis, a less definite set of symptoms has been described indicating the abortive form of the disease. It has happened in our experience that such weak filtrates as have been described have failed to produce frank paralysis and yet have given rise to the more indefinite set of symptoms. These relatively slight and indefinite forms of illness following the inoculation do not permit of a conclusion as to the nature of the infection. To prove by immunity tests that they have been instances of true poliomyelitis of a mild form is difficult and not convincing. Nothing less than frank, typical instances of the disease, associated with characteristic lesions in the spinal cord, etc., should be accepted, under the circumstances, as evidence of successful infection. Moreover, this preliminary successful result should be confirmable through reimplantation of the virus, now contained in the spinal cord of the paralyzed monkey, on still other monkeys, in which frank paralysis should occur, and in which the central nervous system should exhibit the characteristic effects of the disease. When these tests have been successfully carried out, we may conclude the demonstration of the presence of the virus to be complete.[1]

In view of the facts related, it is patent that in dealing with washings containing discharges from the upper respiratory tract of persons in contact with active cases of poliomyelitis, failure is much more likely to result than is success. For the same reason we must conclude that failure to obtain infection in the monkey cannot be accepted as positive evidence of an absence of the virus

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* From the Rockefeller Institute for Medical Research

[1] It is necessary here to refer to the large and carefully conducted series of tests of suspected human carriers of the poliomyelitic virus made by Kling, Pettersson and Wernstedt (Report of the State Medical Institute of Sweden to the Fifteenth International Congress on Hygiene and Demography, Washington, 1912) in 1911. These investigators believe that they have established the important fact that such carriers occur and are several times more numerous than the frank and abortive cases of poliomyelitis combined. An obstacle to the full acceptance of the conclusions reached by Kling, Pettersson and Wernstedt exists, and that is the absence from the inoculated monkeys, many of which seem to have shown obvious clinical symptoms of poliomyelitis, of characteristic alterations of the central nervous system. These investigators describe a new set of lesions of the spinal cord and medulla, affecting chiefly the glia and nerve-cells and consisting of hypertrophy of the former and hyaline and vacuolar degeneration of the latter, which may even be encroached on by glia cells. Similar lesions have not been observed in fatal cases of poliomyelitis in man, and their specific relation to poliomyelitis should be regarded as still an open question. Account should be taken also of the fact that the monkey organs showing these lesions were reinoculable only occasionally and did not cause, in the second generation in monkeys, the development of characteristic histologic effects. These authors ascribe the atypical lesions to a poliomyelitic virus of diminished virulence. This assumption is probably capable of being confirmed or set aside by successive inoculations of the infected nervous tissue and for the purpose of enhancing its virulence.

from the human materials examined. These considerations, on the other hand, give to a successful result a somewhat intensified value. When it is achieved, it may be taken not only as establishing the occurrence of the virus, but also as indicating its presence in relatively large amount, or the possession of a higher degree of virulence for monkeys than is ordinarily displayed.

We wish to describe an instance of the demonstration of the virus of poliomyelitis on the upper respiratory mucous membranes of healthy human adults, the parents of a child suffering from an acute attack of epidemic poliomyelitis.

E. A., a girl aged 4 years and 4 months, was somewhat ill from October 12 to 17, 1912, when fever and weakness were especially noted. During the evening of the 17th partial paralysis of the legs developed. She was admitted to the hospital of the Rockefeller Institute October 18, at which time the left leg could not be drawn up and was flaccid. Some power remained in the hamstring muscles. The right leg was less affected; it could be drawn up weakly and again extended. Below the knee, however, the muscles were all weak. The respiratory muscles were definitely affected, the right more than the left. The movement of the chest during respiration was almost imperceptible. On account of extraneous causes the child was discharged October 28, at which time improvement had already begun in the intercostal muscles and those of the right leg.

The mother and father of E. A. were subjected to a nasopharyngeal irrigation with normal saline solution October 28. About 150 c.c. of fluid were collected, shaken, and pressed through a Berkefeld filter. This fluid was introduced into a *Macacus cynomolgus* as follows: about 1.5 c.c. were injected into the sheaths of each sciatic nerve, and 140 c.c. into the peritoneal cavity. Recovery from the anesthetic was prompt, and the animal remained well until November 11, when it was noted to be excitable and to drag the right leg. The left leg proved to be weak. November 12 the right leg was definitely flaccid. A lumbar puncture yielded 2.5 c.c. of fluid containing an excess of white corpuscles. November 13, condition unchanged; etherized. The autopsy showed no lesions at the inoculation sites, but the spinal cord appeared edematous. The general viscera were normal in appearance. Portions of the spinal cord and medulla were taken for sections and for preservation in sterile 50 per cent. glycerin solution. The sections showed typical lesions of experimental poliomyelitis, consisting of perivascular, mononuclear infiltration, infiltration of the ground substance of the gray matter, and necrosis and phagocytosis of the ganglion cells of the spinal cord and medulla. December 3 an emulsion of the glycerinated spinal cord of this monkey was injected into each sciatic nerve and into the peritoneal cavity of a *Macacus rhesus* and a *Macacus cynomolgus*. Recovery from the anesthetic was prompt and the animals remained well until December 9, when the rhesus was noted to be excitable. On the 10th a lumbar puncture yielded 3 c.c. of slightly opalescent fluid under increased pressure. It contained an excess of white corpuscles; the globulin reaction was negative. On the 13th the excitability was still present and the legs were moved awkwardly. On the 17th the excitability had diminished and a lumbar puncture yielded 2 c.c. of opalescent fluid giving a faint reaction for globulin with Noguchi's butyric acid test, and showing an excess of white corpuscles. The animal was etherized. Sections of the spinal cord showed infiltrative lesions of poliomyelitis. The cynomolgus became excitable December 10, the condition persisting until the 16th when it was diminished. On the 19th the right leg was partly paralyzed and the left leg was weak. Lumbar puncture gave fluid containing an excess of white corpuscles. On the 20th the right leg was completely flaccid; excitability had increased, and a general tremor was present. On the 21st the right leg was still weaker, and the left leg, right leg, right arm and back were weaker. On the 23d both arms were weak; the animal lay down much of the time. It was etherized. The autopsy showed edema and congestion of the spinal cord, while the organs generally appeared normal. Sections of the cord, medulla and intervertebral ganglia contained typical infiltrative and ganglionic cell lesions, characteristic of poliomyelitis.

The foregoing protocols leave no doubt that the washings from the nasopharynx of the parents of E. A., neither of whom showed any symptoms of illness and who were evidently not suffering from poliomyelitis, contained the virus of epidemic poliomyelitis. The result described brings indubitable evidence of the occurrence of the virus of the disease in the nasopharynx of healthy persons who have been in close contact with an acute case of poliomyelitis, and affords an experimental basis for the belief, based on clinical observation, of the occurrence of passive human carriers of the infection.

Sixty-Sixth Street and Avenue A.

DOUBLE INFECTION WITH THE HUMAN AND BOVINE TYPES OF BACILLUS TUBERCULOSIS*

PAUL A. LEWIS, MD.
PHILADELPHIA

The controversy, so vigorously carried on for ten years, regarding the relation between the bovine and the human types of the tubercle bacillus has now largely subsided, leaving most bacteriologists of one opinion; namely, that it is possible to distinguish sharply the one type from the other, and to recognize easily by suitable methods the bovine type when it is recovered from the human body. In the course of the world-wide investigation conducted to establish these relationships, several cases have been described in which there was a double infection—the human type of bacillus being responsible for the lesion in one part of the body, the bovine type for the lesion in another. These cases have recently been summarized by Weber[1] as follows:

1. German Commission Case H-33, both types in mesenteric lymph-node, human type only in bronchial lymph-node.
2. German Commission Case H-38, bovine type in mesenteric lymph-node, human type in spleen.
3. German Commission Case H-74, bovine type in mesenteric lymph-node, human type in meninges and bronchial lymph-node.
4. British Commission Case H-60, both types in the bronchial lymph-nodes, human type only in meninges, lungs and mesenteric lymph-nodes.
5. British Commission Case H-90, both types in the retroperitoneal lymph-nodes, human type only in the mesenteric lymph-nodes.
6. Park and Krumwiede, human type in mesenteric lymph-nodes, bovine type in the meninges.
7. Steffhagen, human type in mesenteric lymph-nodes, bovine type in bronchial lymph-nodes.

In the course of the past two years it has been our custom at the Phipps Institute to isolate and study the tubercle bacillus from those cases of tuberculosis showing a marked departure from the usual course. We have thus encountered the following case of double infection. The methods employed in this study and in others of a similar nature were those developed in the laboratory of Theobald Smith, and previously described in full by me in connection with the study of another series of cases.[2]

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* From the Henry Phipps Institute of the University of Pennsylvania.

[1] Weber, A.: Zur Tuberkulose des Menschen und der Tiere, Centralbl. f. Bakteriol., lxiv, 243 (Festschrift for Dr. Loeffler).

[2] Lewis, Paul A.: Tuberculous Cervical Adenitis, Jour. Exper. Med., xii, 82.

W. K., male, aged 52, Hungarian, has lived in America about three years. Before coming to this country, patient had been a butcher. Since coming here he has worked most of the time as a cigar-maker. Clinically, he presents incipient pulmonary tuberculosis. Patient has been disturbed by his lung condition only for a short time, but gives an indefinite history of cough with expectoration, going back eight years. He also presents a warty induration covering about two-thirds of the middle fingers of the right hand. He states that this has existed for five and one-half years. This lesion was referred to a skin specialist who believed it to be tuberculosis verrucosa cutis.

With suitable precautions to avoid contamination of the sputum with milk products, and to remove any sputum contamination from the finger, specimens were collected for examination.

The sputum infected guinea-pigs in the usual way, and the culture recovered was of the usual human type of *Bacillus tuberculosis*. The sputum was also inoculated into rabbits, but gave rise to local tuberculosis only.

The tissue from the finger gave rise to generalized tuberculosis in both guinea-pigs and rabbits. The cultures recovered were of the usual bovine type.

Conclusion: There exist in this patient at one and the same time a chronic pulmonary tuberculosis due to the human type of tubercle bacillus, and a tuberculosis verrucosa cutis due to the bovine type of organism.

The important features of this case and their significance for the larger problems of tuberculosis may be briefly stated: It is fairly certain that the finger infection has existed for five years and that it was acquired from cattle in connection with the man's occupation of butcher. The culture recovered is fully virulent and presents no other point of distinction from the usual bovine type. It may be regarded as unmodified by five years' residence in the human body.

It is also fairly certain that the infection on the finger has followed the usual course of this type of infection, seemingly influenced by the coincident infection in the lungs. This, if it could be considered established fact, would be of considerable importance as throwing light on the essential significance of the phenomena displayed by superinfections. While it is quite probable that the lung disease has existed for a longer time than the lesion on the finger, and that the latter has still not been influenced by the former, the point must unfortunately be left in doubt, owing to the incapacity of the patient to give a precise and reliable history.

This case was presented before the Philadelphia Pathological Society, October, 1912. My thanks are due to Dr. H. R. M. Landis of the Phipps Institute, who called my attention to the case, and to Dr. Frank C. Knowles, who gave a specialist's opinion on the skin lesion.

238 Pine Street.

MYOSITIS OSSIFICANS TRAUMATICA

William E. Stevens, M.D., San Francisco

Myositis ossificans is a pathologic condition characterized by the formation of bone in or between the muscles. There are two forms, the progressive, in which ossification successively occurs in many parts of the muscular system, and the traumatic, which is limited to one muscle or group of muscles. The following is an unusual case of the latter type:

The patient is a sheet-metal worker, aged 50, a native of Germany. His father died at the age of 60 after having suffered from a cough for years. The family history is otherwise negative. The patient has never been sick except for an attack of mumps fifteen years ago and occasional colds of short duration. He denies venereal disease and has used very little liquor. In 1869 when 7 years old he was struck on the calf of the leg by a heavy timber. After this injury he began to walk on his toes and has done so ever since so that at the present time there is a talipes equinus with the usual deformity of the bones of the foot. About ten months after the injury the calf of the leg became swollen and tender, discharging pus after several weeks' poulticing. Four or five sinuses formed, one of which remained open for six months. The patient was well until June, 1910, forty-one years later, when the original sinus again broke open, discharging a small amount of greenish pus. He came to me in February, 1911, stating that the leg had been dressed for eight months but refused to heal. At that time there was a large ulcer on the calf of the leg, a discharging sinus, a talipes equinus and extreme atrophy of the muscles of the leg and thigh. The Wassermann and tuberculin tests were negative. On probing, bone could be felt at the bottom of the sinus. A piece of this was removed and on microscopic examination proved to be calcified fibrous tissue.

In this case there is no connection between the new bone and the normal bones of the part. Other unusual features are the great length of time intervening between the original injury and the formation of the recent sinus, and also the talipes equinus.

The etiology of the progressive form of myositis ossificans is unknown. In the traumatic type the majority incline to the belief that together with an abnormal tendency to bone formation the resistance of the muscles to irritation is low owing to some predisposing congenital factor. Some consider the condition due to the inclusion of fetal tissue. Others think that in many cases bone cells may have become detached from the periosteum and carried into the general mass of muscle by the retraction of some separated muscle fibers.

The exciting influence is either a single severe injury or frequent and long-continued irritation and excessive use, as in the rider's bone of the adductor magnus, the fencer's bone in the brachialis anticus, the dancer's bone in the Achilles tendon and the gunner's bone in the pectoralis major. Other muscles affected are the quadriceps extensor femoris, deltoid, masseter, biceps, triceps, subclavius and iliacus.

Many cases of so-called myositis ossificans traumatica are merely instances of exostoses.

Therapeutics

DISTURBANCES OF THE HEART

(Continued from page 127)

CORONARY SCLEROSIS

While disease of the coronary arteries may occur without general arteriosclerosis, it is so frequently associated with it that it is necessary to give a brief description of the general disease. Arteriosclerosis or arteriocapillary fibrosis is really a physiologic process naturally accompanying old age, of which it is a part, or the cause, and it should be considered a pathologic condition only when it occurs prematurely. It may, however, occur at almost any age after 30, and is beginning to be frequent between 40 and 50. In rare instances it may occur between 20 and 30, and even in childhood and youth. It is much more frequent in men than in women. Its most common cause is hypertension; in fact, hypertension generally precedes it. The most frequent cause of hypertension to-day is the strenuousness of life, the next most frequent cause being the toxins circulating in the blood from overeating, overdrinking, overuse of tobacco and the overuse of caffein in the form of coffee, tea or caffein drinks. Another common cause of arteriosclerosis occurring too early is the occurrence of some serious infection in an individual, typhoid fever and sepsis being most frequent. Syphilis is a frequent cause, especially of that form of arteriosclerosis that shows the greatest amount of disease in the aorta. Mercury used in the treatment of syphilis is more likely, however, than syphilis to be the cause of arteriosclerosis. Although this drug, even with the arsenic injections now in vogue, is necessary for the cure of syphilis, it probably tends to raise the blood-pressure by irritating the kidneys and by diminishing the thyroid secretion, both of these occurrences predisposing to arteriosclerosis. From the fact that lead-poisoning causes an increased blood-pressure, lead is a probable cause of arteriosclerosis. With the greater knowledge of the danger of poisoning possessed by those who work in lead, chronic lead-poisoning is becoming rare, as evidenced by the lessening frequency of wrist-drop and lead colic.

Chronic nephritis is often a coincident disease, but the causes of the arteriosclerosis and the nephritis are generally the same. Alcohol, except as a part of overeating and as a disturber of the digestion, is perhaps not a direct cause of arteriosclerosis, as alcohol is a vasodilator. Hard physical labor and severe athletic work may cause arteriosclerosis to develop, and it is likely to develop in the arteries of the parts most used.

Hypertension is generally a prelude to arteriosclerosis, and everything that tends to increase tension promotes the disease; everything that tends to diminish tension more or less inhibits the disease. Therefore a subsecretion of the thyroid predisposes to arteriosclerosis, and increased secretion of the adrenals predisposes to arteriosclerosis, the thyroid furnishing vasodilator substance and the adrenals vasopressor substance to the blood. Also, if these secretions are abnormal, protein metabolism is more or less disturbed.

While arteriosclerosis often occurs coincidently with gout, and gout apparently may be a cause of arteriosclerosis, still the two diseases are widely dissociated, and the causes are not the same.

Although the arterial pressure has been high before arteriosclerosis developed and may remain high for some time in the arteries, unless the heart fails, the distal peripheral pressure, as in the fingers and toes, may be poor in spite of the high blood-pressure. When the left heart begins to fail, pendent edema readily occurs.

The pathology of arteriosclerosis is a thickening and diminishing elasticity of the arteries, beginning with the inner coat and gradually spreading and involving all the coats, the larger arteries often developing calcareous deposits or thickened cartilaginous plates — an atheroma. If the thickening of the walls of the smaller vessels advances their caliber is diminished, and there may even be complete obstruction (*endarteritis obliterans*). On the other hand, some arteries, especially if the calcareous deposits are considerable, may become weakened in spots and dilatation may occur, causing either smaller or larger aneurysms.

Histologically the disease is a connective tissue formation beginning first as a round-cell infiltration in the subendothelial layer of the intima. This process does not advance homogeneously; one side of an artery may be more affected than the other, and the lumen may be narrowed at one side and not at the other, allowing the artery to expand irregularly from the force of the heart-beat. As the disease continues the internal elastic layer is lost, the muscular coat begins to atrophy, and then small calcareous granules may begin to be deposited, which may form into plates. In the large arteries the advance of the process differs somewhat. There may be more actual inflammatory signs, fatty degeneration may occur, and even a necrosis may take place.

However generally distributed arteriosclerosis is, in some regions the disease is more advanced than in others, and in those regions the most serious symptoms will occur. The regions that can stand the disease least well are the brain and coronary arteries, and next perhaps the legs, at the distal parts at least, where the circulation is always at a disadvantage if the patient is up and about.

The symptoms are increased tension, which means, sooner or later, hypertrophy of the left ventricle and an accentuated closure of the aortic valve. This alone means more and more tendency to aortic irritation and aortic valve irritation, with inflammation, and later deposits of calcareous material perhaps with stiffening of the aortic valve and narrowing, aortic stenosis being the result. If such a patient with the disease advanced to this stage must overwork, or sustains any severe muscle strain, an aneurysm of the aorta may occur. In the meantime, with the advancing degeneration of the cerebral arteries, some sudden cerebral congestion, caused by leaning over, lifting, vomiting or hard coughing, may rupture a cerebral vessel, and all the symptoms of apoplexy are present. If small hemorrhages occur in the arterioles of the extremities, of course the prognosis is not serious. Sometimes some of the smaller vessels of the brain may become obstructed and cerebral degeneration occur. If distal vessels become obstructed, as of the toes or feet, gangrene takes place unless the obstruction occurs at a place where the collateral circulation could save the part from such a death. These are some of the ultimate results of serious and final arteriosclerosis. The more frequent result, when the disease has not advanced so far, is a failing heart, either from degenerative myocarditis, coronary sclerosis or dilatation, with all the symptoms of coronary sclerosis and angina pectoris, or with the symptoms of failing circulation.

With high blood-pressure to the point of beginning endarteritis a gradually increasing force of the apex-beat occurs, the aortic closure is accentuated as just described, the pulse is slow, the tensity of the arteries depends on the stage of the disease, and when the disease is actually present the palpable arteries do not collapse on pressure. They soon lose their elasticity, and if this occurs in parts that are soft and flexible, the arteries become more or less tortuous by the force of the blood-current twisting and bending them, owing to the irregularity of their hardening. The extremities readily become numb, or the part "goes to sleep," as it is termed. This occurs frequently at night. Sooner or later some edema of the feet and legs occurs in the latter part of the day. Sometimes abdominal colic attacks occur, caused by disturbed circulation. Various disturbances of metabolism may occur, depending on the circulation in the different organs or on coincident disease, and the liver, pancreas and kidneys may be affected.

The blood-pressure, if taken in the arms especially, may appear excessively high, but really the actual pressure in the blood-vessels may be low. This is on account of the inability to compress the hardened arteries. A heart may be weak and actually need strengthening even while the blood-pressure reading is high.

The treatment of this disease is successful only in its prevention, and the treatment of hypertension before arteriosclerosis is present will be described later. When the disease is actually present, there is nothing to do except for the patient to stop active labor, never to overeat or overdrink, to prevent, if possible, toxemias from the bowels, to keep the colon as clean as possible, and for the physician to give the heart such medicinal aids as seem needed, vasodilators if the heart is acting too strongly, possibly small doses of cardiac tonics if the heart is acting weakly; always with the knowledge that a degenerative myocarditis may be present in considerable amount, or that coronary sclerosis may be present.

As above stated, coronary sclerosis probably seldom occurs without more general arteriosclerosis. Obstruction of the coronary arteries, however, not infrequently occurs at their orifices in conjunction with sclerosis of that region of the aorta and of the aortic valve. The more these arteries are diseased and the more they are obstructed, the more the myocardium of the heart becomes degenerated, softened and weakened, when dilatation of the ventricles, especially the left, is likely to occur. Sooner or later such a condition will cause attacks of angina pectoris and more or less pronounced symptoms of chronic myocarditis and fatty degeneration, as previously described.

The treatment of a suspected coronary sclerosis is the same as that of general arteriosclerosis — primarily the treatment of anything that tends to cause high tension or to produce chronic endarteritis. When either general or local arteriosclerosis is present, the treatment that should be inaugurated comprises anything that would tend to inhibit the endarteritis and the calcification — necessary periods of rest, the interdiction of all physical effort or physical strain, and the regulation of the diet, digestion and elimination. Perhaps there is no greater preventive of the advance of this disease than a diet considerably less than would be suitable for the same individual when in perfect health and at his regular work. The amount of protein especially should be reduced, and the meal hours should be regular. Ordinarily all tea, coffee and tobacco should be forbidden, and alcohol should be allowed only to the aged, if allowed at all.

It has long been considered that iodin would inhibit abnormal connective-tissue growth. Iodin most readily reaches the blood as a sodium or potassium iodid. Large amounts of iodin are not needed to saturate the requirements of the system for iodin, 0.1 to 0.2 gm. (1½ to 3 grains) preferably of sodium iodid, twice a day, after meals, given with plenty of water, being sufficient; but it should be continued in one or two doses a day not only for weeks, but for months. Whether this iodid or iodin acts *per se*, or acts by stimulating the thyroid gland to increased activity and therefore to more normal activity, so that it is the thyroid secretion that is of benefit, it is difficult to decide. In view of the fact that in advanced years the thyroid is always subsecreting, and after the very diseases that cause arteriosclerosis or during the diseases that cause arteriosclerosis the thyroid is generally subsecreting, it would appear that the value of iodin is in its effect in stimulating the thyroid gland.

If a small amount of thyroid secretion is evidenced by other symptoms, thyroid extract should be given. The dose need not be large, and should be small, but should be given for a considerable length of time. If the patient seems to be improving on small doses of iodid, however, and the thyroid is supposed not to be very deficient, it is better not to administer thyroid extract, unless the patient is obese.

A serum treatment given intravenously, hypodermatically, by the mouth, and by the rectum was inaugurated some years ago (1901 and 1902), and is known as the "Trunecek serum." This first consisted of sodium sulphate, sodium chlorid, sodium phosphate, sodium bicarbonate and potassium sulphate in water in such amounts as to simulate the blood-plasma. Later small amounts of calcium and magnesium phosphate were added to the solution to be injected. These injections seemed to lower the blood-pressure, but it is doubtful whether they had any greater ability than a proper regulation of the diet to inhibit arteriosclerosis. At any rate, these injections are but seldom used.

An important means of inhibiting disturbance from any arteriosclerosis which should be employed when possible is the climate treatment. Warm, equable climates, in which there are no sudden radical changes, are advantageous when coronary sclerosis is suspected, and warm climates are valuable in promoting the peripheral circulation and lowering the blood-pressure in arteriosclerosis. These patients always require more heat than normal persons, always feel the cold severely, and their hearts always have much less disturbance, fewer irregularities and fewer attacks of pain during warm weather than during cold weather.

Simple hydrotherapeutic measures are also necessary for these patients, but baths should not be used to the point of causing debility and prostration. Applications of cold water in any form are generally inadvisable. Very hot baths are also inadvisable; but pleasantly warm baths, taken at such frequency as found to be of benefit to the individual, relax the peripheral circulation, relieve the tension of the internal vessels, lessen the work of the heart, and promote healthy secretion of the skin, the skin of arteriosclerotic patients often being dry. This dry skin is especially frequent if there is any kidney insufficiency, which so soon and so readily becomes a part of the arteriosclerotic process.

If the patient is old, small doses of alcohol may act physiologically for good. In these arteriosclerotic patients the activities of alcohol should be considered from the drug point of view, not from that of an intoxicating beverage. Other drugs will be considered in the discussion of hypertension.

If the heart actually fails, the treatment becomes that of chronic myocarditis and of dilatation.

Not infrequently in sclerosis of the arteries, especially of the coronary arteries, the blood-pressure is not high, but low, and the heart is insufficient. In such patients cardiac tonics may be considered, but they must be used with great care. Digitalis may be needed, but it should be tried in small doses. It often makes a heart with arteriosclerosis have severe anginal attacks. On the other hand, if the heart pangs or heart aches and the sluggish circulation are due to myocardial weakness without much actual degeneration, digitalis may be of marked benefit. The value of digitalis in doubtful instances will be evidenced by an improved circulation in the extremities, a feeling of general warmth instead of chilliness and cold, an increased output of urine, and less breathlessness on slight exertion.

(To be continued)

Medicine in the Twentieth Century.—The nineteenth century worked for the individual. One by one each disease was investigated and the results applied to the relief of the individual patient. The twentieth century starts out with a broader conception of the function of medicine. It is working for the masses in the prevention of disease. Care of the public health has become the most important duty of the state.—Mayo in *Boston Med. and Surg. Jour.*

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SATURDAY, JANUARY 18, 1913

TUMORS OF THE UROGENITAL TRACT IN ANILIN-DYE WORKERS

In 1895 Rehn described three tumors of the urinary bladder in fuchsin workers, and after a critical study of his cases concluded that the liberation of such products as toluidin, nitrobenzene and anilin, when crude fuchsin is heated, in all probability was an important factor in the causation of the tumors. Since 1895, forty-one cases of tumors of the urogenital system in anilin-dye workers have been reported. Leuenberger[1] in a recent article on this subject reports eighteen additional cases. On reviewing the death statistics of the city of Basel for the period 1901-1910, Leuenberger finds that deaths due to tumors of the urinary passages were thirty-three times more numerous in anilin-dye workers than in workmen of other classes. Statistics of the Basel University clinic indicate that over 50 per cent. of all cases of tumors of the urinary bladder in patients admitted to the hospital during a period of fifty years occurred in anilin-dye workers. This striking preponderance of tumors of the urinary passages in workmen of this class has now become so evident that special hygienic regulations are called for in the manufacture of these dyes.

Carcinomas have been more frequently reported than other tumors. In some cases the carcinoma has developed on a benign polyp or adenoma. In a few instances sarcomas have been reported, so that it would seem that whatever the stimulating or exciting substance may be, it is capable of acting on both epithelial and connective-tissue elements. Leuenberger's hypothesis is that primarily a chemical irritation of the mucous membranes results in an inflammation from which secondarily tumor formation follows. Just why the urinary passages should be the seat of this process has been the subject of much speculation. Leuenberger concludes that the stimulating substances occur in greater concentration in the urinary passages than in any other place in the body. Discussing the chemistry of the substances in question he advances the view that the substances productive of tumor formation in the urinary passages of anilin-dye workers are monomolecular and polymolecular phenolamines. The oxidation of these compounds is accomplished in the tissues, the OH molecule affixing itself in the para-position in the aromatic ring.

Leuenberger further calls attention to other occupational tumors, more especially carcinomas occurring in chimney-sweeps, petroleum refiners and paraffin workers. In his opinion the action of coal soot, the end-products of petroleum refining and the paraffin press oils, all give rise to aromatic amido-combinations, which after assimilation and oxidation in the organism become the tumor-inciting substances. Clinically carcinomas in anilin-dye workers appear relatively early, between the ages of from 30 to 40 years. All of the patients have had hematuria and stranguria at some previous time.

The skin and the respiratory tract are considered the most important portals of entrance of the substances into the body. Because of the absorbent power of the skin it is especially important that the workmen should bathe daily. Impervious clothing and gloves should be worn. The toxic substances are lipoid-soluble, and the smearing of the skin surfaces with ointments is especially contra-indicated. Masks against dust and vapors should be worn in the workrooms where the dyes are ground and about the vats where the dyes are dissolved. The ventilation in the workrooms should be of the best; vapors from dye vats should be drawn off by fans. Only healthy persons should be employed. Employees presenting the slightest urinary symptoms should discontinue this line of work immediately, and early cystoscopic examination should be practiced. After the installation of regulations of this type in a certain factory, no cases of tumor or hematuria developed in any of its employees during a period of six years. That conditions consequently can be improved by the enforcement of proper measures is without question, and in this respect the tumors of the anilin-dye worker do not differ from other occupational diseases, the incidence of which may be greatly reduced through control based on the scientific study of the causes.

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[1] Leuenberger, S. G.: Beitr. z. klin. Chir., 1912, lxxx, 208; abstr., The Journal A. M. A., Nov. 30, 1912, p. 2009.

OLD AGE AGAIN DEFERRED

As most readers of popular scientific literature are aware, one of the postulates of Metchnikoff's theory of old age is that the pathologic tissue changes incident to senility are directly comparable to the structural alterations resulting from intoxication by certain poisons, notably those which have a bacterial origin in the alimentary tract. Lead salts, alcohol and tobacco can induce interstitial nephritis, hepatic cirrhosis and degenerative manifestations in the arterial system. Similarly there are lesions referable, according to this theory, to the intestinal flora which is assumed to play an important part in the etiology of arteriosclerosis and the sclerotic changes that occur in other organs. The preservation of these parts in unimpaired anatomic and functional integrity therefore calls for a knowledge of the immediate toxic substances and likewise of the organisms on the existence of which the genesis of the poisons depends.

The place of first importance among the bacterial products made responsible for this form of chronic "auto-intoxication" is assigned to phenol and indol derivatives. These have long been recognized as products of bacterial activity, especially under the environmental conditions that necessarily prevail in the digestive tube. They are commonly admitted to exhibit some degree of toxicity, although investigators have by no means been in accord as to the extent to which these putrefaction products are responsible for the great variety of manifestations of ill health or disturbed function which have at times been charged to them. Long ago it was pointed out that so far as acute manifestations of illness or even malaise are concerned, the effective dosage must be distinctly larger than experience would lead us to assign to alimentary sources under ordinary conditions. In place of probable milligrams produced in the intestine it was necessary to employ decigrams in the experiment in order to call forth palpable departures from normal health and function. At this time it was also pointed out that whereas substances like indol may not act as pronounced poisons when administered in small but "physiologic" doses, their toxic manifestations become emphasized distinctly when there is some simultaneous perversion in the body. When, for example, the liver functions are disturbed, the toxicity of indol is exemplified by doses which leave no apparent symptoms in the healthy organism. The individual may become sensitized, as it were, by disease to the damaging influence of a compound which an unimpaired body can competently detoxicate.

The possibility of detrimental effects from small and apparently non-toxic doses of potent poisons of alimentary origin has been developed in still another direction and reinforced by experimental investigations. They may lead to gradual and remote alterations of the character to which reference has already been made: slow structural kidney changes, development of sclerotic processes, and gradual morphologic alterations in the elements of the nervous system. It is with these less immediate yet more significant detrimental manifestations that Metchnikoff's theory is chiefly concerned.

The search for the real generators of the alimentary poisons and the identification of the "undesirable citizens" of the digestive tract become a desideratum as soon as the preceding contentions are admitted. Regarding the immediate sources of such products as indol and phenol there need be no doubt. They come from the proteins through microbial activities, not by digestive changes effected by enzymes or by metabolic transformations, as at one time supposed. It is unnecessary to dwell on the struggle between the varying races of organisms for supremacy in the intestinal tract of man. Much of this story has filtered through the public press and with various embellishments has become a familiar topic in the layman's household. The alleged superiority of lactic-acid-producing organisms in checking the putrefactive anaerobes, the health and vigor of the peoples who facilitate the predominance of the benign species by the liberal use of infected food products such as sour milks, and finally, the unique longevity manifested by some of the devotees have been widely heralded.[1] The *Bacillus bulgaricus* has become almost a household word — and incidentally enriched many who have known how to embody the magic word in the label of a salable product. The vagaries of this microorganism have been discussed from time to time in THE JOURNAL.

A competitor has entered the field. Metchnikoff and Wollman[2] have isolated from fecal matter a bacillus, *Glycobacter peptolyticus*, which is said to have distinct amylolytic properties without the putrefactive propensities common to most similar species. In the presence of suitable carbohydrate pabulum, notably starch as it is found in potatoes, the glycobacter is reported to check the alimentary putrefactive production of phenols and indol so that the output of their derivatives in the urine (which serves as an index to the alimentary conditions) is greatly reduced. Sour-milk therapy is thus supplemented by the potato-glycobacter regimen, for which there are published a few statistics quite as striking as those which accompanied the earlier *B. bulgaricus* propaganda.

It would be an injustice to say that such studies are not stimulating and suggestive. They should and will furnish the incentives for further investigation in the promising and largely unexplored field of the interrelation of alimentary bacteria and physiologic functions. But it is a great step from sour milk to long life, and the chain of argument has many links that will bear a most critical inspection before it can be accepted as a dependable help. Some have already shown their weakness. Hasty generalizations invariably call for retraction or revision. This is inevitably the case when one attempts to encompass an almost endless number of variables (such as exist in the gastro-intestinal tract of man) from a single point of view. Science must then listen to just criticism of its unscientific methods. The layman becomes skeptical about the trustworthiness of the pronouncements of science in general, and in this respect the average medical practitioner joins his ranks. The lay press spreads the errors, especially when they carry the endorsement of a prominent name, but it never retracts; and the public pays rich royalties into the pockets of those who know how to exploit an opportunity to promote health. These are days of undue haste which reflects itself in science in unfortunate ways. *Festina lente.*

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[1] Metchnikoff: Essais optimistes, Paris, 1907.

[2] Metchnikoff, E., and Wollman, E.: Sur quelques essais de désintoxication intestinale, Ann. de l'Inst. Pasteur, November, 1912, p. 825. See also Wollman E.: Recherches sur les microbes amylolytiques de l'intestin, ibid., August, 1912; abstr., THE JOURNAL A. M. A., Oct. 12, 1912, p. 1409.

SUNLIGHT IN THE TROPICS

One of the last contributions to science from the late Prof. Paul C. Freer, director of the Bureau of Science of the Government of the Philippine Islands, was published, just before his lamented death, in the journal which he founded at Manila and of which he was editor-in-chief.[1] It deals with the results of the study of tropical climate — a subject to which Dr. Freer devoted considerable attention and the investigation of which he encouraged in many directions. The problems involved have not only a large scientific interest attached to them, but also a practical importance which is most timely to a nation engaged in the management of tropical or subtropical possessions and necessarily concerned with health conditions which pertain thereto. Most of the rather copious semipopular literature on climate and hygiene in the tropics, especially that dealing with the effects of light and heat, consists of statistical generalizations from passing impressions, and cannot be accepted without critical analysis. We have previously referred[2] to some of the scientific climatologic studies made by the investigators resident in Manila. We shall not refrain from rehearsing some of the findings again, because Freer's analysis of them represents the judgment of one who had an intelligent appreciation of some of the varied influences which play a part in the life of our tropical dependents.

Tropical sunlight has been charged with especially detrimental effects, as if it were different from sunlight in other parts of the world. The light which reaches the surface of the earth is composed of the ultraviolet rays, the rays of the visible spectrum, and the infrared rays associated with the heat phenomena. To the short rays of the ultraviolet portions harmful effects have especially been charged in addition to the damage attributable to the heat factors. Ultraviolet rays, however, are easily guarded against by the use of white clothing; heat rays are not. Aron[3] showed that when monkeys, which are naturally at home in the tropics and might be expected to be able to withstand the effects of sunlight, are exposed to the full sun without protection or artificial means of lowering the temperature, they speedily die, exhibiting a steady rise in temperature. If, however, care is taken to conduct away the excessive heat increment by means of a brisk current of air from a fan, the body temperature remains approximately normal and the animals remain healthy. Under these conditions heat alone is conducted away. If the untoward effects of sunlight in such fatal cases as are described above were to be attributed to the absorption of the ultraviolet rays, their influence should likewise become apparent even when a blast of air is present.

In man the possibility of heat regulation by evaporation is much more complete than in experimental animals, in which the sweat-glands are not so highly developed; and this adaptable mechanism for heat regulation enables human beings to lower their temperature and protect themselves from such fatal effects as are observed in monkeys. It has been of obvious interest to ascertain the bearing of racial characteristics and changes produced by acclimatization on the ability of different individuals to withstand sunlight well. The relative advantages of dark-skinned races over those with lighter-colored skins has been variously debated. There are several conflicting factors involved.[4] The dark skin of the negro will absorb heat more readily than the lighter ones of the white races, but the darker colors also have a greater radiating power. Accordingly the heat rapidly taken up on the sunny side of the dark-skinned will also be lost rapidly on the shaded side. The darker skins also appear to contain a larger percentage of sweat-glands. A further advantage consists in the lessened susceptibility to injury from the sun's rays in the form of sunburn, an effect which is so pronounced on the nerve endings and peripheral blood-vessels in white persons. The pigmentation of the darker skins offsets the flushing of the skin, and thus affords a protection which makes up for its more ready absorption of heat.

If, after weighing these various counterbalancing features, it is concluded that the darker-skinned races may be somewhat better prepared to withstand the sun, the white man can obtain adequate protection at all times by shade. Freer's last opinion is: "Given ample shade, and any race is adapted to resist the sun alone of tropical climates; the white man should be better able to do so than the colored. It would seem to me as if the dark skin of the negro was a result of excessive insolation, for it is certain that in a state of nature the negro would seek the shade, intuitively, and in the earliest times he probably was exclusively a forest dweller. The color of his skin would, therefore, more probably be protective just as protective coloring is developed in animals other than man."

There is always a danger in too broad generalization from a few facts, and we must warn against overhasty or unwarranted conclusions in respect to the topic under review. It is one point to be equipped by nature to withstand a tropical sun; but this is not necessarily equivalent to a capacity to endure a tropical climate into which many other aspects besides mere insolation enter. These deserve consideration quite apart from the contentions just advanced; and the diverse factors contributing to comfort and health should never be confused.

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[1] Freer, Paul C.: The Result of the Past Two Years' Work in the Study of Tropical Sunlight, Philippine Jour. Sc., B; Philippine Jour. Trop. Med., 1912, vii, 1.

[2] Civilization and the Tropics, editorial, The Journal A. M. A., Aug. 12, 1911, p. 567; The Action of Tropical Sunlight, editorial, ibid., Sept. 23, 1911, p. 1058; Complexion and Health in the Tropics, editorial, ibid., June 1, 1912, p. 1688; The Condition of the Blood During Residence in the Tropics, editorial, ibid., June 8, 1912, p. 1759.

[3] Aron, Hans: Philippine Jour. Sc., B, 1911, vi, 101.

[4] Compare Gibbs, H. D.: A Study of the Effect of Tropical Sunlight on Men, Monkeys and Rabbits, and a Discussion of the Proper Clothing for the Tropical Climate, Philippine Jour. Sc., B; Philippine Jour. Trop Med., 1912, vii, 91.

THE BANANA—A FRUIT IN A STERILE PACKAGE

With the increasing demand for fresh fruits at all seasons of the year has come the attendant difficulty of supplying them in a condition in which the dangers of contamination are largely averted. The possibilities of microbial invasion of edible products are always at hand; and the actuality of decay through the agency of organisms is one of the limiting factors in the use of fresh fruits. Among the many types of these that command attention in the dietary there is one which is equipped in its native form with a protective environment that calls for more than passing mention. Some time ago we emphasized the advantages afforded by the banana as a wholesome food and ventured the suggestion that this fruit, though growing in popularity, is still underestimated in American households, largely because it is eaten when not fully ripe.[1]

The banana consists, in its green state, largely of starch aside from the water content conspicuous in all such products. The essential change during the process of ripening manifests itself in a conversion of the starch into soluble carbohydrates among which sucrose, invert sugar and dextrins are the conspicuous components. The rate of ripening is dependent on the temperature and is thus subject to modification and control within certain ranges. This fact of itself suggests advantages in regulating the availability of the product to suit the needs of the market and the consumer. The edible portion of each fruit is packed away in a fairly resistant covering or peel which serves a more useful purpose and exhibits a far more efficient protection to the inner contents than has hitherto been realized or anticipated. Dr. E. M. Bailey[2] has made extensive bacteriologic examinations of the fruits in different stages of maturation, all of which justify the conclusion that the inner portions of the pulp of sound bananas are practically sterile. The regions of the inner coats of the peel may be sparsely inhabited by bacteria which are held in check during the normal ripening processes, but subsequently may find conditions favorable to growth. The peel is singularly resistant to invasion by bacteria. Even when fruits were subjected to the exceptionally severe test of being immersed in fluids containing cultures of known organisms there was no evidence of a penetration into the interior. The probability of infection through the peel is therefore very slight, though, of course, germs deposited on the peel might be transferred to the consumer's fingers and thence to the mouth. It is not unlikely that the few organisms commonly found along the inner coat reach it through the circulation of the plant juices while the fruit is still on the tree. Apparently natural decay begins only after the banana has reached a stage of relaxed enzymatic activity, and the biochemical changes incident to ripening are complete. Until then the normal fruit tissue seems to exert a deterrent action toward any infecting organisms.

Obviously injury to the protective coat destroys the perfection of the defense against microbial invasion; and it is at the site of abrasions on the surface of the peel that the objectionable decay usually starts. It is important to appreciate this interesting example of a food delivered by Nature in practically sterile packages with the ready possibility of being distributed in this form by man, provided that the exigencies of the case are duly appreciated alike by dealers and purchasers. Nature's wholesome service should not be undone by careless methods of marketing such foods.

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[1] The Undervalued Banana, editorial, THE JOURNAL A. M. A., Jan. 27, 1912, p. 276.

[2] Bailey, E. Monroe: Biochemical and Bacteriologic Studies on the Banana, Jour. Am. Chem. Soc., 1912, xxxiv, 1706.

THE PROBLEM OF THE FEEBLE-MINDED AMONG IMMIGRANTS

We have previously commented[1] on the problem presented by the number of insane among immigrants to this country who in spite of the best available inspection succeed in gaining entrance, or who become insane within a comparatively short period after their arrival. The detection of feeble-minded immigrants who may fail to become entirely self-supporting, later, perhaps, becoming public charges, is an allied but distinct problem and requires of inspectors a different training from that which enables the too limited number of expert inspectors to detect the insane with great accuracy. Some experiments which prove this and which indicate the manner in which the immigrant inspection service might be greatly improved in this respect are detailed in an article by Goddard,[2] director of the research laboratory of the Training School at Vineland, N. J.

In the first experiment two experts from the laboratory of the Vineland institution for the feeble-minded visited Ellis Island. After observing the method by which the inspections were conducted, the request was made that these two laboratory experts be allowed to test such immigrants as seemed mentally defective. After being picked as they passed in line by one of these experts, they were sent to the other expert without indication as to whether they were normal or defective and, with the aid of an interpreter, were given the Binet tests.

Twelve immigrants were selected, nine being picked because they were thought to be mentally defective and three as control cases, the opinion of the expert being that they were normal. Of the nine suspects every one was from four to nine years backward as shown by the Binet scale; of the three controls, one was 7 years old and tested 6; one was 9 years old and tested 10; one was adult and went successfully through all the tests.

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[1] Mental Disorders and Immigration, editorial, THE JOURNAL A. M. A., March 30, 1912, p. 938; Proposed Amendments to the Immigration Law, editorial, April 27, 1912, p. 1286; The Insanity Problem, editorial, Aug. 17, 1912, p. 545.

[2] Goddard, H. H.: The Training School, November and December, 1912, p. 109.

The success of this experiment encouraged a second experiment to last a week. The number tested in this experiment was forty-four, of whom thirty-three were selected by the regular medical inspectors of the department. Of these, fifteen proved to be defective while eighteen were normal. Eleven cases were selected by the experts from the Vineland institution and of these, by the test, only two were found not defective, and one of these had been selected to compare with a sister who was obviously defective. In this experiment it is seen that less than one-half were correctly selected by the regular inspectors, while the experts correctly chose seven-eighths of the number. On the last day of the experiment the Vineland experts simply tallied all immigrants who appeared defective without calling them out of the line, while the physicians of the inspection department called out those whom they determined to be defective. Out of twelve hundred and sixty immigrants who passed in line the experts reported eighty-three as defective; the physicians selected eighteen. On the same ratio of correct selections as that detailed above, there were at least seventy-two defectives in the twelve hundred immigrants, of whom the physicians of the department recognized only eight, or approximately 10 per cent., which shows by contrast the value of special training in the sifting out of the feeble-minded from among the normal.

Another highly interesting feature of this test was the percentage distribution of these immigrants in relation to the country of their origin. Of the entire number, six hundred were from Southern Europe; of these, forty-six, or 7.5 per cent. were recognized as defective; two hundred and sixty were from a different section of Southern Europe, of whom twenty-four, or 9 per cent., were picked as defective. The remaining four hundred were from Northern Europe and among them thirteen, or 3.25 per cent., were selected as defective. This in comparison with the estimated three or four defectives per thousand of the population in the United States shows an enormous proportion of defectives among the immigrants. Incidentally, this observation seems to furnish a strong argument against Dr. Goddard's views on the relative proportions of native-born and foreign-born defectives, commented on last week.

In view of the steady and enormous stream of immigration to this country from foreign lands the conclusions to be drawn from this showing are so obvious that no extended statement of them need be made. It may be said, however, without desiring to criticize the present overworked inspection service that, as suggested by Goddard, the training in some institution for the feeble-minded for a year or two, and the addition of a half dozen inspectors would vastly improve the immigrant inspection service. This together with some amendment of the immigration laws, a question at this moment before Congress, or a stricter enforcement of the present law in regard to deportation of defectives after their determination, would certainly relieve the country of an enormous and continuing burden of expense and responsibility, to say nothing of the deleterious effect of this defective stock on the entire social fabric.

Current Comment

RECOMMENDED IMPROVEMENTS IN METHODS OF EXAMINING IMMIGRANTS

A conference of distinguished alienists and social workers met in New York in November, 1912, and addressed to the respective chairmen of the committees on immigration of the two houses of Congress, a series of resolutions which set forth the needed amendments to the immigration laws, as understood by them. It is recommended, among other things, that a commissioned medical officer of the Public Health Service be detailed to each vessel bringing immigrants to the United States, so that the immigrants might be examined during the voyage with special reference to their mental condition; that a sufficient number of medical officers with special training and experience in the detection of insanity and mental defectiveness be detailed for duty at Ellis Island at all times, and at least one such medical officer to every other large port of entry, and that they be given the facilities, interpreters, etc., necessary to make efficient examinations; that the period during which mentally defective aliens or those becoming insane after entry may be deported be extended to five years instead of three as at present. The conference also favored the medical examination of immigrants at their point of foreign embarkation. The need for specially trained examiners for the detection of insanity and mental defectiveness is emphasized in the preceding editorial.

THE ACCELERATION OF TISSUE GROWTH

Biologists have realized for a long time that certain typical changes which living cells are capable of undergoing can be greatly modified, particularly in the sense of retardation or acceleration, by the character of the environment to which the cells are exposed. This is conspicuously true in respect to the phenomena of growth which proceeds from cell division. Relatively slight alterations in the concentration or the chemical composition of sea-water, for example, profoundly alter the rate of cleavage and development of the eggs of marine forms; and the phagocytic response of certain blood-cells is conspicuously modified by the character of the medium in which they exist. Our knowledge of this feature has been much increased since the study of the opsonins was inaugurated a few years ago. A consideration of the fact that the multiplication of cells and the growth of tissues can be modified through the control or alteration of their chemical environment has led Dr. Alexis Carrel of the Rockefeller Institute for Medical Research to investigate the possibility of artificially activating the process of repair in damaged tissues. If aseptic wounds could be made to cicatrize more rapidly, the healing of cutaneous wounds and the cure of fractures might be greatly accelerated. Several years ago Dr. Carrel observed that the proliferation of epithelium and of connective tissue was activated under certain conditions by dressings made with the pulp of organs and tissues. For instance, thyroid gland pulp deposited on cutaneous wounds brought about the formation of exuberant granulations, and when applied to bones it produced a marked thickening of the periosteum. The method of studying such phenomena in living animals is extremely complex, and the more exact analysis of the numerous possible or complicating factors at work demands some simpler mode of procedure before the underlying secrets can be extracted. For this reason Dr. Carrel has first undertaken a more precise technic by studying the influence of tissue juices on the growth *in vitro* of connective tissue, and some of the characteristics of their activating power.[1] This method of cultivating the mammalian tissues isolated from the organism has been evolved from Harrison's ingenious experiments in which the growth of isolated nervous tissue was first demonstrated. It has since, of course, been widely applied in other fields, particularly in the investigation of the growth of tumor cells. In the particular studies here referred to the method consisted in measuring the extent of the growth of fragments of tissues placed in normal plasma and in plasma containing a known quantity of a tissue juice. The experiments of Carrel leave little doubt that under appropriate conditions extracts of certain tissues can greatly accelerate the growth *in vitro* of the connective tissue. Fragments of heart, skin and periosteum grow much more rapidly when cultivated in plasma containing a tissue extract than in plasma alone. The tissues are not of equal import in respect to this activating power. Extracts of embryos, for example, seem to be particularly potent. The stimulating property appears not to apply to the tissues of a heterologous animal; and it is completely suppressed by heating at 70 C. (158 F.) or by filtration through a porcelain filter.

SCIENCE AND NEWSPAPER SENSATIONALISM

Whether or not the interesting observations mentioned in the preceding comment will find an immediate practical application in the domain of wound-healing is a secondary consideration at present. Their chief value to-day lies in the promise which they afford in common with other studies that the factors in tissue growth are amenable to experimental methods of study. That the daily newspaper has already magnified the modest findings into the immediate possibility of healing broken legs over night can only be deprecated. We have now and then been scored for counseling an attitude of healthy skepticism in the incipient stages of new investigations. False hopes and unfulfilled promises not only injure the individual, but when distributed through the medium of the public press they react on the profession as a whole. So long as what a newspaper says is implicitly believed in by a large class there is danger in the garbled reports and one-line excerpts from scientific contributions. The aim of every editor is brevity, and the limitations of the subject which he is presenting in the news columns are too often never mentioned. The newspaper public thus gradually acquires a subconscious distrust of the medical fraternity which has not "made good" on this or that alleged revolutionary discovery—in reality no discovery at all, but only a catchword or figment of the imagination of an overzealous reporter. It has been stated by the defenders of the modern press that whatever harm it does is more than compensated for by the good it accomplishes, so that in casting up the account the balance is on the side of good. It is contended that reading leads to a desire to acquire knowledge, and that as soon as knowledge is gained there is a demand for something more worthy; the bad newspaper is cast aside and one with greater intelligence and a higher standard takes its place. We agree with Mr. A. Maurice Low that this ingenious argument cannot stand the test of examination. Perverted truth and exaggerated style can scarcely create a demand for something better. "A man who must have strong meat finds less highly seasoned food without savor." The newspaper described does not lead the reader by easy steps to a higher level, but "drags him down to its own level of dishonesty and baseness until morally, intellectually and ethically he is the worse for having fed on that which has been his sole diet."

THE HYPOCHLORITE TREATMENT OF WATER-SUPPLIES

We have several times referred to the increasing use of hypochlorite as a disinfecting agent in connection with polluted water-supplies. The evidence that continues to come to hand concerning the success of this procedure is still of a highly favorable character. Jennings,[1] for example, has recently obtained data from a number of cities in the United States and Canada which have been employing the hypochlorite treatment for considerable periods. Terre Haute, Cedar Rapids (where the results are said to have been "spectacular,") Montreal, Grant's Pass, Ore., Baudette, Minn., Nashville, Cincinnati and Danville, Ill., are all places where a marked reduction in the number of bacteria, including *Bacillus coli*, has been observed in the city water after inauguration of hypochlorite treatment. North Yakima, Wash., Council Bluffs, Ia., Cleveland, Erie, Pa., Toronto, Baltimore, Evanston, Ill., Minneapolis, Omaha, Jersey City and Kansas City, Mo., are among the cities where a noteworthy reduction in typhoid fever has followed the use of hypochlorite. In Cleveland, for instance, the reported deaths from typhoid fever in the four years 1907-1911 (October to June) numbered, respectively, forty-six, fifty-two, sixty-six and sixty-five. In September, 1911, the hypochlorite treatment was begun and for the eight months, Oct. 1, 1911, to June 1, 1912, only twenty-eight deaths were reported. In Jersey City the average death-rate from typhoid for 1905, 1906 and 1907 was 18.5, while for the three years following the use of hypochlorite, 1909-1911, it was 9.6. In Minneapolis there were thirty-nine deaths in the ten months before hypochlorite and two deaths in the ten months immediately following its use. Such facts as these establish the high value that may attach to hypochlorite treatment of a water under proper conditions. While no experienced sanitarian can regard the use of this chemical as a panacea, there is no doubt that it has added greatly to our resources for dealing with a polluted water-supply, particularly under emergency conditions and pending the installation of a permanent system of purification. It is unfortunate that many of the published statements regarding the efficacy of the treatment do not state the amount of hypochlorite used, and in the case of typhoid statistics do not cover a sufficiently long period to afford an adequate basis for comparison; but these deficiencies are likely to be remedied in time. On the information now at hand, as presented by Jennings and others, there seems reason for much of the enthusiasm with which the hypochlorite treatment is now being applied.

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[1] Carrel, Alexis: Artificial Activation of the Growth in Vitro of Connective Tissue, Jour. Exper. Med., 1913, xvii, 14.

[1] Jennings: Eng. News, Dec. 12, 1912.

PRINTERS FAVOR THE OWEN BILL

In the January issue of the *Typographical Journal* under the heading "A Measure Printers Should Favor," appears an editorial endorsement of the Owen bill. After outlining the purport of the bill, the editor says, "As usual, the measure has encountered the opposition of certain interests. To overcome this opposition and to effect the passage of the bill will require educational work and the cooperation of friends of the measure." The *Typographical Journal* recognizes the importance of this measure to the working man. Probably no other class would be so greatly benefited by any improvement in health conditions as would the competent, industrious members of trade-unions. The man who makes his living by the work of his own hands must have health. It is his principal asset. Any measure which improves health conditions is of direct personal interest to the working man. If all other influences for health legislation were silenced, the labor unions of the country alone, if they fully understood its importance, would still demand that Congress pay at least as much attention to health, which is the capital of the laboring man, as it does to currency, banking, the tariff and interstate commerce.

THE NEW SENATOR FROM OREGON

Many of our readers who attended the Portland Session of the Association in 1905 will remember the address of welcome by the mayor, Dr. Harry Lane, a member of the Oregon State Medical Association and of the American Medical Association. Dr. Lane has recently been selected to represent his state in the United States Senate. *Northwest Medicine*, commenting on his election says, "It is gratifying that this august body, having so much to do for the whole people along the lines of sanitation, hygiene, prophylaxis of disease, quarantine, pure food laws and kindred matters, will have the energetic aid of Dr. Lane in their advancement." Oregon is to be congratulated on her new senator, who enters Congress at a time when there is an especial need for the services of men with such training as he possesses. The medical profession of Oregon and the nation are fortunate in having a member who can attain such a high position in the legislative councils of the nation. The Journal extends its congratulations and best wishes to Senator Lane. May his senatorial career be long and useful, and may he be the forerunner in the Senate of many others like him who will ever keep in mind the maxim of the senator of Rome: *Salus populi suprema lex!*

VANADIUM

In the Propaganda for Reform Department of this issue, the Council on Pharmacy and Chemistry publishes a report on certain proprietary preparations of vanadium. The report is an important one, but in reading it the physician must bear in mind that vanadium itself is not on trial. The report deals only with a group of proprietary preparations of the metal and the claims made for these preparations. Whether or not vanadium has a place in medicine is another question. If it has — and this there is evidence to indicate — the only way in which its value can be proved will be by the careful and painstaking use of preparations put on the market honestly and free from the bias that is inseparable from proprietaries that are sold under grossly exaggerated claims.

MEDICAL COLLEGES OF THE UNITED STATES

The complete classification of the medical colleges of the United States prepared by the Council on Medical Education, following the last inspection, appears in this issue. This classification, the result of seven years of study and investigation of conditions underlying medical education in this country, is the third presented by the Council. The first was included in the report presented to the House of Delegates of the American Medical Association in 1907. That classification was not published, but each college was notified of its standing and, whenever requested by the colleges, detailed reasons for the ratings were furnished. Three years later, in 1910, the Council's second classification was reported to the House of Delegates and was ordered published.[1] Since that time the changes taking place in medical education were being so rapidly brought about, and the second classification had been drawn on such lenient lines, that a third investigation was deemed necessary. Benefiting from previous inspections, the third tour resulted in the securing of complete data regarding all colleges. Special care was taken also to obtain corroboratory evidence supporting all statements made so as to make fully reliable the data obtained. This classification, therefore, is based, not on mere guesswork or opinion, but on facts, and the Council has on file an abundance of data showing the reasons for every rating given. Thus far the Council has published only the classifications, preferring to take up the details directly with the officials of the individual colleges. By this method the Council has had to a remarkable degree the cooperation of the colleges themselves, even including many of those to which only low ratings could be given. Of course, as was to have been expected, there have been severe criticisms from certain colleges, and the usual cries of "unfairness," "discrimination" and the like have been raised; some colleges even threatened damage suits. These classifications, however, have done and are doing great good. Thousands of prospective medical students now have the means of knowing the character of the medical schools they choose to attend. Medical colleges have a means of knowing how they rank as compared with other institutions. Following the publication of the second classification in 1910, a number of colleges availed themselves of the Council's detailed reasons for their ratings, and as a result many improvements have been made. In fact, the whole plane of medical education in this country has been and is being rapidly raised. In cities where two or more medical schools were existing, numerous mergers have taken place, resulting in each instance in the formation of one stronger and better-equipped medical school. Entrance standards have been advanced until at present forty-five medical colleges are requiring one or more years of college work, and a similar requirement has been adopted by eleven state licensing boards. A larger number of full-time, expert teachers have been secured in the colleges, and a greatly improved medical training is being furnished. Finally, and most important, the public is being supplied with much better-trained physicians.

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[1] Report of the Reference Committee on Medical Education, The Journal A. M. A., June 18, 1910, p. 2061.

VENEREAL DISEASES IN THE ARMY

The report of the Surgeon-General of the Army for the fiscal year ending June 30, 1912, gives figures for the incidence of venereal diseases in the Army for the calendar year 1911 which on first view seem discouraging. In both the Army and Navy for several years the use of prophylactic measures against venereal infection among the men has been encouraged or even made compulsory, as far as possible, in certain instances, and considerable improvement was hoped for from the adoption of these measures. The report shows that as in previous years the highest admission rate was for venereal diseases, the figures being 163.85 per thousand for 1911 as against 155.51 for 1910. Some improvement is seen, however, in the fact that the highest disability or noneffective rate was 8.82 for 1911 as against 10.14 for 1910. Further analysis of the figures also lends additional encouragement in regard to these diseases. The rate for gonorrhea was 94.52 per thousand in 1911 as compared with 102.44 for 1910, or a decrease of 7.92 per thousand. The rate for chancroids was 25.04 in 1911 as compared with 26.42 in 1910, or a decrease of 1.38 per thousand. The admission rate for syphilis in 1911 was 44.30 as compared with 26.65 for 1910. This on the surface shows an increase of 17.65 per thousand, or 66.2 per cent. for this disease. Discouraging as the latter figures appear to be, the report attempts to account for the increase on the ground that the application of the Wassermann reaction in a large number of men has revealed many cases which were not previously apparent. At some posts the Wassermann test has been applied to all the men, and thus latent cases, or cases in which the patient has had treatment which has suppressed outward signs of the disease without curing it, have been revealed. It will be seen, therefore, that while the figures without explanation do not seem to encourage the prophylactic measures employed, yet real progress has been made. It is probable also that the improvement will continue from year to year as the prophylactic measures are improved and their application made more universal. The campaign of education conducted among the recruits and kept up throughout the service of the men will also undoubtedly have some influence. A recent amendment to the statutes allowing the authorities to stop the pay of men while off duty on account of venereal diseases will also no doubt have the effect at least of inducing them to employ more thoroughly the prophylaxis provided for them. The progress made, while not great, is encouraging.

MEDICAL JOURNALS AND THE GREAT AMERICAN FRAUD

We have frequently referred to the inquiries that are received by this office from newspaper and magazine editors asking for information about products whose advertisements they have been offered. One of the greatest difficulties in the way of accomplishing the good that such inquiries otherwise might lead to is the lack of uniform action on the part of the medical press of the country. A specific instance may be given. A layman wrote to a high-class weekly magazine published in New York City protesting against an advertisement of Sanatogen which the magazine was carrying, and sending a reprint of THE JOURNAL'S article on this product. The advertising manager of the magazine in question wrote back that he had seen THE JOURNAL'S article but had sought further information regarding the preparation from the editor of a medical journal in his city. This medical editor recommended that the magazine accept the Sanatogen advertisement, so the advertising manager said, and in view of this, the manager suggested that possibly the article published by the American Medical Association in its journal was inspired by some "personal prejudice." Giving due weight to the probability that the advertising manager went for his information to a source that he knew would be favorable to the acceptance of the advertisement, the fact remains that it is a disgraceful state of affairs when editors of medical journals will give vicious advice in matters on which they are supposedly competent to pass. The probability is, of course, that the medical journal whose editor was questioned contained the self-same advertisement that the lay magazine was carrying. And the advertising manager of the magazine was willing to accept — because such information coincided with his wishes — information that on its face must be biased, and rejected advice — that did not meet his approval — because of a purely supposititious "personal prejudice." It is probably asking too much to expect advertising managers not to go to sources that are likely to be favorable for information about products whose advertisements are offered to them. But we have a right to expect that physicians, editors of medical journals, should no longer be *particeps criminis* in the furtherance of the great American fraud. If our strictures on Sanatogen are unfair, if the Council on Pharmacy and Chemistry rejected the product in mere pique, if the opinions of such men as Billings, Cabot, Hektoen and Lusk are to be brushed aside as "personal prejudice," if this mixture of cottage cheese and glycerophosphates really is the marvelous product which its exploiters claim — then indeed not only have the editors of medical journals a right to praise it, but it is also their duty to proclaim these wonders in their editorial pages. If, on the other hand, this much-vaunted preparation is a very ordinary mixture sold at an extraordinary price, if indigent consumptives and others are being inveigled into spending dollars for a preparation whose food value could be duplicated for a few cents — then in the name of humanity and common decency let the editors of medical journals proclaim these facts, and not let their scientific judgment be blinded by the glitter of advertising contracts. The medical journals, published in New York City, that carry the Sanatogen advertisement are:

Medical Record
American Medicine
American Practitioner
New York Medical Journal
Medical Review of Reviews
Critic and Guide

MEDICAL COLLEGES MERGE

As noted in our news columns in this issue, word has been received regarding mergers of medical colleges at Richmond, Va., and at Memphis, Tenn. In the former city definite action has been taken merging the University College of Medicine with the Medical College of Virginia, the new school to bear the name of the latter institution. From Memphis it is reported that by an agreement the Memphis Hospital Medical College will be merged with the Medical Department of the University of Tennessee at the close of the present session, the new school having the latter name. The merger of the medical schools of these two cities is bound to result, in each instance, in the development of a stronger and better-equipped medical school. Hereafter the splendid clinical facilities of each of these cities can be systematically utilized by the one school while heretofore they were divided between the two. In each of these cities hereafter a united medical profession can work for the welfare of the one medical school, whereas, heretofore, there has been more or less rivalry between the two institutions and their supporters. Hereafter there can and should be a united effort to secure financial assistance from the cities in which these schools are located for the one institution which will doubtless deserve such aid. For the new schools it is to be hoped that the same local support both financially and otherwise will be secured from the people as at Louisville, Cincinnati, Indianapolis and other places where two or more schools have merged into one. Close contractual relations should be secured in each place from the city authorities, giving the new medical schools larger opportunities in the municipal hospitals and more control over the material. This will enable each school not only to perform better its functions of training physicians and of adding its quota to the world's knowledge of medicine, but also to render a better service to the community by furnishing the best possible care for the sick poor.

Medical News

ALABAMA

New Hospital Ready.—The management of the new Bessemer Hospital announces that it will be ready to receive patients this month.

Professional Tax Raised.—The special tax of the medical, legal and dental professions was raised at a recent meeting of the Florence city council from $18 to $25, despite the protest of representatives from the various professions.

Personal.—Dr. R. F. Lovelady has been elected president and Dr. E. P. Hogan secretary of the board of control of Hillman Hospital, Birmingham.——Dr. L. W. Grove, Mobile, has been appointed a member of the medical staff of Bryce Hospital, Tuscaloosa.——Drs. S. P. Hand and E. B. Bailey have opened an infirmary at Demopolis in the residence of the late Dr. Goodloe.

ARKANSAS

New Sanatorium at Hot Springs.—The contract for the construction of the new Leo W. Levy Memorial Sanatorium to be erected at Hot Springs at a cost of $200,000, is to be let at once by the Independent Order of B'Nai B'Rith.

Personal.—Dr. W. A. Claxton, city bacteriologist of Fort Smith, has resigned. He has been appointed assistant bacteriologist of Florida with headquarters at Jacksonville.——Dr. A. T. Beller, Ashdown, was operated on in a sanatorium at Texarkana, December 6.

District Rule Urged for Hot Springs.—Medical Director Harry M. Hallock, M. C., U. S. Army, in charge of the Hot Springs Reservation, in his annual report to the Secretary of the Interior, advocates a form of government for the Hot Springs Reservation similar to that of the District of Columbia. He also urges stronger measures for the control of physicians and condemns the "drumming" practice.

Committee Appointed to Draft State Health Bill.—Dr. Gaston A. Hebert, Hot Springs, president of the Arkansas State Medical Society, has appointed a committee composed of Drs. Morgan Smith, Little Rock; W. H. Barry, Hot Springs; R. C. Dorr, Batesville; J. H. Weaver, Hope; J. M. McBee, Earl, and S. A. Southall, Lonoke, to draft a state board of health bill to be presented to the next legislature.

CONNECTICUT

Social Hygienists Meet.—The Connecticut Society of Social Hygiene held its second annual meeting in Hartford, recently, under the presidency of Dr. Phineas H. Ingalls. Dr. William H. Carmalt, New Haven, was elected president and Dr. Thomas N. Hepburn, Hartford, secretary. Drs. Carmalt and Hepburn were also made members of the social evil committee and Dr. Oliver C. Smith, Hartford, chairman of the treatment committee.

Staff Selected.—The corporators of the New Britain General Hospital have selected the following staff: attending staff, Drs. R. M. Clark, Ernst T. Fromen, William W. Brackett, John L. Kelly, Carl J. Hart, Henry T. Bray, Waterman Lyon, John Purney, Frederick Peck, George W. Dunn and M. Volkenheim, New Britain, A. R. Couch, Hartford, George P. Dunham, Berlin, and E. Parker Sanborn, Bristol; ophthalmic and oral surgeon, Dr. Joseph H. Potts; radiographer, Dr. Clifton M. Cooley; pathologist and bacteriologist, Dr. Catherine H. Travis; consulting staff, Drs. George P. Cooley, Kenneth E. Kellogg, E. P. Swasey and Elmer Styles, New Britain, A. S. Brackett, Bristol, J. N. Bull and C. W. Moody, Plainfield, R. M. Griswold, Kensington, Charles R. Upson, Bristol, and Oliver C. Smith, Edward B. Hooker, E. J. McKnight and G. Perry Eldridge, Hartford.

FLORIDA

Hospital Day at Fair.—Thanksgiving Day was Hospital Day at the fair which was held at Ocala for the benefit of the new Marion County Hospital now under course of construction. The proceeds of the fair are to be given to the charity ward of the institution.

Pensacola Physicians Must Pay License.—Judge Wolfe of the circuit court, in the case brought by the physicians of Pensacola regarding the legality of the recent license ordinance under which physicians were each assessed $10, has decided against the physicians.

Personal.—Dr. Stanley Erwin, Jacksonville, has been appointed physician of Duval County.——Dr. M. B. Herlong has been appointed city physician of Jacksonville, vice Dr. Gaston Day, resigned.——Dr. Howard S. Holloway, Jacksonville, has been appointed pathologist to the Florida Hospital for the Insane, Chattahoochee.

ILLINOIS

Bill for Inebriate Hospital.—A bill providing for the establishment in Illinois of a hospital and industrial colonies for the care and cure of inebriates and drug addicts is to be presented at the next session of the state legislature by Senator Edmond Beall. The bill provides for the appropriation of $250.000 for the purchase of a hospital site and buildings. Records are to be kept confidential and judges will have the power of committing inebriates to the state hospital instead of sending them to jail.

State Board Election.—At the annual meeting of the Illinois State Board of Health at Springfield, January 10, Dr. George W. Webster, Chicago, was reelected president, and Dr. James A. Egan, Springfield, was reelected secretary. The board decided to ask for legislation providing an appropriation for free typhoid vaccination, a state colony for epileptics and an appropriation to establish methods of preventing ophthalmia neonatorum.——The Master Plumbers' Association of Illinois has asked the governor-elect to appoint a master plumber, or a sanitary engineer as a member of the State Board of Health.

Certificate Revoked.—The State Board of Health, at its meeting, December 5, revoked the certificate to practice medicine of Dr. Seth Marion Wells, who claimed to be a graduate of University Medical College of Kansas City, Mo., in 1903 and was licensed in Illinois in 1905 on reciprocity with Iowa, in which state he had obtained his original license. The charges preferred against Wells were that his license to practice in Illinois was fraudulently obtained in that, at the time, he was a fugitive from justice from the state of Utah; that he had pleaded guilty to unprofessional and dishonorable conduct in Utah and had had his license revoked for that offense; that the certificate of good moral character claimed to have been given him by Dr. Gilman W. Petit was a forgery and not given by the said Petit, and furthermore that his affidavit that he was a graduate of the University Medical College of Kansas City, Mo., was a forgery, as he had not attended the college and had not been granted a diploma.

Personal.—Dr. M. P. Parrish, Decatur, has been elected chief surgeon of the Wabash Employees' Hospital Association, vice Dr. H. W. Morehouse, deceased.——Dr. R. S. Denny, Aurora, who has been seriously ill, is reported to be improving and will go to Florida to recuperate.——Dr. S. Horwitz, city physician of Peoria, who has been ill with influenza, is reported convalescent.——Dr. and Mrs. J. S. Watson, Aurora, have started on a trip to Honolulu.——Drs. A. G. Wittman, W. R. Tutt and Oliver F. Hughes have been promoted to be physicians at the Elgin State Hospital.——Dr. R. F. Hays, Freeport, fell down stairs, December 24, fracturing his left leg at the knee.——Dr. Harry L. Howell, Bloomington, who was operated on for appendicitis early in December, is convalescent.——Dr. George C. Tallerday, Belvidere, has been commissioned a member of the State Board of Equalization.——Dr. H. M. Van Hook, Mount Pulaski, while getting out of his buggy fell, injuring his left patella.——Dr. Robert H. Rea has been appointed acting superintendent of the Chicago State Hospital, Dunning, vice Dr. Fred B. Clark, resigned.——Dr. G. S. Culver, Sandwich, caught his hand in the gear of his automobile, January 2, necessitating the amputation of parts of two fingers.

Chicago

Banquet to Ex-Presidents.—The Chicago Medical Society announces a banquet to ex-presidents at the Sherman House, February 12, at 7:30 p. m. Ladies are cordially invited.

Illinois Training School Retains County Work.—The contract for nursing at the Cook County Hospital has been awarded to the Illinois Training School for Nurses for $164,000. The school agrees to furnish three hundred nurses for the hospital.

Personal.—Dr. Frank Billings has started on a trip to the Canal Zone.——Dr. A. W. Calvert, formerly assistant medical director of the Ottawa Tent Colony, has been appointed a member of the staff of the Arkansas Tuberculosis Sanatorium, Boonville.——Dr. I. D. Rawlings, head of the contagious disease division of the Bureau of Medical Inspection of the Health Department, is ill with typhoid in St. Luke's Hospital.

Asks Appropriation to Fight Epidemics.—Fearing that scarlet fever and diphtheria, which are now prevalent in the city, will increase beyond the power of the health authorities to control, Dr. Willis O. Nance, alderman and chairman of the council health committee, has asked for an emergency appropriation of $50,000 to provide hospital facilities for communicable diseases. There are at present said to be 1,440 active cases of scarlet fever and 694 active cases of diphtheria in the city.

Urge State Medical School.—The Alumni of the University of Illinois and the College of Physicians and Surgeons, together with a special committee from the Illinois State Medical Society, are urging on Governor-Elect Dunne and the legislature, a plan whereby the university may absorb the medical school. The alumni of the professional school have offered to purchase all outstanding stock and to transfer it to the university on condition that the school become an integral part of the department of public education. The university trustees have signified their approval, and all that remains is for the legislature to agree to the plan, thereby assuming liability by the state for the bonded and floating indebtedness amounting to $265,000.

INDIANA

New Officers.—Indianapolis Medical Society, January 7: president, Dr. Charles E. Ferguson.——Madison County Medical Society: president, Dr. M. A. Austin, Anderson; secretary, Dr. Etta Charles, Summitville.

Personal.—Dr. T. Victor Keene, Indianapolis, has been commissioned first lieutenant, M. C., N. G. Ind.——Ralph Chappell and Frank T. Dowd, Indianapolis, have been appointed deputy coroners.——Dr. K. R. Ruddell has been appointed anesthetist and pathologist of the new St. Vincent's Hospital.

Appropriations Asked by State School.—The report of the trustees of the Indiana University asks for appropriations by the legislature of $50,000 for a site for the Robert W. Long Hospital, of $25,000 a year for the support of the medical school and of $100,000 a year for the Robert W. Long Hospital.

MARYLAND

Personal.—Dr. Alexander L. Hodgson, Pearson, is spending the winter in Baltimore.

Maryland Organizes Against Tuberculosis.—Governor Goldsboro entertained Drs. Lewellys S. Barker, William S. Thayer and C. Hampson Jones of Baltimore, at dinner January 10. These gentlemen later addressed a meeting of the house of delegates at the State House, in the interest of the permanent organization of a local branch of the Society for the Prevention and Relief of Tuberculosis.

Baltimore

Tribute to Dr. Bosley.—Out of respect to the memory of late Health Commissioner Bosley, the Health Department was closed January 6, and employees of the department attended the funeral in a body. Resolutions regarding the death of Dr. Bosley were unanimously adopted by the city council, which, immediately after, as a mark of respect, adjourned.

Personal.—Dr. Benjamin B. Turner has been appointed assistant in pharmacology and Dr. Caroline B. Towles assistant in pediatrics, in Johns Hopkins Medical School.——Dr. E. M. Duncan has been elected president of the Govans Improvement and Protective Association.——Dr. Horace W. Nicholson is ill in Mercy Hospital.——Dr. George C. Wegefarth, who was operated on for appendicitis at the Church Home and Infirmary, December 12, is making satisfactory progress.

NEW YORK

Society to Aid Cripples.—Some of the residents of Westchester County and New York have organized the Cripples Welfare Society of New York and Westchester and the incorporation of the society has been approved. The object of this organization is to aid cripples and to reduce mendicancy, vagrancy and pauperism. The society proposes to provide artificial limbs, to procure employment for cripples and also to elevate their moral condition.

Medical Examination of Applicants for Marriage License.—There is a bill before the legislature providing for a medical examination of both parties to a marriage contract before the issuance of a license, making it a misdemeanor for the contracting parties to procure a license by fraud, for a doctor to issue a false certificate and for a minister to solemnize a marriage, knowing that the provisions of the bill have not been complied with. The bill has the endorsement of the New York County Medical Society.

County Tuberculous Hospitals.—The Suffolk County Board of Supervisors at a special meeting, December 3, voted to purchase as a site for the proposed county tuberculosis hospital, forty-three acres of land, seven miles north of Patchogue and between that place and Port Jefferson, at an expense of $4,000. Suffolk is the twenty-seventh county in this state to decide to provide hospital care and treatment for its sufferers from tuberculosis. ——The Board of Supervisors of Herkimer County voted to establish a county hospital for the care and treatment of persons suffering from tuberculosis. This is the twenty-eighth county to make provision.——Meany Sanatorium, the new Tompkins County institution at Taughannock Falls was opened to receive patients, January 9. Dr. I. W. Brewer is in charge of the institution.

Commission to Study Health Conditions.—Governor Sulzer has announced the appointment of a commission of eight persons to make an investigation of health conditions in this state. The members of the commission are: Dr. Hermann M. Biggs, New York City, chairman; Homer Folks of Yonkers, secretary; John Kingsbury of Yonkers, assistant secretary; Dr. Edward R. Baldwin, Saranac Lake; Ansley Wilcox, Buffalo; Miss Adelaide Nutting, Dr. John C. Otis, Poughkeepsie, and Dr. W. E. Milbank, Albany. Governor Sulzer believes that the state should be much healthier than it is. During the year 1912 there were 145,538 deaths. Of these there were due to pulmonary tuberculosis, 14,179; other forms of tuberculosis, 2,339; typhoid fever, 1,310; measles, 977; whooping-cough, 816; diphtheria, 1,921; scarlet fever, 1,147; blood diseases, 629; intestinal troubles and enteritis in patients under two years of age, 7,299. These affections were partly if not largely preventable. "If they are preventable, why are they not prevented?" This is one of the questions into which the commission is to inquire. The commission is also to study the health laws of the state and to make suggestions for their revision and also to make suggestions as to the appointment of a new health officer for the state, as the term of the present incumbent expired on Jan. 1, 1913.

Personal.—Dr. O. O. Stowell has been reelected president of the Department of Health of Watertown, for the seventh term. ——Dr. E. S. Willard, for seventeen years health officer of Watertown, was reelected at the meeting of the Board of Health, January 6.——Dr. L. H. Snow, Jamestown, while driving his automobile in a snowstorm, January 5, was run into by a street car and sustained painful cuts and bruises of the face.——Dr. A. D. Carpenter has been reelected president of the Buffalo Civil Service Commission.——Dr. Douglass H. Smith, Bath, has been appointed local surgeon for the Erie Railway and the Lake Keuka Navigation Company.——Dr. Harry C. Buell, Canandaigua, fractured his right arm while cranking his automobile, December 31.——Dr. Joseph C. O'Gorman has been appointed medical school inspector of Buffalo.——Dr. Harry D. White, Rome, was thrown from his sleigh while returning from a professional call, December 30, and fractured his right leg near the ankle.——Dr. F. J. Baker, Lockport, was thrown against the steering wheel of his automobile in a collision with another machine, December 15, and painfully injured.——Dr. Lucia E. Heaton, Canton, has been elected secretary of the St. Lawrence County Tuberculosis Committee.——Dr. George H. Torney, Jr., first assistant at the Utica State Hospital, has resigned to take a similar position at Bournewood Hospital, Brookline, Mass.——Dr. Earl G. Danser, Buffalo, medical examiner for Erie County, while trying to avoid a collision between his automobile and a buggy in the town of Clarence, ran into a shed, fracturing his right arm at the wrist.

New Officers.—Erie County Medical Society at Buffalo, December 16: president, Dr. J. F. Whitwell; secretary, Dr. Franklin C. Gram, both of Buffalo.——Schoharie County Medical Society at Richmondville, December 16: president, Dr. Lyman Driesbach, Middleburgh; secretary, Dr. Herbert Odell, Sharon Springs.——Montgomery County Medical Society at Fonda, December 11: president, Dr. E. C. LaPorte; secretary, Dr. William R. Pierce (reelected), both of Amsterdam.——Onandaga County Medical Society at Syracuse, December 10: president, Dr Edward B. Kaple, Elbridge; secretary, Dr. H. B. Doust, Syracuse (reelected).——Schenectady County Medical Association at Mohawk Golf Club, December 10: president, Dr. F. C Reed; secretary, Dr. Harvey P. Groesbeck, both of Schenectady.——Chautauqua County Medical Society at Jamestown, December 10: president, Dr. N. G. Richmond, Fredonia; secretary-treasurer, Dr. J. W. Morris, Jamestown.——Rensselaer County Medical Society at Troy, December 10: president, Dr. James H. Lyons; secretary, Dr. A. J. Hambrook, both of Troy.——Otsego County Medical Society at Oneonta, December 10: president, Dr. W. S. Cooke, Otsego; secretary, Dr. M. Latcher, Oneonta.——Lewis County Medical Association at Lowville, December 11: president, Dr. Ira D. Spencer, Croghan; secretary, Dr. E. N. K. Mears, Lowville.——Franklin County Medical Society at Malone, December 10: president, Dr. Frank F. Finney, Burke; secretary-treasurer, Dr. George M. Abbott, Saranac Lake.——Wayne County Medical Society at Lyons, December 10: president, Dr. Alexander Walker, Macedon; secretary-treasurer, Dr. M. A. Veeder, Lyons.

New York City

Lake Addresses Academy.—Dr. Richard Lake, London, delivered an address before the New York Academy of Medicine, December 13 on "Vertigo, a Clinical Therapeutical Study."

Bellevue Hospital Library.—It is announced that the library in connection with the pathologic department of the new Bellevue Hospital will be open for the use of all practicing physicians.

Ambulance Service Suspended.—The Presbyterian Hospital has announced that it will discontinue its ambulance service because it is not now getting enough accident cases through police calls to warrant its maintenance.

Typhoid Mary Loses Case.—Mary Mullen, the typhoid carrier, has been notified that she has no cause of action against the Board of Health of New York City, which caused her to be detained for three years in North Brother Island. It is held that the Board of Health acted entirely within the powers conferred on it by the city charter.

Cancer Hospital Needs Aid.—The New York Skin and Cancer Hospital states that the news reports that it had benefited by the will of Miss Cornelia Storrs to the extent of $2,000,000 were greatly exaggerated. The institution has not yet benefited at all by the will of Miss Storrs and at the most will not receive more than $50,000 from the estate.

New Officers.—New York Medicolegal Society, December 20: president, Dr. Thomas D. Crothers, Hartford, Conn.; secretary, Clark Bell, New York City, both reelected.——Medical Society of the County of Kings, ninety-second annual meeting at Brooklyn, December 17: president, Dr. James M. Winfield; secretary, Dr. Claude G. Crane.——Physicians League of Brooklyn: president, Dr. Thomas Dixon; secretary, Dr. Charles Dumey.

Progress in Caring for the Blind.—The New York Association for the Blind held its annual meeting on December 17. Dr. John H. Finley reported that the last year had witnessed great strides in the prevention of blindness and methods of caring for the blind. The opening of the new summer home at Cornwall, N. Y., was the greatest single accomplishment of the association. This association had during the year fitted ten men to tune pianos in the public schools; this furnished an illustration of the effort made to teach these unfortunates some occupation and to make them self-supporting.

Neglect to Report Births.—The birth records of the past year have fallen below the returns of the previous year. The Health Commissioner assumes that this discrepancy is due to negligence on the part of physicians in making reports and he has sent out a letter to every physician in the city warning him against making such omissions in the future and threatening with prosecution every violation of the law on this subject. The Commissioner of Health has the power to excuse a person who fails to comply with the provision of the law compelling the filing of a certificate of birth within ten days, and of 312 cases brought to the notice of the Commissioner six have been excused on the ground of mental and physical disability at the time when the certificates should have been filed.

Personal.—Dr. C. B. Meding arrived in San Francisco, December 30, after a visit of several months in India.——Dr. Lewis S. Pilcher was the guest of honor at the Hamilton Club, December 11, when the medical men of the Methodist Episcopal Hospital, which was organized by Dr. Pilcher, celebrated the twenty-fifth anniversary of its founding. Only members of the Society of Ex-Interns of the Hospital were present. A handsome loving-cup, suitably engraved, was presented to Dr. Pilcher, the society acknowledging affectionately its obligation for his services as a teacher, for his accuracy as a surgeon and for his example as a man.——Dr. Charles Milton Ford has been appointed consulting surgeon to the New York City Children's Hospital and Schools, Randall's Island.——Dr. Alexis Carrel returned from Europe, January 11.

New Hospital for the Crippled Opened.—The new hospital of the New York Society for the Relief of the Ruptured and Crippled in East Forty-Second Street near Second Avenue was formally opened on December 16 though the patients from the old hospital building had been moved in a week before. Addresses were made by William Church Osborne, president of the society, and by Dr. Virgil H. Gibney, surgeon-in-chief. The annual report of the hospital shows that since it was founded in 1863, 392,405 patients have been treated. The unusual feature of this hospital is the amount of outdoor space that is provided; practically every room and ward where patients are cared for has an open air playground adjoining it, and a large part of the sixth floor is arranged for outdoor treatment and recreation. The society is now working for a convalescent home in the country. Besides the housewarming, the occasion was a celebration of the fiftieth year of the society. There are accommodations in the hospital for 225 children, but in times of stress the dining-room can be converted into a ward and in this way 350 may be accommodated.

PENNSYLVANIA

Patients Admitted to Cresson.—The first two patients were admitted to the State Tuberculosis Sanatorium, Cresson, January 2, transferred from Mount Alto. The resident physicians of the institution are Drs. Ellenberger, Altoona, and Gross, Philadelphia.

Hospital News.—Directors of the Taylor Hospital, Scranton, are discussing the advisability of changing the name of the institution to the Edward James Memorial Hospital.——The new wing of the Spangler Hospital which has been erected at a cost of $6,000 was opened New Year's Day.

New Housing Code.—A housing code is being drawn up by a committee appointed at the recent national housing conference, to be presented at the coming session of the legislature to do away with evil housing conditions and to establish adequate supervision over tenements. It is intended to grant wider powers to the boards of health to establish sanitary inspection, to condemn insanitary houses and to prevent their occupancy. One clause provides that no dwelling shall be rerented without fumigation.

New Officers.—Delaware County Medical Society at Chester: president, Dr. Frederick H. Evans; secretary, Dr. C. Irvin Stiteler, both of Chester.——York County Medical Society, thirty-ninth annual meeting, at York, January 2: president, Dr. L. H. Fackler; secretary, Dr. J. H. Comroe, both of York.——Northumberland County Medical Society at Sunbury, January 2: president, Dr. M. J. Flanagan, Shamokin.——Berks County Medical Society at Reading, December 10: president, Dr. Ira G. Shoemaker; secretary, Dr. H. Philemon Brunner, both of Reading.——Columbia County Medical Society at Bloomsburg, December 12: president, Dr. Heister V. Hower, Mifflinville; secretary-treasurer, Dr. Luther B. Kline, Catawissa.

Personal.—Dr. J. H. Wilson, California, has been appointed physician of the Consolidated Coal and Coke Company at Red Top, vice Dr. W. B. Stevenson, deceased.——Dr. James E. Dickinson has resigned as president of the Harrisburg Board of Health.——Dr. H. B. Brunner, Somerset, has been elected resident physician of the Somerset County Hospital.——Dr. J. V. Albert, Pine Grove, was painfully injured in a fall on a pavement, recently.——Dr. E. S. Hayes, Wyoming, sustained painful injuries in a collision with a car in Wilkes-Barre, December 20.——Dr. W. H. Minnich, Dallastown, is reported to be ill with pleurisy.——Dr. J. H. Yeagly, York, who has been ill with pneumonia, is reported to be improving.——Dr. Philip Y. Eisenberg has been elected president of the Norristown Charity Hospital Association.

Typhoid and Measles.—Inspector Moses of the State Health Department, has been sent to Bethlehem to investigate the water supply as well as the milk, because of the outbreak of typhoid in that city, twenty cases having been reported up to January 9.——More deaths occurred in this state from measles during the past year than from scarlet fever and Commissioner of Health, Dr. Samuel G. Dixon, attributes the large mortality from this disease to the ignorance of parents, who look on measles as inevitable. He says, "Two factors are responsible for the epidemic of measles. They are the laxity of boards of health in the smaller communities in enforcing the law requiring quarantining and exclusion from school when cases of measles occur and the failure of parents to realize that this is a dangerous disease which demands the care of a physician. At Newport, Perry County, in October, there was an outbreak of measles. It was discovered that not only many children had it, who were entirely without medical attendance, but it was asserted that the secretary of the board of health of Newport had measles in his own home and failed to placard it as the law requires.

Philadelphia

New Officers.—Philadelphia College of Physicians: president, Dr. James C. Wilson; vice-president, Dr. Richard H. Harte.

Measles Prevalent.—There was a large increase in the number of cases of measles during the week ending January 11, 321 being reported, as compared with 245 recorded in the previous week. Of these new cases nearly one-half are reported from four up-town wards: sixty-six from the Twenty-Second, fifty-two from the Twenty-Eighth; twenty-two from the Thirty-Eighth and nineteen from the Forty-Second.

Baby-Saving Show Opened.—The first neighborhood exhibit of the baby-saving show was opened January 8, in the Catto School. Dr. Joseph S. Neff, Director of Health and Charities, the principal speaker, spoke on "What Every Citizen of Philadelphia Can Do to Help Save the Babies." Dr. Henry D. Jump is chairman of the child hygiene committee. Talks will be given in different languages in the foreign sections of the city, illustrated by lantern slides.

Hospital Report.—The thirty-eighth annual report of the University of Pennsylvania Hospital covers only ten months. During this time, 4,421 patients were admitted to the institution with a total of 4,638 under treatment. Of these, 4,105 were discharged, 249 died and 224 remained in the hospital. There are 133 physicians on the visiting staff and the dispensary service and 23 resident physicians. During the ten months covered by the report, the total receipts of the institution were $232,386.97 and the total expenditures $223,566.25.

Highway Bureau Experiment Successful.—In an effort to obtain cleaner streets, the Highway Bureau placed municipal waste-paper cans in congested districts, and the experiment was successful enough to warrant carrying out the campaign on a larger scale. Bids for several thousands of these cans will be opened January 20. They will be placed on the curbs in the business districts of the city and in front of every public, parochial and other schools. The contents of the cans will be collected daily. The bureau has an appropriation of $4,252 for the work.

TENNESSEE .

Memphis Colleges Merge.—Word has just been received that the Memphis Hospital Medical College and the University of Tennessee Medical Department, both located at Memphis, have been merged and will continue under the latter name. This leaves but one medical school for white students in Memphis.

Children's Clinic Opens.—A child's free clinic at Knoxville was opened to the public January 2. Dr. W. D. Richmond is in charge during January. There are six rooms at the clinic, which is located on the second floor of an old school building, namely: two consultation rooms, a waiting room, rest room, bathroom and sterilizing room. A nurse is on duty at the clinic six days in the week from 10 a. m. to 5 p. m.

New Officers.—Rutherford County Medical Society at Murfreesboro: president, Dr. B. N. White; secretary-treasurer, Dr. Rufus Pitts, both of Murfreesboro.——Giles County Medical Society at Pulaski: president, Dr. R. E. Aymett, Pisgah; secretary, Dr. J. A. LaRue, Pulaski.——Knoxville Gynecological and Surgical Society organized December 18 with ten charter members. At the meeting January 2, Dr. B. B. Cates was elected president and Dr P. Herbert Acuff, secretary-treasurer.——Memphis and Shelby County Medical Society at Memphis, December 17: president, Dr. William Krauss; secretary-treasurer, Dr. J. J. Cullings.——Crockett County Medical Association at Alamo, December 2: president, Dr. J. H. Harris, Bells; secretary-treasurer, Dr. E. S. Hopper, Alamo.——Madison County Medical Society at Jackson: president, Dr. J. A. Crook; secretary-treasurer, Dr. J. W. MacClaren.——Chattanooga Academy of Medicine, December 6: president, Dr. H. P. Larimore; secretary-treasurer, Dr. C. R. Wylie.

VIRGINIA

New Officers.—Lynchburg Medical Association, January 3: president, Dr. George P. Hamner; secretary-treasurer, Dr. J. W. Walters.——Shenandoah County Medical Society at Woodstock, December 12: president, Dr. S. J. Hoffman, Woodstock; secretary, Dr. W. F. Driver, New Market (reelected).——Richmond Academy of Medicine and Surgery, December 10: president, Dr. J. Shelton Horsley; secretary, Dr. M. W. Peyser, reelected after a twenty-year term.

Medical College Merger.—The last obstacle to the merger of the University College of Medicine and Medical College of Virginia has been removed and the union of the two institutions will in all probability be legally consummated within a very few days. The new institution will appear under the name of the Medical College of Virginia and will embrace the plants and equipment of the two merging colleges, the Memorial Hospital and the Virginia Hospital. It will be governed by a board of visitors, consisting of nineteen members, to be appointed by the governor, and the faculty will be composed of members of the faculties of the two institutions and will select its own dean.

WISCONSIN

Large Increase in Health Appropriation Asked.—Health Commissioner Kraft of Milwaukee has asked for an appropriation of $200,147.50 for the health department for 1913. During 1912, $150,000 was appropriated.

Personal.—Dr. W. H. Titus is said to be seriously ill at his home in Oshkosh.——Dr. Dennis J. Hayes, Milwaukee, while stepping from his automobile, December 25, was struck by an automobile, fracturing his left leg.——Dr. J. B. Atwood, Oconto, has disposed of his practice.——Dr. H. F. Oshwaldt has returned to Oconto Falls and resumed practice.

Four-Year Medical Course.—The plans of the alumni and the medical and art and science departments of the University of Wisconsin are to have the university authorities establish the last two years of the medical school course in Milwaukee, extending the course from two years to a complete four-year course, and thus utilizing the clinical facilities of Milwaukee.

Antituberculosis Sanatoriums Located.—The tuberculosis sanatorium for Kenosha County, for which $20,000 has been appropriated, will be located near Camp Lake in the town of Salem.——The tuberculosis sanatorium for Manitowoc County, which has been erected at a cost of $15,000 and is to be known as Maple Crest, was opened recently.——There is being constructed at Racine a tuberculosis sanatorium for Racine County, at a cost of $35,000. The institution will be located on a 10-acre tract, 3 miles from Racine, near the county insane hospital.

New Officers.—Green County Medical Society at Monroe, January 3: president, Dr. L. A. Moore; secretary, Dr. S. R. Moyer, both of Monroe.——Rock County Medical Society at Beloit, December 31: president, Dr. Frank Van Kirk; secretary-treasurer, Dr. Frederick Sutherland, both of Janesville.——Ashland-Bayfield-Iron County Medical Society at Ashland, December 20: president, Dr. W. T. Rinehart; secretary, Dr. C. T. Smith, both of Ashland.——Portage County Medical Society at Stevens Point, December 23: president, Dr. A. E. MacMillan; secretary-treasurer, Dr. W. F. Cowan, both of Stevens Point.——Lancaster County Medical Society at Bloomington, December 12: president, Dr. J. C. Betz, Boscobel; secretary-treasurer, Dr. M. B. Glasier, Bloomington.——Marathon County Medical Society at Wausau, December 16: president, Dr. F. C. Nichols; secretary-treasurer, Dr. J R. Bryant, both of Wausau.——Medical Society of Milwaukee County: president, Dr. C. H. Lemon; secretary, Dr. Daniel Hopkinson, both of Milwaukee.——Dane County Medical Society at Madison, December 10: president, Dr. C. A. Harper; secretary-treasurer, Dr. F. S. Meade.——Kenosha County Medical Society at Kenosha, December 6: president, Dr. William Pugh; secretary-treasurer, Dr. C. H. Gephart, both of Kenosha.——La Crosse County Medical Association at La Crosse: president, Dr. Oscar Houck; secretary-treasurer, Dr. George W. Lueck, both of La Crosse.——Douglas County Medical Association at Superior: president, Dr. R. K. Lohmiller; secretary-treasurer, Dr. William A. Zwickey, both of Superior.

WYOMING

Cheyenne Has Scarlet Fever.—On account of the prevalence of scarlet fever in Cheyenne, the holding of public entertainments has been prohibited. Children have also been forbidden to enter moving-picture shows or other public places. The schools will remain closed until it is considered safe to reopen.

Personal.—Dr. Horace P. Holmes, Sheridan, was stricken with cerebral hemorrhage, December 8, and is reported to be in a critical condition.——Dr. Whitlock and family, Evanston, have located in Kemerer.——Dr. John Delroy Shingle, Cheyenne, county physician of Laramie, who was operated on recently for appendicitis, is reported to have recovered.

GENERAL

Surgeon-General of the Army Reappointed.—The senate, January 11, confirmed the reappointment of Brigadier-General George H. Torney, M. C., U. S. Army, as surgeon-general.

Bacteriologists Hold Meeting.—The annual meeting of the Society of American Bacteriologists was held in New York City, December 31-January 2, and the following officers were elected: president, Prof. C. E. A. Winston, American Museum of Natural History, New York City; vice-president, Prof. Charles E. Marshall, Massachusetts Agricultural College, Amherst, and secretary-treasurer, Dr. A. Parker Hitchens, Glen Olden, Pa.

New Officers.—North Pacific Surgical Society, annual meeting in Vancouver, B. C.: Dr. Casper W. Sharples, Seattle, Wash., president; Dr. James B. Eagleson, Seattle, secretary-treasurer.——Sixteenth annual convention of Phi Chi Medical Fraternity, in Philadelphia, December 30-January 1: Dr. Archibald B. Elkin, Atlanta, Ga., grand presiding senior; Dr. Theodore B. Pearson, Wilmore, Ky., grand historian and editor-in-chief of the official organ.——Eighth annual meeting of Phi Delta Epsilon Fraternity, in Philadelphia, December 30-31: grand consul, Dr. Camille J. Stamm, Philadelphia; grand scribe, Dr. Louis L. Goldblatt, New York City.

The Mary Putnam Jacobi Fellowship.—The Woman's Medical Association of New York City offers a fellowship of $800 for graduate study. It is open to any woman graduate of medicine not on competitive examination, but on proof of ability and promise of success in the chosen line of work. Applications must be received by April 1, accompanied by testimonials as to good health, ability and character; details of educational qualifications; a statement of the work proposed while holding the fellowship; and examples, if any, of work, in the form of articles, or accounts of investigations carried out. The fellowship will be from Oct. 1, 1913, to Oct. 1, 1914. Two reports will be expected, one about the middle of the work and a detailed report on its completion. All applications should be sent to Dr. Emily Lewi, Chairman, Committee on Awards, 35 Mt. Morris Park West, New York.

Infectious Diseases.—The most serious situation with regard to meningitis is found in an area comprising eastern Arkansas, northern Louisiana, Mississippi, western Tennessee and southern Illinois. The state and local health officers are active in all of these sections and the situation will no doubt come rapidly under control. In some sections, particularly in Louisiana where perhaps an exaggerated state of public alarm exists in regard to the disease, the state health officer has been called on urgently to establish quarantine in various places. Some towns have quarantined against each other. This plan is discouraged by the state health officer who says that such quarantine is never effective and is, therefore, harmful rather than beneficial. Perhaps in some instances the reports of the prevalence of the disease are exaggerated. The health officer at Memphis has adopted the policy of requiring the examination of all persons from the districts in which meningitis is present but no public quarantine will be proclaimed. The meningitis situation at Midville, Ga., is improved. Cases are reported from Missouri and other states but nothing resembling an epidemic exists at any of those places.——A small-pox epidemic has broken out in La Crosse, Wis. The authorities have requested the discontinuance of public and social functions. Vaccination is being vigorously carried on. Some cases are reported from other places in Wisconsin.——Considerable small-pox exists in West Virginia as reported last week. An epidemic has broken out in the quarries at Martinsburg and a company of state militia stationed at Martinsburg has been called on to help to preserve prophylactic regulations.——Diphtheria is reported from Madison, Wis.; scarlet fever from Walsenburg, Colo., and measles at Gettysburg, Pa., 100 cases of the latter disease having occurred up to January 7.——Twenty cases of beriberi are reported from the Austin (Tex.) State Hospital.

Bequests and Donations.—The following bequests and donations have recently been announced:

Boston Lying-In Hospital, over $500,000, to accumulate for twenty-one years and to be called the Francis Amory of Milton Maternity Fund, by the will of Francis Amory.

Endowment fund of the Medical College of the University of Cincinnati, $50,000, to be known as the Julie Fries Levy Endowment, the income to be used to further and disseminate medical knowledge; donation by Harry M. Levy.

Manhattan Eye, Ear and Throat Hospital, a half interest in property at 118 East Fifty-First Street, New York, by the will of Dr. Frank J. Parker.

Nursery and Child's Hospital, Baltimore, $10,000, by the will of Dr. David H. Carroll.

Pittsburgh Tuberculosis Hospital, $5,000 from the College Club of Pittsburgh and $10,000 from an anonymous benefactor, for an annex.

Jewish Consumptives Relief Society, Denver, $2,000, to fit up a room to be dedicated to the testator, by the will of Simon U. Rosenthal, New Orleans.

A hospital and other charities at New London, Conn., $600,000, by the will of Sebastian D. Lawrence.

Evanston Contagious Disease Hospital, $10,000, by William Liston Brown.

Joseph E. Schoenberg Memorial Hospital, Denver, $25,000 to the endowment fund.

Missouri Baptist Sanitarium, St. Louis, $100,000, by Alanson D. Brown, subject to the raising of $50,000 additional by the church authorities.

St. Michael's Day Nursery and Hospital for Babies, Wilmington, Del., $10,000; Robert Packer Hospital, Sayre, Pa., real estate in the city; Episcopal and Rush Hospitals, Philadelphia, each $15,000, by the will of Mrs. Mary Packer Cummings.

Samaritan Hospital, Sioux City, Iowa, $1,000, from J. M. Field, Manchester, England, formerly of Sioux City.

Columbia University, $1,566,635, for a cancer research fund, by the will of George Crocker.

St. Vincent's Hospital and the Consumptives Home of St. Joseph, New York City, each $1,000; St. Rose's Cancer Hospital and Hospital in the Bronx for the Blind, each $500, by the will of Thomas Bardon.

Society for the Relief of the Ruptured and Crippled, New York City; Home for Incurables, Fordham, each $5,000, by the will of Elizabeth F. Noble.

St. Luke's Hospital, New York City, $75,000, to endow a bed in memory of Elizabeth C. Bacon, by the will of Francis E. Bacon.

Mount Sinai Hospital, New York City, $5,000, by the will of Nathan Straus.

Massachusetts General Hospital, for the support of the laboratory, $25,000, and Harvard Medical School, $50,000, the income only to be used, and $30,000 for the purpose of promoting out-of-door life for school children in the town of Canton, by the will of Dr. Arthur T. Cabot.

St. Luke's Hospital, Jacksonville, Fla., $10,000, by the will of Emma Drew.

Mercy Hospital, Kansas City, $5,000, for an endowment fund; donation by Charles W. Armour.

Charity Hospital and Touro Infirmary, New Orleans, each $20,000, by the will of Edward Rosenberg.

St. Louis Day and Night Camp for the Cure of Tuberculosis, $10,000; donation from Miss Helen Gould.

Associated Jewish Charities of Chicago, $50,000, by the will of Leon Mandel.

Pennsylvania Hospital, Home for Incurables and German Hospital, Philadelphia, each $5,000, by the will of Laura A. Pichon.

New York Society for the Ruptured and Crippled and Orthopedic Dispensary and Hospital, each $7,500, by the will of Mirian De Forest.

Stony Wold Sanatorium, $10,000, by the will of Melinda Hasbronck.

FOREIGN

Cholera at Mecca.—The cable reports 1,714 deaths from cholera in the last four days among the pilgrims at Mecca.

Bequests for Science.—The will of Alfred Samson, who died recently at Brussels, provides for an endowment of $500,000 for the Prussian Academy of Sciences and $100,000 for the Bavarian Academy of Sciences, at Berlin and Munich. The endowments are stated to be for investigations which afford a prospect of raising the morality and well being of the individual and of social life, including the history and prehistory of ethics, and anthropologic, ethnologic, geographic, geologic and meteorologic influences as they have affected the mode of life, character and morals of man.

International Physiotherapy Congress.—The Fourth International Congress to discuss treatment of disease by sea-bathing, mineral baths, climate and other physical measures is to convene at Berlin, March 26 to 30, with Profs. His and Brieger acting as presidents. Electricity, radium and roentgenotherapy are to be treated by Oppenheim, Bickel and Levy Dorn, while the subject of mechanical devices, orthopedics, therapeutic exercises and massage will be introduced by Joachimsthal of Berlin. The leading addresses are to be by Oliver, G. Müller, Vaqnez, and Wiede of Stockholm, the latter speaking on mechanotherapy. There will be an exhibition of devices, etc., for treatment by physical means. The American chairman of the permanent committee for the congress is Dr. G. Betton Massey, 903 Professional Building, Philadelphia, who will supply further information on demand.

Deaths in the Profession Abroad.—Besides the deaths mentioned by our correspondents, the profession has lost recently the following eminent men: E. Tavel, professor of surgery at the university of Berne, Switzerland, aged 54. He was at first incumbent of the chair of bacteriology and made several important contributions to this branch of science as well as to surgery.——U. Cardona of Madrid, founder of the *Revista de Medicina y Cirugia Practicas* and a leader in infant welfare work in Spain.——G. Tiling, professor of surgery at the university of St. Petersburg, and one of the leading surgeons of Russia, editor at one time of the *St. Petersburg. med. Wchnschr.* and contributor to other journals, aged 63.——L. Wille, formerly professor of psychiatry at Basel, aged 78.——J. Wising, formerly professor of nervous diseases at the university of Stockholm, the first chair of nervous diseases in Sweden, and for many years editor of *Hygiea*, aged 71.——D. O. V. Pettersson, professor of pediatrics at the university of Upsala, aged 68.——H. Maag, president of the Danish Medical Association and long chief of the Naestved Hospital, aged 59.

LONDON LETTER

(From Our Regular Correspondent)

LONDON, Jan. 4, 1913.

The National Insurance Act: The Crisis in the Profession

The crisis in the profession due to the national insurance act has at last arrived. As anticipated in my last letter the representative meeting of the British Medical Association has declined the final offer of the government and launched what may be called a declaration of war against the scheme. As befitted such a momentous occasion the debate was prolonged and animated. On the one side, it was maintained that if the profession held together it could win its terms, while if it did not it would be ruined. Many of the reasonable demands of the profession, such as payment for mileage, had not been met. No provision had been made for anesthetist's fee though the physician was bound to perform minor operations. He would be obliged either to administer the anesthetic in addition to performing the operation, which was dangerous, or pay the anesthetist out of his pocket. On the other hand, the danger of rejecting the act was emphasized by the other side. If the association was defeated those who accepted service would be much better off than at present, while those who resisted would lose. As to the unity of the profession, on which so much reliance was placed, there were 15,000 physicians (about half the total) who had never subscribed a cent to the defense funds (established to indemnify physicians who may lose by resigning lodge practice). At present, applications had been made to the association by physicians who wanted the guarantee made good to them. Was the association in a position to do this? At present there were certain areas of low-class practice in the country and no matter how bad were the terms offered by the government they were much superior to those under which physicians were working. These men were prepared to work the act because they obtained such an increase of pay that they could not afford to refuse the enhanced offer. In Birmingham, there were at least thirty men who had signed agreements with the government to work the act. By a majority of 176 divisions of the association to twenty-four, the final proposals of the government were rejected.

THE ASSOCIATION'S ALTERNATIVE SCHEME

Recognizing that some alternative to the government's scheme was necessary a resolution was passed by a very large majority advising that the profession treat insured persons on condition that they availed themselves of the right given in the act of "making their own arrangements;" that where a capitation system is adopted the basis of remuneration shall be a minimum of $2 per annum, inclusive of drugs; that where a system of payment by attendance is adopted such payment shall be on a scale of fees to be drawn up by the local medical committee of the association, subject to the approval of the council, the minimum fee per visit being 60 cents; that the general arrangements be made between the insured or their representatives and a committee of local physicians; that these arrangements be carried on until such time as the profession adopts some uniform scheme. For purposes of comparison it may be mentioned that the final capitation offer of the government is $1.50, exclusive of drugs, and that in country districts where the physician is allowed to dispense, if there is no pharmacist within a mile, the amount offered by the government, inclusive of drugs, exceeds by 12 cents the minimum suggested by the association. This new move is criticized by the physicians in favor of working the act as a violation of one of "the six points" originally demanded by the association—the non-administration of medical benefit by the representatives of friendly societies.

SERIOUS FISSION IN THE ASSOCIATION

As pointed out in previous letters to THE JOURNAL, in the opposition to the insurance act there have always been two parties in the association—a moderate and an extreme one, and several struggles have occurred between them in which the extreme party has been defeated. In the decision to reject the act the extreme party proved victorious. The result is that six members of the council of the association have resigned. The council is the administrative body of the association and consists of about sixty members. The resignations are the more serious as they include some of the leading and most active members of the association who have taken a great part in the struggle against the original proposals of the government. They are Dr. Maclean, recently chairman of the representative meetings; Dr. Shaw, chairman of the central ethical committee; Dr. Buist, chairman of the journal committee; Dr. Grant Andrew, president-elect of the Glasgow and West of Scotland branch; Dr. Farquharson, member of the central ethical and public health committees, and Dr. Fleming, chairman of the medicopolitical committee. These members issued a statement to the press that they had resigned their places on the council because the association was committed to a policy which would be seriously detrimental to the present and future interests of the medical profession.

AFTER THE CRISIS: A DISUNITED PROFESSION

The fission described above continues to increase and the profession is divided into two hostile camps, denouncing one another with all the virulence of party politicians. The attempt of the British Medical Association to prevent the working of the medical benefit portion of the act seems to have failed and the rival scheme brought forward at the last moment has been vetoed by the government. The association seems to have relied too much on the 27,400 pledges not to work the act given at the beginning of the struggle. As the government made a much more favorable offer subsequently, many considered the pledges as applying only to the conditions first offered. Others considered the association's alternative scheme a violation of one of the "six points," as the association was exchanging friendly society for government control, a thing which absolved them from the pledge. The fact that at the divisional meetings of the association which decided not to work the act by a majority of about five to one, not more than half the members attended, has been suggested in my last letter as a reason for considering the opposition to the act not so strong as might have been supposed. As the fateful day, December 31, for accepting or refusing service drew near, it became plain that the number of those willing to serve was increasing. Up to the last, meetings convened by the British Medical Association were held and a strong attempt made to dissuade men from joining the panels. The view was emphasized that the pledge was binding and the breaking of it dishonorable. Most of the speaking and voting was in this direction, but it was evident that a "landslide" was in progress in the profession all the time. This consisted at first of a number of physicians who had long been in favor of the act on principle, but whose voices had been little heard at the meetings in which the "platform" was bitterly hostile to the act. Their numbers have day by day been reinforced by waverers of one kind and another, some of whom feared the loss that would be inflicted on them if they refused to work the act, and the government obtained others to do so. An attempt was made to reassure them that the act would prove unworkable and that the government in the end would have to come to the association's terms. Some who were scrupulous about the pledge asked to be released from it, but the reply was that this could be done only by the decision of the representative body of the association. In the meantime, the press of the two great political parties has endeavored to make as much capital as possible out of the situation. The Conservative organs backed the association and described the act as unworkable and an outrage on the profession; the Liberal organs described it as a great success and said that the physicians' opposition was due to political motives and was collapsing.

THE CHANCELLOR ON THE POSITION

Mr. Lloyd George, Chancellor of the Exchequer and the author of the act, has just given an address to the advisory committee (consisting of physicians and representatives of insured persons appointed to advise on various questions), which shows very clearly the position of the government. He asserted that the revised terms to the physicians were not only just but generous. The attitude of the medical profession was a tacit admission of this, for the controversy had shifted almost entirely from the question of remuneration to something which was called "lay control." No profession to his knowledge had ever objected to the administrative control of any lay body that was responsible for paying it. This applied to health officers and physicians in hospitals under municipal management. No one could accuse him of impatience. For twenty months he had negotiated and attended innumerable interviews, conferences and no end of deputations trying to effect a friendly arrangement. After all the pressure the British Medical Association had put on him to transfer administration from the approved societies to the local health committees and after he had persuaded the House of Commons to do it, they, at the last meeting, without consulting their own constituents and in defiance of their constitution, trampled on one of their cardinal points. He had now sufficient physicians to work the act for three-fourths of the insured population; 10,000 doctors had gone on the panels and more were rapidly coming in.

THE ALTERNATIVES IN AREAS IN WHICH HE COULD NOT FORM A PANEL

In areas in which the panel could not be completed there were three alternatives. If the panel was all but complete it could be closed and the physicians on it asked to engage a sufficient number of assistants or to take a sufficient number of partners so that the panel would become complete. Another method was to appoint new men on the panel who were willing to start in an area in which there were not a sufficient number of physicians willing to work. A third alternative was a salaried service, for which the physician would be paid $2,500 a year and allowed to take private practice. In Bradford the physicians refused to go on the panel, but when the local committee advertised for outside physicians at this salary, the number of applications was so great that it was realized that opposition would be suicidal, and the local physicians agreed to serve.

THE POSITION OF THE BRITISH MEDICAL ASSOCIATION

A statement of the present policy of the British Medical Association has been issued. The decision of the representative body to decline service is stated to have been no hurried action, but the result of eighteen months' deliberation and negotiations. Under the final regulations the local insurance committee, practically a working-class committee, only one-tenth of its members being representative of the medical profession, controls and makes all arrangements and hears all complaints. "No intellectual industry can escape injury when placed under the control of inferior intelligence." The report of the government on the present earnings of physicians shows that they receive $1 per annum for each of the population for 1.8 attendances, i. e., over 50 cents per attendance. The latest offer of the government would provide 17 cents per attendance. In a later manifesto the British Medical Association replies to the chancellor's address. It points out that the insured will not have "free choice of physician," as is stated to be provided in the act. They will have a choice of only those physicians on the panel. If the alternative scheme of the association had not been vetoed, it would be possible to give free choice, even in those districts in which the panel is incomplete and unsatisfactory. The idea of the association was to take advantage of a clause in the act by which the commissioners may allow an insured person "to make his own arrangements" for medical attendance with some physician who is not on the panel and receive in place of free medical attendance the capitation fee as a contribution to pay his physician. The association brought forward this scheme at the last moment. It embodied most of the points which they failed to obtain from the government under the act. The association offered to arrange with the friendly societies on this basis and on a capitation fee not very different from that of the government, but with payment for a number of extras not allowed by the government and with certain other conditions. The chancellor, however, regarded this as merely an expedient for destroying the whole machinery of the act and vetoed it. He said that it was almost a breach of faith to bring it forward, as he had agreed to insert the clause on the understanding that it was only for exceptional cases in which an insured person was already attached to a physician who would not go on the panel.

A situation of unprecedented strife and bitterness has arisen, not only between the British Medical Association and the government, but, unfortunately, between the two sections into which the profession is now cloven. Those who have agreed to work the act are denounced as "traitors," "pledge-breakers," "blacklegs," etc. All the venom of political struggles has entered into the contest. The physicians who will work the act are backed by the government press, while those who oppose it are backed by the opposition press. The placards in the streets bear evidence of the struggle by such legends as "No Doctors" (when it was thought or hoped that the government could not obtain sufficient men to work the act); "Choose Your Own Doctor," and, on the other side, "Collapse of the Doctors' Strike." In the profession itself there is some evidence of the political element, for nearly all the present leaders of the association are bitter opponents of the government, while those who resigned from the council on the decision not to work the act are supporters. No doubt many physicians view the question purely from the professional standpoint, but consciously or unconsciously the political bias enters into the question in the minds of others. Those who think that the act is only a further example of the wickedness of a socialistic and unscrupulous government necessarily approach the professional question in a different frame of mind from those who regard it as a beneficent scheme of social reform. In a recent editorial the *British Medical Journal* commented on the fact that the profession did not seem to concern itself with the socialistic aspect of the proposal. That was quite true. As the profession consists of men of all shades of politics, it is unwritten law that party politics must be kept outside its discussions. Therefore the act was considered purely from the standpoint of its effect on the profession. The question whether it is right or wrong for the state to provide (partially provide in this case, as the scheme is contributory) medical attendance was not considered, but simply whether it proposed to pay the physicians adequately. But though politics was not mentioned, it was inevitable that, as just explained, it must have to a certain extent influenced men's minds. The crisis has taken the worst possible form for the profession. Union has been replaced by disunion and many men are threatened with loss or ruin. In districts where the professional feeling is strongly against working the act, the men who work it will probably be ostracized and refused all cooperation in their work. The ill feeling between the two sections of the profession is so great that many old friendships will be severed.

PARIS LETTER

(From Our Regular Correspondent)

Paris, Dec. 27, 1912.

Twenty-Five Years a Professor

The twenty-fifth anniversary of Prof. Charles Richet's appointment to the chair of physiology at the Faculté de médecine de Paris was celebrated, December 22. Charles Richet, son of Alfred Richet, a noted professor of clinical surgery, was born at Paris in 1850. He was appointed professor *agrégé* in 1878 and in 1879 was awarded the prize in experimental physiology by the Académie des Sciences for his work on the clinical and physiologic properties of gastric juice in man and the lower animals. Appointed professor of physiology at the age of 39, Richet took up a large number of problems in physiologic chemistry, experimental physiology and physiologic psychology. We owe to him especially important researches on that particular state to which he gave the name of anaphylaxis. Professor Chauveau presided at the celebration and presented Dr. Richet with a volume to which three score scholars had contributed from different countries, among them being Pawlow, Kossel, Verworn, Sherington, Chauveau and Bouchard. After the presentation, addresses were made by Professor Landouzy, dean of the Faculté de médecine de Paris, M. Dastre, professor at the Faculté des Sciences, Dr. Gley, professor at the Collège de France, Dr. Langlois, director of the *Revue générale des sciences*, and others.

The Formation of a French Eugenics Society

The International Congress of Eugenics held at London last April was an evidence of the importance which the eugenics movement has taken, notably in Anglo-Saxon countries. French physicians who attended the congress have organized for the study of questions concerning the improvement of generations to come; they have decided to invite to join with them all those who are interested in questions of heredity and natural selection in their application to man, including not only physicians but also biologists, breeders, jurists, ethical philosophers, teachers, politicians, social workers, statisticians, veterinary surgeons, etc. The society will be called the Société française d'eugénique. It will publish a quarterly review which will be distributed gratuitously to all the members.

Medical Exploitation of Industrial Accidents

I have spoken in former letters of the concerns for the exploitation of industrial accidents which sprang up after the law of 1898 on industrial accidents went into effect. An interesting decision was recently rendered in one of the Parisian courts in a case brought by a physician of one of these clinics which attracted workmen who had been injured by the bait of a bonus of five francs ($1) and by giving to these workmen fifty centimes (10 cents) at each visit. This naturally resulted in the injured man's making a visit each day and in prolonging the period of his illness. The physician asserted that this was a pure philanthropy in order to help the workman take better care of himself and to pay his carfare. The judge rightly replied that if the physician now and then would make some charitable gift to the unfortunate patient that would be different; but when the physician gives indiscriminately a regular bounty of five francs to every injured person who presents himself at his clinic, the practice becomes a mere method of drumming up trade; besides, the physician pretended that the sum of fifty centimes given to the workman was for paying his carfare but it appeared from the evidence that the patient lived only a few steps from the clinic and that the wound, which was on the finger, did not prevent him from coming the short distance on foot. The court therefore decided that the defendant did not have to pay the fee demanded by the physician, and ordered the latter to pay the expenses of the suit.

BERLIN LETTER

(From Our Regular Correspondent)

Berlin, Dec. 20, 1912.

Personal

Professor Kaiserling, assistant at the Berlin pathologic institute, has been appointed professor extraordinary and a member of the committee for examination of dentists.

Professor v. Olshausen, formerly director of the university gynecologic clinic in Berlin, celebrated the fiftieth anniversary of his professorship December 15.

Professor Bertold, formerly professor of diseases of the ear at Königsberg, celebrated the fiftieth anniversary of his doctorate December 16.

Campaign Against Tuberculosis of the Upper Air-Passages

At its last annual meeting the association of German laryngologists resolved, on motion of Professor Friedrich of Kiel, to request the proper authorities and hospital directors to give special attention to the treatment of the upper air-passages in the campaign against tuberculosis. The association expressed its wishes in the following four statements: That in the case of patients with pulmonary tuberculosis who are cared for at the expense of the old-age insurance institutions, Krankenkassen and similar institutions, laryngeal tuberculosis of medium severity shall no longer be regarded as a reason for the exclusion of patients from sanatorium care. In official reports laryngeal tuberculosis should be given a special classification. In hospitals, hygienic institutes and other institutions devoted to the combating of tuberculosis, the condition of the upper air-passages should receive special attention. This is especially to be accomplished by the installation of laryngologists as consulting physicians, so that the necessary detection and treatment of tuberculous and non-tuberculous affections of the upper air-passages may be assured. In children's hospitals, especially in such as are located at bathing places and seaside resorts, investigation and treatment of the upper air-passages should be required immediately on entrance, so that curative measures may be successfully instituted. The installation of specialists is desirable in institutions for the treatment of lupus, in order that proper treatment of the nose may be applied early.

Improvement of the Working Conditions of Nurses

In 1908 the Reichstag provided for an investigation into the working conditions of orderlies and nurses. The available facts, however, showed that there was not enough material for forming an opinion on the question. For this reason very extensive investigations were instituted in all of the federal states, which included all the conditions existing in both public and private institutions. In all such institutions the duration of working time, regular rest periods, the frequency and duration of night service, the amount of rest provided after a night service, and provisions for rest and leave of absence were determined for all persons employed in nursing. On the result of these investigations will depend whether the alleged evils in this field will necessitate federal legislation.

Discipline in Universities

By a ministerial decree, some additions have been made to the regulations for the punishment of university students. Hereafter, in milder cases of discipline and in such as are not submitted to the decision of the senate of the university, opportunity will be given to the accused to defend themselves. Further, it is decided that in proceedings before the senate, a university teacher may be admitted as defendant, and the disciplinary authority may require the personal appearance of witnesses. On motion of the convicted persons, the verdict, together with a statement of the reasons for it, must be given in writing.

VIENNA LETTER

(From Our Regular Correspondent)

Vienna, Dec. 29, 1912.

Cholera and Small-Pox Among Turkish Refugees

There are at present about 2,000 Turkish refugees in Austria, partly disarmed soldiers, partly emigrants from Macedonia and Salonika. Cases of cholera and small-pox have appeared among these unhappy people. Among some soldiers quartered in a northern Austrian town, dysentery also was noticed. More anxiety was felt in Sarajevo, the capital of Bosnia, whither a large number of Turkish families had been brought quite recently, among whom black (hemorrhagic) small-pox occurred, five persons being attacked soon after arrival. The close contact of the fugitives while aboard the steamer which brought them makes the possibility of infection a real danger. Stringent and most extensive measures have been at once adopted to check any outbreak, and a special sanitary service has been adopted solely for the purpose of protecting the rest of the population in the endangered districts.

Return of the Red Cross Missions and the Cholera Mission from Bulgaria

The Red Cross mission of the Austrian Branch and the cholera mission have returned to Vienna from Sofia, where their work has now been completed. The details of the work done by these men will be described in a short time. Their services have been most valuable and were highly appreciated by the king, queen, the government and the population of Bulgaria. The surgical mission has organized ten hospitals; the cholera mission has successfully checked the spread of cholera, which appeared explosively soon after the dreadfully murderous battles. Now the bulk of the work is over, and the rest can be left to the Bulgarian sanitary authorities alone.

The New Penal Code and Medical Crimes

The new penal code of the Austrian parliament will no doubt soon pass the necessary preliminaries, and the medical profession will have to become acquainted with the clauses pertaining to its actions. The two chief items of the old code, viewed from this point of view, were negligence of patients and malpractice. The new law makes several differentiations: first of all the old problem of punishment in case of operative interference is dealt with. The leading idea is that surgical injury of a human body cannot be punished if the operation is done with the intention of effecting the cure of a disease. Also if the physician destroys the fetus in order to save the mother's life he cannot be accused of a crime. He is free to destroy the life of an unborn child if this is the only means of preventing a permanent grave injury to the mother. Such charges have been made in the past here more than once. But the law stipulates that the physician may be imprisoned for a period not exceeding six months, or be fined as much as 2,000 kronen ($400) if he undertakes to treat a patient against his expressed or reasonably supposed wish; also if he treats a person under 16 years without the consent of his legitimate representative, even when the patient cannot understand the necessity of the treatment, i. e., if the patient be mentally afflicted or unconscious. The physician is exempt from punishment if he undertakes treatment in order to save the life of a person; for instance, if he uses antidotes in a case of suicide. The law makes a sharp distinction between a scientific experiment on a patient and a therapeutic experiment. A scientific experiment is explained as an application of a remedy or method on the human body in order to ascertain its use for the development of medicine and to enlarge knowledge. A therapeutic experiment can consist also in the use of a remedy or method hitherto novel, but distinguished from the scientific experiment by the fact that the condition of the patient must require it. A scientific experiment which involves an injury to the patient's body or a permanent defect of his health can be punished by imprisonment not exceeding six weeks. This clause is inserted in order to give a concession to the public sentiment against some public hospitals. A slight injury to a person, which is necessary in order to cure another person, will not be punishable, for instance if a piece of skin is obtained, with the person's permission, for grafting on another person's body. As a rule slight injuries inflicted with the patient's consent cannot be prosecuted. Furthermore professional secrecy will be guarded still further by imposing fines on physicians and students of medicine for such offenses, and the recommendation of a medical or surgical treatment based on false statements will be an offense. This is chiefly aimed against the so-called "write-ups" which are so useful a means for the patent-medicine venders

Miscellany

An American Medical Association Election.—"If you stop, look, and listen you can sometimes hear the wheels creaking and groaning. The mere preparation for, and conduct of, such a congress is a tremendous job, and keeps the local committee busy for six months or more. But beyond that, there's always the burning question of electing officers—especially the President of the Association. There's sometimes as much electioneering, wire-pulling and marshaling of delegates as though the poor man were going for four years to the White House. He must be of the proper age and the proper distinction, and from the proper geographic region. He must not be too able or too distinguished; though able men, to their own surprise, do sometimes slip in; and above all, it must be shown that he has trodden on no one's corns. Then there are the followers to be reckoned with, and the rivals to be placated with the promises of future office. Oh, it's a grand game. But after all, it's harmless. It is one method of honoring a popular man, while all the time the real power rests in the trustees, as we call the executive committee. Those trustees are very important people, yet I suppose that scarcely one member in five hundred of the Association knows anything about them. They seem to combine both legislative and executive functions; they originate all sorts of new activities, keep a rein on what is going on, and appropriate the necessary moneys. We forget that the annual meeting stands for only a part of the work of the Association. The trustees and the various standing committees—like committees of Congress—are busy throughout the year considering all sorts of most important questions—of legislation and expediency, of public health and instruction, of medical education, of pharmacy and chemistry and a dozen other similar topics."—From "A Doctor's Table Talk," by Dr. James G. Mumford; published by the Houghton Mifflin Company.

A Typhoid Carrier.—In the *Bulletin* of the Kansas State Board of Health, October, 1912, S. J. Crumbine, secretary of the state board, reports the interesting case of Mrs. D., a typhoid carrier. At a luncheon served at the home of Mrs. D., pressed chicken sandwiches prepared by her were eaten by the guests. Of the twenty-six persons present all but one ate the sandwiches and later developed what was diagnosed as food poisoning, and still later symptoms of typhoid presented in all these persons except those who had previously had that disease. Subsequently twelve secondary cases developed in the families of those affected. Mrs. D. had formerly been operated on for gall-stones and at the time of the luncheon had a permanent biliary fistula. It was suggested by the former physician of Mrs. D. that, as she had had typhoid nine years before, she was probably the source of the infection. A thorough investigation disclosed the fact that, during the period since the operation for gall-stones, members of the family of Mrs. D. and a number of her neighbors, who had visited her and had eaten at her house, had suffered attacks of typhoid. Samples of the bile secretion from the fistula of Mrs. D. were examined in various laboratories and definite determination made of the *Bacillus typhosus*. The fact was thereby established that Mrs. D. was a chronic typhoid carrier and the infection of the persons present at the luncheon could be directly, and the twelve secondary cases indirectly, attributed to this source. An operation for closing the fistula was successful and subsequent examinations of urine and stools proved negative as to the typhoid bacillus. Altogether it is estimated that seventy-six cases of typhoid originated either primarily or secondarily from this single carrier during the nine years since she had had typhoid.

A Reward for Colonel Gorgas

In The Journal of the American Medical Association of last week a plea is made editorially for a proper recognition of the services of the Medical Director of the Panama Zone. Dr. Gorgas is the man who has made possible the construction of the great engineering achievement for which Colonel Goethals is to be rewarded by an act of Congress.

We agree with The Journal in the claim that "there should be little or no difference in the rewards given the two." Not only is it true that the applications of engineering science to canal construction have no intrinsic precedence over those of medical science to the new and complex questions of tropical sanitation, but it is absolutely undeniable that without Colonel Gorgas' marvelous preparatory work in the sanitation of Panama the canal project could not have been undertaken. Not only were the engineering difficulties insurmountable to the originators and promoters in the earlier history of the canal, which for this reason terminated in disaster, but the pernicious climate destroyed the more necessary human element of the enterprise. Colonel Gorgas surmounted skilfully the insanitary obstacles, converting a hitherto uninhabitable region into one that now may boast superiority in small mortality over many cities regarded as healthy localities.

Far be it from us to detract in the slightest degree from the glory of the achievements of Colonel Goethals; but it must be obvious to any fair mind that the splendid preparations for his enterprise instituted by the labors and intellect of Colonel Gorgas entitle the latter at least to share equally in the emoluments which a grateful country should award for such achievements. Moreover Colonel Gorgas participated in the discovery which led to the triumph of the antimalarial procedures, which bore the largest share in the sanitary rescue of Panama. The reward should indeed be in keeping with the national dignity and the magnitude of the enterprise.

Not only have these two officers given their country distinguished service, as many others have done with the incentive of promotion for bravery in battle, but they have added glory to their country by the display of scientific and practical achievements which are the means of adding to the happiness and prosperity of other nations and by the lessons taught in their accomplishment of the hitherto impossible canal enterprise. On the latter ground alone Colonel Gorgas and Colonel Goethals are both entitled to large reward.—New York *Sun*, Dec. 28, 1912.

Marriages

Robert Henry Gulledge, M.D., Mooringsport, La., to Miss Bess Eddings of Rock Point, Tex., at Shreveport, La., December 26.

John Elmer Meisenhelder, M.D., to Miss Alice Virginia Fitz, both of Hanover, Pa., at Pottstown, Pa., December 26.

Thomas Ahern Shaughnessy, M.D., Leominster, Mass., to Miss Florence E. Nixon of New York City, December 28.

Braxton Bynum Lloyd, M.D., Winston-Salem, N. C., to Miss Emma Hanse of Newark, N. J., December 6.

Thomas B. Ayers, M.D., Proctorville, N. C., to Miss Lakie Phraza Purvis of Fairmont, N. C., December 31.

Edward Healey Kelly, M.D., Dunmore, Pa., to Miss Lillian Louise Porter of Scranton, Pa., December 28.

Frederick Putnam Cowdin, M.D., Springfield, Ill., to Miss Margaret Barlow of St. Louis, December 14.

George Lucene Langworthy, M.D., Jefferson, Tex., to Miss Gilmer Bowles of Terrell, Tex., January 1.

Okey Warren Snodgrass, M.D., Frankford, Mo., to Miss Ethel Howing, at Eolia, Mo., December 25.

Clarence T. Starker, M.D., to Miss Helen Alexander, both of Pontiac, Mich., in Detroit, December 31.

William F. M. Sowers, M.D., Washington, D. C., to Miss Ruth Felton of Chicago, January 1.

Llewellyn M. Hinshaw, M.D., to Miss Pearl Alvord, both of Bennington, Kan., December 26.

Bundy Allen, M.D., St. Louis, to Miss Edith Cochenour, at Pinckneyville, Ill., December 24.

Arnold Jolly, M.D., Hamburg, Ia., to Miss Nellie Thornton of Farragut, Ia., December 25.

Ezra Eames Cleaves, M.D., to Miss Margaret Tarr, both of Rockport, Mass., December 31.

John Wyman Dean, M.D., to Miss Grace M. Wood, both of Glens Falls, N. Y., recently.

Deaths

James Bosley, M.D. University of Virginia, Charlottesville, 1874; health commissioner of Baltimore since 1900; died at his home, January 5, from pneumonia, aged 60. Dr. Bosley entered the municipal service as vaccine physician of Baltimore, serving for two years and was school commissioner of the city from 1889 to 1897. He was a sanitarian of wide repute, and was active in the obtaining of needed legislation for the safeguarding of the city's health. One of the chief achievements of his career was the establishment of the Sydenham Hospital for Infectious Diseases. He was a member of the American Medical Association and took an active part in the International Congress on Hygiene and Demography. On the Monday before his death Dr. Bosley, ill at the time, was the guest of honor at the annual banquet of the Health Department.

Robert Murray, M.D. University of Pennsylvania, Philadelphia, 1843; Brigadier General and Surgeon-General, U. S. Army (retired); died at his home in Baltimore, January 1, from pneumonia, aged 90. Dr. Murray entered the Army as assistant surgeon in 1846, reached the grade of Brigadier General and Surgeon-General, Nov. 23, 1883, and was retired for age Aug. 6, 1886. He served during the Mexican War, and for meritorious services during the Civil War was brevetted lieutenant colonel and colonel. During a portion of this time he was purchasing agent of the medical supply depot of the Army. Since his retirement Dr. Murray had traveled extensively and lived abroad for nearly ten years.

William Henry Watson, M.D. Hahnemann Medical College, Philadelphia, 1854; one of the founders of the New York State Homeopathic Hospital for the Insane, Middletown; surgeon-general of New York in 1880; from 1881 to 1904 a member of the board of regents of the University of the State of New York; a member of the advisory board of tuberculosis of the New York State Department of Health and representative from New York at the Tercenteuary of the Bodleian Library, Oxford, in 1902; died at his home in Utica, January 1, from nephritis, aged 83.

Milton Pinckney Creel, M.D. Louisville (Ky.) Medical College, 1883; a member of the American Medical Association; American Association of Railway Surgeons; American Association of Life Insurance Examiners and National Association of U. S. Pension Examining Surgeons; local surgeon for the Illinois Central and Louisville and Nashville systems; mayor of Central City, Ky.; died at his home, January 1, aged 61. (Tu)

Richard Channing Massenburg, M.D. University of Maryland, Baltimore 1884; a member of the Medical and Chirurgical Faculty of Maryland; secretary of the Baltimore County Medical Association; health officer of the ninth district of Baltimore County; for several years major of the Towson Guards, and later of the First Infantry, N. G. Md.; died at his home in Towson, December 30, from diabetes, aged 67.

Charles Flint Kline, M.D. University and Bellevue Hospital Medical College, 1903; a member of the Ohio State Medical Association and local surgeon at Portsmouth, Ohio, for the Norfolk and Western Railroad; formerly president of the Hempstead Academy and a member of the staff of the Hempstead Hospital; died at his home in Portsmouth, January 7, from cerebrospinal meningitis, aged 35.

Peter Donnelly, M.D. Jefferson Medical College, 1895; a member of the American Medical Association and police surgeon of Toledo, O.; was accidentally drowned, January 4, aged 43. While making a professional call, Dr. Donnelly is believed to have lost control of his automobile which plunged through the guard-chains of the dock and into the Maumee River.

Edward Paul Bailey, M.D. College of Physicians and Surgeons, New York City, 1883; a member of the American Medical Association; a local member of the state tuberculosis committee; a member of the board of trustees of Oneida, N. Y., and coroner-elect of Madison County; died at his home in Oneida, December 23, from malignant disease, aged 57.

William C. Maxey, M.D. University of Tennessee, Nashville, 1881; a veteran of the Civil War; a pioneer practitioner of Caldwell, Idaho; once a member of the state legislature and the Constitutional Convention and later commandant of the Soldiers' Home, Boise; died in Los Angeles, December 27, aged 68.

Charles L. Kennedy, M.D. College of Physicians and Surgeons, Baltimore, 1897; of Troy, S. C.; while driving over a crossing of the Charleston and West Carolina Railway, near Troy, December 26, was struck by a train and instantly killed, aged 38.

Juriah Fuller Collyer, M.D. Kentucky School of Medicine, Louisville, 1893; a member of the State Medical Association of Texas; formerly physician of Montgomery County; local surgeon of the International and Great Northern and Gulf, Colorado and Santa Fe railroads; died at his home in Conroe, December 28, from pneumonia, aged 50.

Frederic Smith Sellew, M.D. College of Physicians and Surgeons, New York City, 1881; a member of the Medical Society of the State of New York; New York Academy of Medicine, New York Pathological Society and Society of Medical Jurisprudence; died at his home in New York City, December 28, from heart disease, aged 54.

Ralph F. Sommerkamp, M.D. Medico-Chirurgical College of Philadelphia, 1899; a member of the American Medical Association, the Blockley Ex-Residents Club and many other medical societies; a practitioner of established reputation and esteem; died at his home in West Philadelphia, December 23, from diabetes, aged 47.

William R. Howard, M.D. Washington University, St. Louis, 1873; a member of the American Medical Association and American Microscopical Society; professor emeritus of histology, pathology and bacteriology in the Fort Worth (Tex.) University; died in Forth Worth, December 25, from cerebral hemorrhage, aged 64.

Oliver Parker Penning, M.D. University of Maryland, Baltimore, 1897; a member of the American Medical Association; assistant demonstrator of anatomy and assistant in surgery in his alma mater from 1902 to 1904; died at his home in Baltimore, December 29, from splenomyelogenous leukemia, aged 43.

Leona M. Archey, M.D. College of Physicians and Surgeons, Baltimore, 1880; a member of the American Medical Association; assistant surgeon of the First North Carolina Infantry, U. S. V., during the Spanish-American war; died at his home in Concord, N. C., December 29, from heart disease, aged 59.

Preston Benjamin Rose, M.D. University of Michigan, Ann Arbor, 1862; assistant in chemistry, assistant professor of physiologic chemistry and toxicology, and lecturer on renal diseases in his alma mater, between 1861 and 1881; died at his home in Ann Arbor, December 25, aged 77.

Paul R. Tainter, M.D. Hospital College of Medicine, Louisville, Ky., 1902; a member of the American Medical Association; of Callao, Mo.; aged 35; was instantly killed by the overturning of his automobile, while making a professional call, December 27, five miles south of Callao.

Franklin G. Humiston, M.D. University of Pennsylvania, Philadelphia, 1886; a member of the New Hampshire Medical Society; for twenty-seven years a practitioner of East Jaffrey, N. H.; died in the Eliot Hospital, Boston, December 31, after a surgical operation, aged 57.

Charles C. Daniel, M.D. Medical College of Virginia, Richmond, 1906; a member of the Medical Society of Virginia; formerly of Disputanta; local surgeon of the Norfolk and Western Railway at Boissevain; died at his home, December 27, from typhoid, aged 29.

Wilburn Walter Ford, M.D. Mississippi Medical College, Meridian, 1907; a member of the Mississippi State Medical Association; was shot from ambush and instantly killed, December 25, near his home in Coffedeliah, near Philadelphia, Miss., aged 35.

Edward Dimler (license, Minn., exemption certificate, 1883); hospital steward during the Civil War; a practitioner since 1859 and for thirty-two years a resident of Minnesota; died at his home in Granite Ledge, December 29, from senile debility, aged 79.

George Louis Farrell, M.D. Jefferson Medical College, 1895; a member of the Massachusetts Medical Society; for two terms mayor of Malden and formerly a member of the Malden School Committee; died at his home, January 2, from pneumonia, aged 44.

Thomas Spec Jones, M.D. Philadelphia College of Medicine and Surgery, 1848; at one time a member of the faculty of Centenary College, Jackson, La.; died suddenly at his home in Baton Rouge, La., January 1, from senile debility, aged 85.

Royston Ford, M.D. Cincinnati College of Medicine and Surgery, 1880; of Greenville O.; aged 68; while returning in his automobile from a professional call near Greenville, January 1, was struck by a freight train and instantly killed.

Robert Young Rudicil, M.D. Medical College of the State of South Carolina, Charleston, 1855; surgeon in the Confederate service throughout the Civil War; died at his home in Trion, Ga., December 24, from senile debility, aged 80.

John L. Dryden, M.D. Homeopathic Medical College of Missouri, St. Louis, 1891; professor of anatomy in his alma mater and treasurer of the St. Louis Anatomic Board; died at his home in St. Louis, December 25, aged 49.

Joseph D. Barry, M.D. Northwestern University Medical School, Chicago, 1906; of Denver; a member of the American Medical Association; died at the Phipps Sanatorium, Denver, December 28, from tuberculosis, aged 36.

Samuel Stevenson, M.D. University of Michigan, Ann Arbor, 1859; for more than fifty years a practitioner of southern Michigan; died at the home of his daughter in Morenci, from kidney disease, aged 79.

Charles Erskine Brayton, M.D. College of Physicians and Surgeons, New York City, 1873; a member of the American Medical Association; died at his home in Stonington, Conn., December 2, aged 61.

John Priestman (license Illinois, 1877); a practitioner since 1855; formerly of Neponset, but a resident of Chicago since 1885; died at his home, January 1, from intestinal obstruction, aged 83.

William M. Patton, M.D. Chicago Homeopathic Medical College, 1896; of East Moline, Ill.; died in a sanatorium in Montreal, Quebec, December 28, from organic heart disease, aged 51.

George W. Monroe, M.D. Tulane University, New Orleans, La., 1859; a veteran of the Civil War and a pioneer practitioner of Montana; died in Butte, about December 22, aged 74.

George M. Keller, M.D. State University of Iowa, Iowa City, 1874; a veteran of the Civil War; died in the California Soldiers' Home, Yountville, October 12, from pneumonia, aged 70.

Nathan G. Mothershead, M.D. Hospital College of Medicine, Louisville, 1879; a Confederate veteran; died at his home in Earlington, Ky., January 1, from acute gastritis, aged 68.

Frank Seba Jones, M.D. Rush Medical College, 1876; a member of the American Medical Association; died at his home in Medina, O., December 18, from arteriosclerosis, aged 65.

Ben Kissinger Clifford, M.D. Denver and Gross College of Medicine, Denver, Colo., 1909; of Denver; died at his home in that city, December 29, from acute nephritis, aged 27.

Wesley Lawson (license, years of practice, Illinois, 1879); one of the oldest practitioners of Homer, Ill.; died at the home of his son in St. Petersburg, Fla., December 20.

Henry F. Pahl, M.D. Homeopathic Medical College of Pennsylvania, Philadelphia, 1868; a Confederate veteran; died at his home in Brenham, Texas, December 23, aged 74.

James Gordon, M.D. Jefferson Medical College, 1866; for two terms health officer of Newburgh, N. Y.; died at his home in that city, December 15, from gastritis, aged 74.

Joseph Solatinaw, M.D. Eclectic Medical College of the City of New York, 1882; died at his home in Passaic, N. J., December 26, from cerebral hemorrhage, aged 65.

William Riegel Carpenter, M.D. Medico-Chirurgical College of Philadelphia, 1900; died at his home in Frenchtown, N. J., November 25, from heart disease, aged 39.

Mary E. Metcalf Brown, M.D. National Medical University, Chicago, 1898; died at her home in Wheatland, Wyo., December 18, from cerebral hemorrhage, aged 56.

Charles L. Duffell, M.D. Jefferson Medical College, 1862; a member of the Medical Society of New Jersey; died at his home in Salem, November 20.

Guy Carlos Marsh, M.D. Cleveland University of Medicine and Surgery, 1889; died at his home in Galion, Ohio, December 26, aged 48.

Albert Hazlett King, M.D. Jefferson Medical College, 1894; died at his home in Riddlesburg, Pa., December 20, from pneumonia, aged 45.

Charles Henry Davis, M.D. University of Tennessee, Nashville, 1900; died at his home near Nashville, Tenn., December 26, aged 58.

Horace Joseph Gibbons, M.D. University of Vermont, Burlington, 1899; died at his home in Carbondale, Pa., November 17, aged 37.

Paul Octave Labry, M.D. Tulane University, New Orleans, 1884; died at his home in Morganza, La., November 16, aged 60.

Thomas S. Kepler (license, Iowa 1886); a practitioner since 1863; died at his home in Mount Vernon, December 20, aged 74.

James H. Owsley, M.D. University of Louisville, Ky., 1870; died at his home in Sonora, Ky., about December 28, aged 77.

The Propaganda for Reform

In This Department Appear Reports of the Council on Pharmacy and Chemistry and of the Association Laboratory, Together with Other Matter Tending to Aid Intelligent Prescribing and to Oppose Medical Fraud on the Public and on the Profession

PROPRIETARY VANADIUM PREPARATIONS

Report of Council on Pharmacy and Chemistry on Products of Vanadium Chemical Co.: Vanadiol, Vanadioseptol, Phospho-Vanadiol, Vanadoforme, Etc.

Vanadiol and preparations thereof, the products of the Vanadium Chemical Company, were submitted to the Council. After thorough investigation it was concluded that the company has not, and never has had, any reliable evidence for the therapeutic claims it has presented to the medical profession regarding these products. Accordingly the Council voted that the several products under consideration be not accepted for inclusion with New and Nonofficial Remedies. The findings of the Council having been submitted to the Vanadium Chemical Company and its reply considered, the Council authorized publication of the report which appears below.

W. A. Puckner, Secretary.

The Vanadium Chemical Company, Pittsburgh, Pa., submitted to the Council on Pharmacy and Chemistry for inclusion in New and Nonofficial Remedies the following products: Vanadiol, Vanadioseptol, Phospho-Vanadiol, Vanadium Solution for Intravenous and Hypodermic Use and Vanadoforme. At the same time, the company submitted statements and "literature" regarding the composition and therapeutic value of these products. The committee to which the matter was referred, after carefully considering both the matter presented and certain modifications in the advertising matter to which the company consented, reported that the evidence, especially that relating to the therapeutic value of the preparations, was insufficient to warrant the acceptance of the articles. Since the validity of therapeutic claims can be determined to a certain extent by experimental investigation, the Council decided to postpone final action until sufficient dependable evidence as to the therapeutic value had been submitted.

Accordingly, a series of questions was sent to the Vanadium Chemical Company for the purpose of learning on what pharmacologic evidence the therapeutic claims were based. After waiting several months, the information requested not being furnished, the Council took final action on the products. This action was based both on the evidence originally submitted and on the advertising matter being sent out by the company at the time.

Briefly, Vanadiol is said to contain a compound of vanadium with oxygen and chlorin, which gives up its oxygen to readily oxidizable substances, such as the blood. In addition to this compound it contains an oxidizing agent (sodium chlorate) which is said to serve as a source of oxygen, so that, according to the theory of the promoters, Vanadiol acts in the animal system as an oxygen-carrier.

The following is quoted from an advertising circular:

> "Most thorough and conclusive physiological tests were made on guinea-pigs and other animals, which established undoubted evidence as to the truth of this theory.
>
> "INFLUENCE
>
> "Under the influence of Vanadiol and the other derivatives, the appetite is increased, there is greater ability to peptonize ingested proteid material, and, through the improvement in the assimilative powers and the checking of abnormal fermentations, leads to an increase in weight. A greater excretion of urea follows their use. Phagocytic action is promoted by an increase in the leucocytes. All phases of the elimination of waste materials are favored by the positive increase in the number of red blood corpuscles and the percentage of hemoglobin, hematogenesis being thereby rendered more perfect. The beneficent effect of nascent (active) oxygen, upon the red corpuscles and upon tissue cells of low vitality are matters of common knowledge. The results obtained from the vanadium derivatives are not drug effects, but are due to improved metabolism, which in turn is due to the removal of microbian toxins, and the general stimulation of cell activity.
>
> "In a tubercular organism, the action of Vanadiol is two-fold. First, it acts as an antiseptic and antitoxin, combating the Koch bacilli and neutralizing their poison. Second, as a reconstituent of the economy, to which it furnishes nascent oxygen, fortifying the defenseless cells by the very element that is necessary to make them healthy and resistant."
>
> "In Anemia and Chlorosis, the blood cells lack oxygen, and in Neurasthenia the nerve cells are deficient. Vanadiol brings both blood and nerve cells from a condition of weakness and decay into vital energy, by furnishing them with active oxygen in a manner that had not been possible by any other medicine."
>
> "Vanadiol accelerates the work of digestion by producing HCl in small doses; it does not hinder the peptonization of albuminoids as do beta-naphthol, salicylic acid, boric acid, etc., when used as a stomachal antiseptic, but on the contrary it favors, by hydrochloric acid, the transformation of albuminoids into peptone without the assistance of pepsin. Thus, Vanadiol, when given to consumptives, favors the digestion of large amounts of proteid materials and causes oxidation of toxins of the stomach. The stomachic action is reflected in other parts of the organism by the stimulation of the chief functions; the pulse becomes stronger and muscular strength increases; and, last, but of greatest importance, is the tremendous increase which will be noted in the hemoglobin and the red cell count."
>
> "Phospho-Vanadiol, a combination of Vanadiol with an easily assimilable organic phosphorus, is an active accelerator of general nutrition with a special action on the nervous system."

Such remarkable statements as these are past credence, certainly, unless they are supported by scientific evidence. And evidence, either in support or in contradiction of the claims made, could be obtained for many of these actions, at least, are capable of proof by animal experimentation. The Vanadium Chemical Company was asked to furnish such proof but failed to do so. The inference is plain! The committee has concluded that the company has not, and never has had, any reliable evidence on which to base the therapeutic claims it has presented to the medical profession.

Here another fact should be noted. It is the connection shown in The Journal, June 22, 1912, of the general manager of the Vanadium Chemical Company, F. M. Turner, with a fraudulent obesity cure concern, the Dr. Turner Company of Syracuse, N. Y.

It seems, moreover, by all the evidence available, that F. M. Turner is not authorized to use the title M.D.; yet, under this title his name appeared on cards representing the Vanadium Chemical Company and under this title, also, he published an article in a medical journal recommending to the medical profession the use of Vanadiol. Later this article was distributed as an advertising circular by the Vanadium Chemical Company. Turner's connection with the Dr. Turner Company is known and acknowledged by the Vanadium Chemical Company, yet it still retains him as general manager!

While there is not necessarily any direct relation between the personnel of a proprietary manufacturing company and the value of that company's product, it is natural that the medical profession should view with distrust any concern managed by one who has previously been connected with such a fraud as the Turner obesity cure.

The committee therefore recommends that the preparations of the Vanadium Chemical Company be refused recognition, and that this report be authorized for publication.

FULTON'S DIABETIC COMPOUND

Dr. George Y. McCracken, Philadelphia, writes: "I am continually hearing of Fulton's Diabetic Compound and of its wonderful (?) results. Advising patients not to use it without knowing its composition so as to give an intelligent reason for such advice does little good. Can you give me its composition?"

Fulton's Diabetic Compound has not been examined in the Association Laboratory, but the so-called Renal Compound, put out by the same concern, has been examined. The latter was found to consist of some herbs, which were not identified, alcohol 5 per cent. and water. No alkaloids were found and the presence of heavy metals, iodids, bromids or acids could not be demonstrated. Like most of the fraudulent "cures" for diabetes, the "Diabetic Compound" is doubtless an alcoholic solution of vegetable extractives having a diuretic effect. Careless examination of individual specimens of urine instead of portions of the twenty-four-hour excretion will show an apparent diminution in the amount of sugar in the urine of persons taking a diuretic. This point was referred to editorially in The Journal, Nov. 9, 1912, under the title: "A Possible Fallacy in Testing Diabetic Urine." The viciousness of giving a diabetic a drug that "whips up" the already irritated kidneys must be patent to any physician.

MORE ABOUT THE OXYPATHOR FRAUD

Dr. Mark H. Rhoads, San Diego, Cal., writes: "I am informed that you have investigated the Oxypathor and have issued a pamphlet concerning it. Do you know how and of what material it is constructed? Please send me any literature you may have bearing on it, and I will remit cost by return mail."

The Oxypathor is a later name given by the manufacturers to a fraudulent device originally sold under the name Oxygenator. The device is, essentially, a piece of nickel-plated brass pipe filled with inert matter. It was examined in the laboratories of the University of Vermont, and the board of health of that state issued a warning notice pronouncing it a fraud and prohibiting its sale in that state. The laboratory report said:

> "The hollow interior is filled with a black powder which analysis discloses to be a crude mixture of inert substances, apparently the waste or by-product of a manufacturing plant . . . The powder is a rough mixture of iron filings, clayey material and a dark-colored carbonaceous mass, . . . apparently nothing more than coke-dust or carbon-black."

The Australian government has recently issued an official proclamation forbidding the importation of the Oxypathor (Oxygenator) into that country. In addition to its "drugless" fraud, the Oxypathor Company is now exploiting a line of drugs for "sick feet," "perspiration odors," etc. The American Medical Association issues a pamphlet entitled: "The Oxydonor and Similar Fakes" (price 4 cents) which makes plain the worthlessness of these widely advertised pieces of nickel-plated gas-pipe.

Correspondence

Gauze Sponges in Abdominal Operations

To the Editor:—At the annual meeting of the American Gynecological Society in Baltimore, in May, 1912, Dr. Francis Wakefield of San Francisco demonstrated a method of employing gauze in laparotomies both for making a wall around the field of operation and for sponging blood and other fluids. He employed three strips of prepared gauze several yards in length fastened in pockets attached to the laparotomy sheet, the largest of the three being used to pack the intestines away from the area of operation. In routine work the gauze is fastened in the pockets of the sheet before the latter is folded and sterilized.

After my return from the meeting, I immediately adopted Dr. Wakefield's procedure in my clinic in the Presbyterian Hospital, Chicago, and I am now glad to be able to recommend it most highly as a method of making it practically impossible to lose a piece of gauze in the abdomen.

I must, however, urge strongly that Dr. Wakefield's method be modified in one particular. As it has been recommended, the strips of gauze are dry. While this is satisfactory in regard to those pieces which are used for sponging fluids, it is objectionable in regard to the strip which is employed to push aside the intestines. In several cases in removing this gauze I noticed that it had adhered firmly to the wall of the bowel, leaving the latter quite dry after it had been stripped away. Such irritation of the intestine by dry gauze is liable to lead to adhesions. I would therefore advise the following modification: When the patient is ready for the abdominal incision, the laparotomy sheet being in position, the long "packing-off" strip of gauze should be soaked in warm normal saline solution, excess of the fluid being wrung out. When the abdomen is opened, the wet gauze is used as recommended by Dr. Wakefield. The intestines are not irritated in this manner. The sponge gauze used to soak fluids is used dry as he has advised.

This method is a great improvement over the usual procedure of counting sponges before and after operation, and is calculated to do away with those occasional periods of anxiety which occur in the operating-room when the latter technic is employed, no matter how careful the operator and his staff may be. J. Clarence Webster, M.D., Chicago.

Limitations of Suggestion in Hyperthyroidism

To the Editor:—I wish to make an emphatic protest against many of the statements found in the editorial entitled "Suggestion in Hyperthyroidism" in The Journal, Dec. 14, 1912, p. 2154, for it contains many statements given with the authority of The Journal which, if allowed to go unchallenged, afford many possibilities for harm.

Apparently hyperthyroidism is no longer a field for legitimate medicine and surgery, but the door is open for the Christian Scientist, the chiropractic, the osteopath and the practitioners of all the other cults, who need only to persuade the patient that a particular "mode of treatment is likely to be beneficial," for under these conditions "there is prompt relief of most, and sometimes, it would almost seem, of all their symptoms shortly after the institution of the treatment in question."

How perfectly lovely! There is no qualification to the conditions; merely persuade the patient that the treatment is likely to be beneficial and his troubles are over. Let us now include persuasion in the medical curriculum. Surely no physician who has the interest of his patients at heart will subject them to a troublesome course of medical treatment or to the danger and pain of surgery when he can alleviate "most, and sometimes, it would almost seem, . . . all of their symptoms" by the laying on of hands, massage with an executioner's rope, painting the second phalanx of the left thumb with carbol fuchsin—or by any other treatment whatsoever so long as he has previously persuaded the patient that the treatment is likely to be beneficial.

The door is now open and the way clear for all types of persuasionists. No less authority than The Journal by its dictum has so declared it. At many medical meetings, during recent years, I have often been amused to hear some grave and reverend senior arise to discuss the subject of hyperthyroidism, and have heard him recount the familiar history of the snakeskin, the mummy, the executioner's rope and the dead hand of the executed criminal as a serious contribution to the subject. It might be well at future meetings to announce to the attending physicians that this chapter in the history of medicine is fairly well understood and appreciated, and thereby save the time for some really serious discussion. Any disease which has a percentage of recovery without treatment has a multitude of remedies advanced by serious advocates.

It is a dangerous doctrine to assert that the removal of hypertrophied, infected tonsils and adenoids has a beneficial effect in hyperthyroidism merely as a matter of suggestion. During the last six years I have had occasion to direct the treatment of more than 2,500 cases of hyperthyroidism including all types of the disorder, and it has been my experience that in a large percentage of these patients infected tonsils and adenoids are a very important factor in the etiology. This observation has been made by others who have had an extended experience with this disease. In a paper entitled "Medical Treatment of Graves' Disease," published by me in the *New York State Journal of Medicine*, September, 1912, the following paragraph is found:

> "It has been a common observation that a very considerable portion of these patients have enlarged tonsils and adenoids, and an acute attack of hyperthyroidism may follow promptly an acute attack of tonsillitis. These patients often give a history of repeated attacks of acute tonsillitis preceding the development of a goiter, with all the characteristic symptoms of the disease. Care must be taken to prevent these interferences or to quiet them as much as possible. When the patient can stand the operation, it is advisable to have a complete tonsil enucleation. Such an operation may be quite as valuable to

the patient as a ligation of the superior thyroid arteries. The physician should use every care to correct a chronic throat affection and to prevent any acute development of the same."

These observations are the result of experience and are the experience of many clinicians.

It is the sheerest nonsense to assume, as is done in the editorial, that such beneficial effects follow because of some favorable influence on the mind of the patient. A patient need not have any mind at all in order to be seriously disturbed by an acute tonsillitis. I am not prepared to say that such operations as are cited on the turbinates, nasal polypi and spurs are of the same importance as those on the tonsils and adenoids, but I am unwilling to grant that beneficial effects following such operations, if they occur, are altogether a matter of suggestion. Such operations may remove a focus of infection and be a distinct aid in maintaining hygienic conditions in the nose and throat.

No intelligent physician is unaware of the value of suggestion in the treatment of disease. Any sick person needs some degree of assurance, and this is most favorably received when given by a physician who knows the condition and can speak with authority. And there are many pathologic conditions that benefit from suggestion quite as much as hyperthyroidism. Every successful physician uses suggestion consciously or unconsciously; but this is quite a different matter from maintaining that suggestion alone is the only therapeutic method needed to produce relief in most or all of the symptoms of hyperthyroidism. In the article published in the *New York State Journal of Medicine* previously referred to, the following paragraph is found which outlines the conditions of the environment which should obtain in these conditions:

> "In a large proportion of cases the disease has followed a period of overwork, mental or physical, anxiety or unusual responsibility, a severe emotional disturbance, or depleting infectious disease. There are, however, instances in which no such origin can be traced, but these form only a small percentage of the total. Because of this fact there is, in the hygienic treatment of the disease, no one feature which is of so much importance by any method whatsoever as that of rest; and rest does not consist simply in putting the patient to bed. Very frequently physicians believe that by ordering a patient to lie down for an hour in the morning, two hours in the afternoon, and to lead a quiet life that they are securing the necessary rest for their patient. Rest must be physical, mental and emotional, in just so great a degree as it is possible to control these factors. If the disease is well marked it is well to have the patient spend a large part of the twenty-four hours lying down. In the really severe conditions patients must be in bed for a considerable period and treated with respect to their activity as though they had typhoid fever. Very frequently the rest necessary cannot be obtained in a patient's home as there the various members of the family may prove to be a source of great disturbance. No mental work can be permitted, or business affairs directed from the patient's bed. In the beginning few or no visitors should be admitted because of the excessive stimulation under which these patients are living. Very often they rebel at these provisions and declare it to be utterly impossible for them to stay in bed, and make all sorts of excuses for added activity. It may be necessary in the beginning to use a sedative to control the unusual excitement and excessive stimulation under which they live. It is useless to attempt to treat medically or surgically a patient with active Grave's disease who is unwilling to give the necessary amount of time for the rest required. Because they are physically able to be up and about, and feel fairly well, they are unable and often unwilling to appreciate the serious nature of their disorder. The rest must be as complete as possible, and considerable time must be spent in determining what are the specific disturbing factors in each case. Their personal history must be known, the sources of worry and emotional disturbances, and, as far as possible, their fears removed and the whole environment of the patient restored to just as complete a degree of tranquillity as the circumstances will permit. Therefore, simply to put a patient in bed answers only a portion of the demand needed for rest."

The paragraph just quoted is an outline of the physician's duty toward his patient from the standpoint of the latter's environment, but in no sense does it answer all the demands for medical treatment.

In the editorial in question the following statement is made: "Then a preparation of animal serum obtained after the injection of portions of enlarged human thyroids into animals seemed to do good. After a time, however, all these remedies proved unavailing." This statement is absolutely untrue. The serum mentioned is one which I devised and used in the treatment of a large number of cases of this disease. It has been used, likewise, by many other clinicians scattered all over the country with such a degree of success—success which is continuing at present—that such sweeping statements as these made in the editorial have no justification in fact. The statement was probably made by a writer who has had little or no experience in the use of the serum. Physicians at present have made some progress since the period when the mummy and the executioner's rope were received with favor, and the careful observations of the many competent clinicians persuade me in addition to my own experience that this serum has much more than a suggestive value. It has been employed only during the last six years, but the difficulties of its preparation are such that it can never become a popular method of treatment.

There is one statement in the editorial, with which I can heartily agree, a suggestion in the last paragraph for a careful and critical investigation of any remedy or mode of treatment that may be asserted to benefit this affection. Such an investigation applies with equal force to any new treatment of any disease whatsoever and is welcomed by those who have a deep interest in the progress of therapeutics.

S. P. Beebe, New York.

[Comment.—Our reply to this is the editorial criticized—carefully read.—Ed.]

Destruction of the Protective Protein in Rice

To the Editor:—I have followed with great interest the series of articles bearing on the etiology of beriberi appearing in The Journal of late. The field seems to be about equally divided between the adherents of spoiled rice and polished rice, with the latter claiming the most attention because of scientific demonstrations.

As yet I have failed to note where any writer has brought out the one obvious point which will harmonize the two theories. Rice spoiled under conditions of heat and moisture certainly does cause beriberi in many cases—but such rice is deprived of its protective protein (if such it be) by spoiling as thoroughly as by polishing. This is not the case in every instance, as some forms of molds may render rice unfit for food without much destruction.

Beriberi is almost unknown in this part of Korea, the climate being too dry to cause extensive spoiling, while polished rice is unknown. Besides, the soy and other beans make up a fair share of the native dietary.

M. C. Harding, M.D., Mokpo, Korea.

A Worthy Use for Discarded Surgical Instruments

To the Editor:—The American Board of Commissioners for Foreign Missions is carrying on extensive medical work in Turkey, India, China, Africa and the islands of the sea. About fifty thoroughly equipped physicians are in charge of this work, and last year nearly 400,000 patients were treated in the hospitals and dispensaries connected with the work. Nearly all the hospitals are so remote from other modern medical facilities that the physicians in charge are compelled to be experts in almost every department of medicine and surgery, and each surgeon must have all the instruments required for the performance of the operations which he undertakes.

As an illustration of the operations performed, the physician in charge of the hospital at Cesarea, Asia Minor, reports 91 abdominal operations and over 800 other operations performed in ten months by himself. According to a report just received from Northern Syria, Turkey, covering a period of nine months, 666 operations were performed, of which 209 were eye cases, 21 urinary calculi, 61 bone cases, and 65 abdominal; in the period named, 5,492 patients were seen, with 394 patients in the hospital.

John C. Berry, M.D., Worcester, Mass., a member of our administrative board, has suggested to me that many physicians have serviceable surgical instruments in their possession which they are not using and will undoubtedly never use again, in view of their being displaced by something more modern. Such instruments would be of immeasurable value to these physicians who are out beyond the frontiers of civilization, striving under most hampering conditions to meet the medical and surgical needs of people who otherwise would have no modern aid whatever.

Any such instruments given to the American Board of Commissioners for Foreign Missions would be forwarded to these physicians where the need is greatest, and would at once be put into service. They may be sent to John G. Hosmer, 14 Beacon Street, Boston; to Edward Lincoln Smith, D.D., Fourth Avenue and Twenty-Second Street, New York; to A. N. Hitchcock, D.D., 19 South La Salle Street, Chicago, or to H. M. Tenney, D.D., Mechanics Bank Building, San Francisco. If we could know the name and address of the donor we would be glad indeed to report the disposal of the instruments, and, if desired, put the donor into correspondence with the physician who receives them. James L. Barton, D.D., Secretary,
14 Beacon Street, Boston.

The Grave of Jane Crawford

To the Editor:—In my letter in The Journal (Jan. 4, 1913, p. 67) I stated that "The Kentucky Medical Society has been trying to find the grave of Jane Crawford. . . ." This is a mistake which I desire to correct, as I was led to believe it by a letter from J. K. Mitchell of Osborne, Kan., a relative of Jane Crawford, to the Rev. J. A. McArthur of the Presbyterian Church of this city. It was this letter which caused the investigation which located the grave. The credit of the recent investigation of both Ephraim McDowell and Jane Crawford, with a view to eliminating the errors that have crept into the history of their lives, is due to the personal efforts of Dr. August Schachner of Louisville, Ky., whose paper on Dr. McDowell was read before the Johns Hopkins Historical Club, Dec. 9, 1912.

I think it important that this correction be made, since the present revival represents an effort at accuracy and completeness. W. N. Thompson, M.D., Sullivan, Ind.

Queries and Minor Notes

Anonymous Communications will not be noticed. Every letter must contain the writer's name and address, but these will be omitted, on request.

DETERMINING THE CALORIC VALUE OF MILK MIXTURES

To the Editor:—Dr. D. J. Levy, in his paper on "Infant-Feeding," in The Journal, June 22, 1912, says: "Five per cent. sugar provides 200 calories," and it is so in each milk mixture of which he writes. Please explain to me the way in which this is found and why it is the same in a half milk mixture and a two-thirds milk mixture. Also in his example how "this is furnished by 850 c.c. of two-thirds milk mixture." My own method of calculation is evidently faulty or in some manner I have missed a point.

R. B. T.

Answer.—The note of our correspondent refers to the following paragraphs from the article by Dr. Levy:

One-half liter of milk	provides 300 cal.
Five per cent. sugar	provides 200 cal.
Caloric value one-half milk and 5 per cent. sugar	provides 500 cal.
Two-thirds liter of milk	provides 400 cal.
Five per cent. sugar	provides 200 cal.
Caloric value two-thirds milk plus 5 per cent. sugar	provides 600 cal.

Example: Child at 7 months should weigh 6,500 gm. Requirement at 80 calories per kg., 520 cal. This is furnished by 850 c.c. of two-thirds milk mixture. Therefore prescribe five feedings in twenty-four hours of 170 gm. or 5⅔ ounces each.

It will readily be understood that the calculations refer to one liter of the milk preparation. In all cases it is made with 5 per cent. of sugar, which amounts to 50 gm. per liter, and as each gram of sugar has a value of 4 calories, a liter of the preparation would have a value of 200 calories derived from the added sugar which it contains. And this would be the same whether the preparation of milk is one-half or two-thirds. As will be seen from the calculation, 1,000 c.c. of the two-thirds milk mixture has a total caloric value of 600 calories; 850 c.c. of this would therefore have a value of 510 calories, which is approximately the amount stated as the requirement of a child weighing 6,500 gm.

LITERATURE ON TREATMENT OF CANCER

To the Editor:—1. Where can I find an article, recently published, on the treatment of cancer by injecting the patient's own blood? 2. Also refer me to any articles in regard to treatment of cancer by autolysis and by Coley's fluid. 3. Is the latter manufactured by pharmaceutical houses?

J. M. Adams, M.D., Roseland, La.

Answer.—1. On looking through our indexes for the last three years, we find no article whose title indicates the treatment of cancer by the patient's own blood.

2. The following articles are on the treatment of cancer by autolysis, by Coley's fluid and similar methods:

Fichera, G.: Action of Products of Homogeneous Fetal Autolysis on Malignant Tumors in Man, *Lancet*, London, Oct. 28, 1911.
Fichera, G.: Autolysates of Tissues in Treatment of Tumors, *Policlinico*, Feb. 12, 1911.
Fichera, G.: Treatment of Cancer with Autolysate of Human Fetuses, *Policlinico*, July 3, 1910; abstr. in The Journal, Aug. 6, 1910, p. 545.
Preliminary Results Obtained by Treating Cancer with Ascitic Fluid, The Journal, July 23, 1910, p. 341.
Risley, E. H.: Treatment of Cancer with Body Fluids and Cancerous Ascitic Fluid, The Journal, May 13, 1911, p. 1383.
Risley, E. H.: The Gilman Coca Vaccine Emulsion Treatment of Cancer, *Boston Med. and Surg. Jour.*, Nov. 25, 1911.
Hunt, E. R.: Case of Recurrent Cancer of Parotid Gland Treated with Coley's Fluid, *Lancet*, London, June 17, 1911.
Berkeley, W. N., and Beche, S. P.: New Antiserum in Cancer, *Med. Rec.*, New York, March 16, 1912.
Autovaccines in Cancer, The Journal, Oct. 19, 1912, p. 1473, and Sept. 21, 1912, p. 962.
Greenwood, H. H.: Melanotic Sarcoma Treated with Coley's Fluid, *Lancet*, London, Sept. 28, 1912.
Hill, H. K.: Retroperitoneal Lymphosarcoma Treated with Coley's Fluid, *Arch. Pediat.*, September, 1912.
Ill, E. J., and Miningham, W. D.: An Experimental Study of the Treatment of Cancer with the Body Fluids, The Journal, Aug. 17, 1912, p. 497.
Levin, I.: Immunity and Specific Therapy in Experimental Cancer, The Journal, Aug. 17, 1912, p. 517.
Von Graff, E., and Ranzi, E.: Immunization Against Cancer, *Mitt. a. d. Grenzgeb. d. Med. u. Chir.*, xxv, No. 2; abstr. in The Journal, Oct. 26, 1912, p. 1583.

3. Coley's fluid is described in New and Nonofficial Remedies under the title Erysipelas and Prodigiosus Toxins (Coley), p. 221, and it is manufactured by Parke, Davis & Co.

FICHERA'S METHOD OF PREPARING FETAL AUTOLYSATES FOR THE TREATMENT OF CANCER

To the Editor:—I wish to learn about Fichera's method of preparing autolysates of the fetus for the treatment of cancer. What is it and where can I find literature on the subject?

J. F. Percy, M.D., Galesburg, Ill.

Answer.—The homogeneous fetal autolysates are prepared by ordinary methods, under the strictest rules of asepsis. The fragments of the fetus are placed in about 20 parts of a physiologic salt solution, a suitable quantity of thymol or phenol being added, and covered by a layer of sterilized oil or toluol. The mixture remains in the incubator at 37 C. for about two months, and prior to use its sterility is tested.

The injections vary in dose from 2 to 3 c.c. twice to four times a week, according to the patient's age, condition, individual tolerance, the bulk of the tumor, the seat of the injection, and the specific gravity of the autolysates; the latter ought to be, at the moment of their employment, a homogeneous emulsion, and not a clear superjacent mixture. The treatment extends to a variable number of months, according to the local and general condition.

For the literature on this subject see the answer to the preceding query.

CASE OF TWINS: MANUAL REMOVAL OF FIRST PLACENTA WITHOUT DISCOVERY OF SECOND CHILD

To the Editor:—I desire to report what appears to me to be a most unusual prolapse of fetal parts in labor.

Mrs. R. S. called me to attend her in her seventh confinement. All her previous confinements had been normal.

The abdomen appeared rather larger than usual, and she stated that the child had been very active, the movements having caused considerable discomfort. Labor had been in progress several hours when I arrived, and as the os was dilated I ruptured the membranes. In due course the patient was delivered of a 6½-pound girl. The abdomen then presented a most peculiar appearance. The right half was collapsed to such an extent that the surface was concave. The left side remained rounded and distended. I auscultated carefully but could not detect any fetal heart sounds. Labor pains then grew progressively weaker until they about ceased. With the gloved hand I removed the placenta, and still the left abdomen remained distended. I waited for about an hour; there was but little hemorrhage; the pains ceased and the patient went into a light sleep. I then determined to explore a little and on introducing the gloved hand felt a mass of membranes presenting at the os. When these were ruptured about a pint of amniotic fluid came away and I waited a few minutes longer. There was no progress and very light pains. I again introduced my hand and to my surprise found two arms and a leg in the vagina. By crowding the arms back into the uterus, making pressure at the same time on the lower left quadrant of the abdomen, I succeeded in hooking the other leg with the index finger, and a version was easily accomplished. I then extracted a dead female child without difficulty. The body was dark blue and showed some signs of maceration, but the most striking feature was the extreme limpness, the bones appearing to be underossified. The child weighed about 6 pounds.

The mother convalesced uneventfully and the first twin, at the present writing, is making good progress.

Arthur E. Midgley, M.D., Lima Center, Wis.

Answer.—The unusual feature of this case is not the presentation of legs and arm, for cross presentation of the second twin with prolapse of the extremities is not uncommon; but the possibility of manually removing the first placenta without discovering the presence of the second child is interesting. The question first arises whether this might not be a case of double uterus. A persistence of the septum between the two halves of the uterus extending into the cervix and making a complete double uterus did not exist, for there was evidently only one os. It is not impossible, however, that a partial septum existed—a uterus bicornis unicollis. This would better account for the shape of the uterus after the expulsion of the first child.

It is not impossible, however, that the operator in removing the placenta kept to the right side of the uterus with the hand, peeling off the membranes and placenta and finally removing them so that the adjoining bag and its contents were not felt. The absence of uterine contractions and soft yielding walls would favor such a removal of the placenta from one half of the organ without disturbing the other half. The reason for the manual removal of the placenta is not given and the wisdom of the procedure might be questioned by some.

Whether the second child died during the labor or before is not certain. A slight maceration may occur in the course of a few hours after death in the warm liquor amnii contained in the uterus. The death of one twin often occurs at different terms of pregnancy without injury to the other child. In this case an inquiry into the cause of the intra-uterine death of the second twin might raise the interesting question whether one twin might have syphilis and the other remain free. This proposition has been offered by some. The "limp" condition of the dead child suggests that it should have been examined, as indeed should all fetuses that die.

THE HYPODERMIC USE OF SODIUM SALICYLATE

To the Editor:—With reference to the query in your issue of Nov. 23, 1912, page 1910, as to the use of sodium salicylate hypodermically, my own experience with these methods of administering the drug may be of interest to those who have never used sodium salicylate either intramuscularly or intravenously.

In rheumatic disorders which respond slowly or not at all to the oral administration of sodium salicylate, the same drug administered by means of intramuscular injections, or, still better, by intravenous injections, will in many cases quickly exercise a curative effect on the disorder. Dr. William F. Bernart of Chicago a few years ago published the following formula:

℞ Sodium salicylate .... 4 gm.
Caffein .... 2 gm.
Distilled water ....25 c.c.

Sig.: An average dose of 2 c.c. to be administered intravenously each day.

I have frequently injected this solution into the veins of the forearm with an ordinary glass hypodermic syringe. Also this solution may be diluted with an equal or greater volume of distilled water and injected into the gluteal muscles or back, without giving rise to any objectionable amount of irritation in the average patient. No doubt other physicians have had a much larger experience than I in these methods of administering sodium salicylate, and a report from them would, I feel sure, be acceptable to many of us.

B. T. Williams, M.D., Minneapolis.

To the Editor:—Contrary to your opinion (page 1910), I find the dose of sodium salicylate (10 c.c. of a fresh, sterilized solution of 20 per cent. sodium salicylate for each hundred pounds of body-weight, injected every twenty-four hours) not too large; it has never given symptoms of poisoning. There is always local pain but no further reaction, provided that the solution is made with distilled water and then sterilized (see my article in the *Medical Record*, March 11, 1911). In the oily solution (sesame oil with 5 per cent. of alcohol) the 10 per cent. sodium salicylate has been replaced by 7.5 per cent. oil, because in the former mixture the salicylate did not remain suspended long enough for practical purposes.

My results with the 20 per cent. watery solution of sodium salicylate (10 c.c. per hundred pounds of body-weight every twelve to twenty-four hours) in severe rheumatic infections (arthritis, endocarditis, and especially in the severest forms of rheumatic chorea) have remained good, inhibiting these processes entirely in from three to four days.

A. Seibert, M.D., New York City.

UNTOWARD EFFECTS OF PARAPHENYLENDIAMIN IN HAIR-DYES

To the Editor:—Please give me some information concerning the untoward effects of paraphenylendiamin in hair-dyes.

Samuel Levinson, D.Sc., Ph.G., Brooklyn.

Answer.—In "Nostrums and Quackery," p. 353, is a description of Mrs. Potter's Walnut Juice Hair Stain, whose active principle is paraphenylendiamin, together with a list of cases of poisoning, due to the use of this dye, which have been reported to The Journal. The following literature on the subject may be of interest to you:

Damianos, J. D.: Chronic Poisoning from Hair-Dyes, *Therap. Monatsh.*, October, 1911; abstr. in The Journal, Nov. 25, 1911, p. 1808.
Chipman, E. D: Dermatitis Venenata from Proprietary Hair-Dye, *California State Jour. Med.*, August, 1911; abstr. in The Journal, Aug. 26, 1911, p. 758.
Composition of Hair-Dyes and the Effects of Their Use, The Journal, Aug. 26, 1911, p. 757.
Two Dangerous Hair-Dyes, The Journal, Nov. 5, 1910, p. 1662.
Poisoning from Mrs. Potter's Walnut Juice Hair Stain, The Journal, Sept. 4, 1909, p. 809; editorial, p. 803.
Burke, J. G.: Dermatitis from Hair-Dye, The Journal, Aug 14, 1909, p. 528.
Mackay, J. H.: Hair-Dye Poisoning, The Journal, May 15, 1909, p. 1579.
A Toxic Hair-Dye and Its Analysis, The Journal, April 3, 1909, p. 1121.
Barker, W. W.: Another Case of Poisoning, The Journal, March 6, 1909, p. 787.
Schalek, A.: Dermatitis Venenata Due to a Proprietary Hair-Dye, The Journal, Feb. 13, 1909, p. 557.
Mewborn, A. D.: A Case of Acute Dermatitis Caused by the Use of a Hair-Dye Having for Its Base the Hydrochlorate of Paraphenylendiamin, The Journal, May 18, 1901, p. 1389. This article has a bibliography of articles cited in foreign literature.

LENDING FOREIGN JOURNALS

Requests for the loan of domestic medical journals are continually being received from our readers. We do not lend domestic periodicals. They can be obtained from the publishers as quickly as from us, and at small expense—15 cents will pay for almost any of the domestic journals; 25 cents for a few of the larger ones. If one is in doubt, one should send an excess and the balance will be returned. The names of domestic periodicals and the cities in which they are published are given in the Current Medical Literature Department, so that it is a simple matter to secure any of these periodicals. It is well, of course, to add the street and number to the address in the large cities, but this is not essential. Any well-established periodical is known to the local post-office and the letter will be delivered.

As to foreign journals, our rule is that we lend copies on request and on receipt of 6 cents as an average expense of postage and mailing. The borrower agrees to return the journal as soon as possible—at least within three days after its receipt.

WOODS' CURE FOR DRUNKENNESS

To the Editor:—A certain Mr. Woods of Chicago or New York is sending advertising material into this town in which he claims to be able to cure in three days the whisky and beer habit. A patron of mine wants to send him money, but before doing so asked my advice. I advised him not to send the money, because I believed it to be a fake. If you know of this man and his nostrum, please give me some information.

R. S. Sutton, M.D., Bartlett, Tex.

Answer.—Edward J. Woods, 534 Sixth Avenue, New York City, is a faker who deals in fraudulent "cures" for alcoholism, the tobacco habit, bald heads and "kinky" hair. His "cure" for inebriety was exposed at some length in The Journal for Feb. 17, 1912. The exposé of his "cure" for the tobacco habit has not appeared in The Journal but does appear in the pamphlet (price 4 cents) issued by the American Medical Association entitled "Edward J. Woods."

SELECTION OF DONOR FOR BLOOD TRANSFUSION

To the Editor:—In The Journal (Dec. 21, 1912, p. 2275), in "Queries and Minor Notes," a correspondent asks: "What is the simplest practical method of determining whether a donor is suitable for blood transfusion"? My article in The Journal (Sept. 7, 1912, p. 793) calls attention to an important consideration which you seem not to mention.

Morris Fishbein, M.D., Chicago.

Answer.—The article referred to by Dr. Fishbein describes a method for determining whether the blood of the proposed donor possesses the property of isoagglutination with the blood of the recipient. We are glad to call attention to this additional test.

Medical Economics

This Department Embodies the Subjects of Post-graduate Work, Contract Practice, Legislation, Medical Defense, and Other Medicolegal and Economic Questions of Interest to Physicians

PUBLIC HEALTH LEGISLATION IN 1913

This is the year in which the biennial session in most of our state legislatures is held. According to the best available information, the following state legislatures are now in session: Arkansas, California, Colorado, Connecticut, Delaware, Florida, Idaho, Illinois, Indiana, Iowa, Kansas, Maine, Massachusetts, Michigan, Minnesota, Missouri, Montana, Nebraska, Nevada, New Hampshire, New Jersey, New Mexico, New York, North Carolina, North Dakota, Ohio, Oklahoma, Oregon, Pennsylvania, Rhode Island, South Carolina, South Dakota, Tennessee, Texas, Utah, Washington, West Virginia, Wisconsin and Wyoming. The legislature in Arizona will meet February 3. The legislature in Vermont has been in session since October.

It is probable that public health legislation will occupy a prominent place in the legislative work of this winter. Public health bills have been or will be introduced in practically all legislatures.

In Arizona, a bill is proposed prohibiting marriage among insane, epileptics, alcoholics and those afflicted with venereal or incurable diseases. In Arkansas, a new board of health bill will be introduced. In California the Committee on Public Health of the State Federation of Women's Clubs is endeavoring to secure support for a bill requiring a health certificate as a preliminary to marriage. Another proposed measure prohibits the marriage of any person afflicted with tuberculosis. In Georgia a bill is being prepared broadening the scope of the State Board of Health, and making additional appropriations for its use. The legislative committee of the Idaho State Mothers' Congress has approved a bill requiring a physician's certificate as a condition for a marriage license. In Illinois an effort will be made to secure the passage of the model bill for the registration of vital statistics. Incidentally the Master Plumbers' Association of the state has asked Governor-Elect Dunne to appoint a master plumber or a sanitary engineer on the State Board of Health. In Indiana the Committee on Tuberculosis of the State Medical Society has drafted a bill for the elimination of tuberculosis providing that each county shall maintain a tuberculosis hospital or camp large enough to care for all the consumptives in the county. The measure also provides for the isolation of all consumptives, and the disinfection of all houses in which consumptives have lived or died. Medical supervision of schools is also provided for. In Iowa a bill providing for an adequate appropriation for the State Board of Health in place of the previous annual appropriation of $5.000 will be presented. A bill providing for the medical inspection and supervision of pupils in the model school of the Kansas State Normal and for permissive medical supervision of the public schools of the state has been worked out by the Kansas State Normal and the Secretary of the Kansas State Board of Health.

Much interest is being taken in public health legislation in Michigan, in part due to the advanced position taken by the new governor, Hon. Woodbridge N. Ferris. In his inaugural address delivered before the two houses of the legislature January 2, Governor Ferris discussed sanitary schoolhouses and medical practice laws and their bearing on the health of the state. On the first topic he said:

"For more than a quarter of a century I have made a careful study of the schoolhouses in Michigan. The majority of them are insanitary and unfit for livestock to occupy. They rarely furnish adequate light, never furnish a proper supply of pure air, are not comfortably heated and, on the whole, are destructive to the health of school children. It should be remembered that the ordinary schoolroom, unlike the ordinary dwelling-room, is frequently occupied by a large number of children. Probably no one reform would exert a greater influence in reducing the death-rate of children than would the construction of sanitary schoolhouses. Ordinarily, school officers know very little about modern sanitation. It is largely a question of how large a 'pen' is required to protect the boys and girls from inclement weather. A law should be enacted whereby all plans for schoolhouses should be submitted to the superintendent of public instruction and the secretary of the State Board of Health. These officials would approve of the heating, ventilating and lighting, in fact, of all the sanitary essentials, before the contracts could be entered into for construction. In states where this plan has been pursued satisfactory results have been realized."

Discussing medical practice laws, Governor Ferris was equally positive. His views on this subject mark such an advance that they are worthy of careful attention. He said:

"From a materialistic standpoint, no investment yields greater returns to the wealth of the state than health. A recent estimate of the economic value of life in England shows that human labor capitalized is worth five times all other capital. The physicians of Michigan stand ready to further all legislation that tends to enlighten the people along lines that conserve health. At present, Michigan is the camping-ground for numerous medical fakers. I suggest the enactment of a law whereby practitioners be required to pass examinations before the State Board of Medical Examiners, or State Board of Health, in physiology, anatomy, hygiene, chemistry, bacteriology, physics, pathology and diagnosis. A knowledge of these subjects is fundamental in any rational attempt on the part of a practitioner to serve the best interests of his patients. This is a reasonable requirement, and the legislation along this line ought to command not only the approval of the profession, but the approval of laymen generally."

It should be noted that Governor Ferris' proposition is to put the regulation of those who desire to treat the sick on a purely educational basis. The subjects mentioned by him are scientific ones that are in no way controversial or sectarian.

The Michigan State Board of Health has prepared a bill giving the board supervisory and visitorial power over all water-works systems, both municipal and private, and also over all sewage-disposal systems. The board of health is given power to call an annual conference of local health officials and is also given the power to pass on all appointments of local health officers. Provision is also made for a state sanitary engineer who shall give his entire time to the inspection of water-works and sewage and garbage-disposal systems in cities and villages. A bill prohibiting the marriage of the physically and mentally unfit has also been introduced. In addition, the Traveling Men's Association has demanded a bill requiring better sanitary and fire protection in the hotels of the state, and empowering the labor commissioner and the food and dairy department to inspect hotels and enforce the law. An amendment to the present law for the prevention of rabies is also proposed.

In Missouri a campaign for better sanitation of shops and workrooms is being carried on.

In Nebraska a conference on public health legislation has outlined a program for legislation, authorizing a state health laboratory, health certificates for marriage, the sterilization of habitual criminals, medical supervision of schools, the employment of a sanitary engineer by the State Board of Health, and some amendments to the state medical practice act.

In New York the secretary of the State Department of Health has taken the position that the health laws should be thoroughly revised, and that a sanitary code should be prepared. Among other changes suggested are the broadening of the powers of the State Department of Health, proper compensation for health officers, the employment of expert assistants, revision of the present law for the registration of tuberculosis, supervision of local health departments by the State Department of Health, medical supervision of schools and the registering and licensing of midwifes. Revision of the state coroners' law is also proposed.

In Ohio the study of occupational diseases has been proposed by the State Board of Health and the labor organizations. A sterilization law and a law providing for the medical supervision of schools are also proposed. It is reported that an optometry bill will be introduced.

In Pennsylvania an amendment to the new medical practice act adopted at the last session of the legislature is proposed, raising the educational requirements and authorizing the examining board to substitute practical for written examinations in certain cases.

In South Carolina the women of the state have taken up a campaign for medical supervision of schools, and have drafted a bill providing for such inspection.

In South Dakota the Graduate Nurses' Association is planning to present a bill requiring the licensing of registered nurses.

A new medical practice act, a vital statistics law and a law creating a public health laboratory are planned in Tennessee.

In Utah the state board of medical examiners has asked for an appropriation of $2,500 for the prosecution of fakers and swindlers who are preying on the public.

From Wisconsin, in which state resides the national council for the Chiropractor's Association, comes the cheering news that a bill creating a state board to examine and license chiropractors will be presented in every state legislature which meets this winter.

It is the desire of The Journal to present to its readers from time to time a summary of legislative developments in each state during the legislative season. Any information regarding the introduction or passage of any bills on public health topics will be welcome, and will be used for the information of readers.

Medical Education and State Boards of Registration

COMING EXAMINATIONS

Illinois: Coliseum Annex, Chicago, January 22-24. Sec., Dr. James A. Egan, Springfield.

Kansas: National Hotel, Topeka, February 11. Sec., Dr. H. A. Dykes, Lebanon.

Missouri: St. Louis, February 24-26. Sec., Dr. Frank B. Hiller, State House, Jefferson City.

Nebraska: Lincoln, February 12-13. Sec., Dr. C. P. Fall, Beatrice.

New York: January 28-31. Chief of Examinations Division, Mr. Harlan H. Horner, Department of Education, Albany.

THIRD CLASSIFICATION OF MEDICAL COLLEGES OF THE UNITED STATES

This classification was made following the third inspection of medical colleges by the Council on Medical Education, and is published in accordance with instructions from the House of Delegates of the American Medical Association.

Basis of the Classification

The following outline of the essentials of an acceptable medical college was issued by the Council on Medical Education of the American Medical Association for its suggestive value in the rapid development in progress among the medical colleges in the United States. It also represents the basis on which medical colleges are rated in the Council's classifications (revised to Jan. 15, 1913).

1. A strict enforcement of all standards and requirements, the college itself to be held responsible for any instances in which they are not enforced.

2. A requirement for admission of at least a four-year-high-school education superimposed on eight years of grammar school work as defined by the College Entrance Examination Board (see schedule).

3. Beginning Jan. 1, 1914, the minimum requirement for admission will be enlarged to include at least one year's college work in physics, chemistry and biology and a reading knowledge of at least one modern language besides English, preferably German or French.

4. A requirement that students be in actual attendance in the college within the first week of each annual session and thereafter.

5. That actual attendance at classes be insisted on except for good cause, such as for sickness, and that no credit be given under any circumstances for less than 80 per cent. of attendance on each course.

6. That advanced standing be granted only to students of other acceptable colleges and that in granting advanced standing there shall be no discrimination against the college's full-course students.

Standard High-School Course

SCHEDULE OF SUBJECTS OFFERED IN ACADEMIC AND SECONDARY SCHOOLS, CREDITS IN WHICH ARE ACCEPTABLE FOR ENTRANCE TO MEDICAL COLLEGES

Based on the requirements of the College
Entrance Examination Board.

SUBJECTS	UNITS.	REQUIRED.	ELECTIVE.
ENGLISH			
READING AND PRACTICE	2	2	...
Study and Practice	1	...	1
MATHEMATICS			
ALGEBRA TO QUADRATICS	1	1	...
ALGEBRA (Quadratic Equations, Binomial Theorem and Progressions)	½	...	½
PLANE GEOMETRY	1	1	...
Solid Geometry	½	...	½
Trigonometry	½	...	½
LATIN			
GRAMMAR AND COMPOSITION	1	1	...
CAESAR	1	1	4
Cicero	1	...	1
Virgil	1	...	1
Cornelius Nepos	1	...	1
Greek			
Grammar and Composition	1	*	1
Xenophon	1	...	1
Homer	1	...	1
German			
Elementary	2	**	2
Intermediate	1	...	1
French			
Elementary	2	**	2
Intermediate	1	...	1
Spanish			
Elementary	2	**	2
HISTORY			
UNITED STATES HISTORY	1	1	...
Greek and Roman History	1	...	1
Medieval and Modern	1	...	1
English	1	...	1
SCIENCE †			
Botany and Zoology, each	½	...	½
or Biology	1	...	1
Chemistry	1	...	1
PHYSICS	1	1	...
Physiography	½	...	½
Physiology	½	...	½
Drawing	1	...	1
Music			
Appreciation	1	...	1
Harmony	1	...	1
Total	34	8	26

A *unit* is the credit value of 36 weeks' work of 5 recitation periods per week, each recitation period to be of not less than 40 minutes.

Required Branches: Of the 14 units of high-school work it is suggested that the subjects in capitals aggregating 8 units be required. Other work to the amount of at least 6 units may be made up from any of the other subjects of the above schedule.

* Two units of Greek may be substituted for the two required units of Latin.

** A reading knowledge of German, French or other modern language is recommended in the high-school courses of students contemplating the study of medicine without higher preliminary qualifications.

† It should be understood that each science course must include laboratory work.

7. Careful and intelligent supervision of the entire school by a dean or other executive officer who holds, and has sufficient authority to carry out, fair ideals of medical education as interpreted by modern demands.

8. A good system of records showing conveniently and in detail the credentials, attendance, grades and accounts of the students.

9. A fully graded course covering four years of at least 32 weeks each, exclusive of holidays, and at least 30 hours per week of actual work; this course should be clearly set forth in a carefully prepared and printed schedule of lectures and classes.

10. Two years of work consisting largely of laboratory work in thoroughly equipped laboratories in anatomy, histology, embryology, physiology, chemistry (inorganic, organic and

physiologic), bacteriology, pathology, pharmacology, therapeutics and clinical diagnosis.

11. Two years of clinical work largely in hospitals and dispensaries, with thorough courses in internal medicine (including physical diagnosis, pediatrics, nervous and mental diseases), surgery (including surgical anatomy and operative surgery on the cadaver), obstetrics, gynecology, laryngology, rhinology, ophthalmology, otology, dermatology, hygiene and medical jurisprudence.

12. As soon as conditions warrant, a fifth undergraduate year should be required which should be spent by the student as an intern in an approved hospital.

13. At least six expert, thoroughly trained professors in the laboratory branches, salaried so that they may devote their entire time to instruction and to that research without which they cannot well keep up with the rapid progress being made in their subjects. These professors should have a definite responsibility in the conduct of the college, and their first and chief interest should be in the training of the medical students. There should also be a sufficient number of assistants in each department to look after the less important details. A suggested assignment of these instructors is (*a*) professor of anatomy, (*b*) professor of physiology, (*c*) professor of pathology and bacteriology and (*d*) professor of physiologic chemistry and pharmacology. The other two might be associate or assistant professors and assigned one to the laboratory course in histology and embryology under the professor of anatomy and the other to the department of pathology and bacteriology.

14. The medical teaching should be of at least the same degree of excellence as obtains in our recognized liberal arts colleges and technical schools.

15. The faculty should be thoroughly organized and, with a few allowable exceptions, should be made up of graduates of institutions recognized as medical colleges and should have had a training in all departments of medicine. They should be appointed because of their ability as teachers and not because they happen to be on the attending staff of some hospital or for other like reasons.

16. The college should own or entirely control a hospital in order that students may come into close and extended contact with patients under the supervision of the attending staff. The hospital should have a sufficiently large number of patients to permit the student to see and study the common variety of surgical and medical cases as well as a fair number in each of the so-called specialties.

17. The college should have easily accessible hospital facilities of not less than 200 patients which can be utilized for clinical teaching (for senior classes of 100 students or less), these patients to represent in fair proportion all departments of medicine.

18. The college should have additional hospital facilities for children's diseases, contagious diseases and nervous and mental diseases.

19. Facilities for at least six maternity cases for each senior student, who should have actual charge of these cases under the supervision of the attending physician. Careful records of each case should be handed in by the student.

20. Facilities for at least 30 autopsies during each college session which are attended and can be participated in by senior students (for senior classes of 100 students or less).

21. A dispensary, or out-patient department, under the control of the college, the attendance to be a daily average of 60 cases (for senior classes of 100 students or less), the patients to be carefully classified, good histories and records of the patients to be kept and the material to be well used.

22. The college should have a working medical library to include the more modern text and reference books with the *Index Medicus* and 30 or more leading medical periodicals; the library room should be properly lighted and heated, and easily accessible to students during all or the greater part of the day; it should be equipped with suitable tables and chairs, and have a librarian in charge.

23. A working medical museum having its various anatomic, embryologic, pathologic and other specimens carefully prepared, labeled and indexed so that any specimen may be easily found and employed for teaching purposes. It is suggested that so far as possible with each pathologic specimen coming from post-mortems there also be kept the record of the post-mortem, the clinical history of the patient on whom the autopsy was held and microscopic slides showing the minute structures of the disease shown in the gross specimen.

24. There should be sufficient dissecting material to enable each student individually to dissect at least the lateral half of the human cadaver; to provide cross-sections and other demonstration material and to allow of a thorough course for each senior in operative surgery on the cadaver.

25. A supply of such useful auxiliary apparatus as a stereopticon, a reflectoscope, carefully prepared charts, embryologic or other models, manikins, dummies for use in bandaging, a Roentgen-ray and other apparatus now so generally used in medical teaching.

26. The college should show evidences of thorough organization and of reasonably modern methods in all departments and evidences that the equipment and facilities are *being intelligently used* in the training of medical students.

27. A clear statement of the college's requirements for admission, tuition, time of attendance on the classes, sessions, courses offered and graduation should be clearly set forth, together with complete classified lists of its matriculants and latest graduating class in regular annual catalogues or announcements.

DEFINITIONS OF A MEDICAL COLLEGE AND A MEDICAL SCHOOL

"An institution to be ranked as a medical college[1] must have at least six (6) professors giving their entire time to medical work, a graded course of four full years of college grade in medicine, and must require for admission not less than the usual four years of academic or high-school preparation, or its equivalent, in addition to the preacademic or grammar school studies."

By a medical school[2] as differentiated from a medical college is meant a part of a university requiring for admission the equivalent of two years of collegiate work and offering instruction of not less than two years' duration, leading to the degree of Doctor of Medicine.

Grading of Medical Colleges

In a similar manner as in the previous classifications, all medical colleges have been rated by the Council on Medical Education on a civil service basis on a scale of 1,000 points. The data relating to each college were grouped under ten general heads in such manner that the groups would have as nearly equal weight as possible, each group, allowing a possible 100 points (10 per cent.) out of a possible 1,000 points (100 per cent.). The ten heads under which the data were arranged are as follows:

1. Showing of graduates before state boards and other evidences of the training received.
2. Enforcement of a satisfactory preliminary educational requirement, granting of advanced standing and the character of records.
3. Character of curriculum, grading of course, length of session, time allowed for matriculation and supervision.
4. Medical school buildings; light, heat, ventilation, cleanliness.
5. Laboratory facilities and instruction.
6. Dispensary facilities and instruction.
7. Hospital facilities and instruction, maternity work, autopsies, specialties.
8. Faculty, number and qualifications of trained teachers, full-time instructors, and assistants, especially of the laboratory branches, organization, and extent of research work.
9. Extent to which the school is conducted for properly teaching the science of medicine rather than for the profit of the faculty directly or indirectly.
10. Possession and use made of libraries, museums, charts, stereopticons, etc.

Colleges receiving a rating of 70 per cent. or above in each and all of the ten divisions of data were included in Class A+; colleges receiving an average of 70 per cent. or above, but which received a rating below 70 per cent. in one, two or three of the divisions were included in Class A; colleges receiving an average of between 50 and 70 per cent. and colleges having an average of above 70 per cent., but which received a rating below 70 per cent. in more than three of the divisions above named were included in Class B, and colleges receiving less than 50 per cent. were included in Class C. In other words, Class A+ colleges are those which are acceptable; Class A those which need improvement in certain respects, but which are otherwise acceptable; Class B, those which, under their present organization, might be made acceptable by general improvements, and Class C, those which require a complete reorganization to make them acceptable.

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[1] This definition of a college is based on that given in the revised ordinances of the state of New York. It has been adopted as a standard also by the Carnegie Foundation for the Advancement of Teaching.

[2] Based on the definition of the term "school" adopted in 1909 by the Association of American Universities.

Classified List of Colleges

CLASS A PLUS—ACCEPTABLE MEDICAL COLLEGES

1. *Giving an acceptable four-year course:*

CALIFORNIA

Leland Stanford Junior Univ., Dept. of Med....San Francisco
Univ. of California, Med. Dept.....San Francisco-Los Angeles

CONNECTICUT

Yale Medical School.............................New Haven

ILLINOIS

Northwestern University Medical School.............Chicago
Rush Medical College (University of Chicago)........Chicago

INDIANA

Indiana University School of Med...Bloomington-Indianapolis

IOWA

State University of Iowa, College of Medicine......Iowa City

LOUISIANA

Tulane University of Louisiana, Med. Dept......New Orleans

MARYLAND

Johns Hopkins University Medical Department.....Baltimore

MASSACHUSETTS

Harvard Medical School ....Boston

MICHIGAN

University of Michigan, Dept. of Med. and Surg....Ann Arbor

MINNESOTA

University of Minnesota, Coll. of Med. and Surg...Minneapolis

MISSOURI

Washington University Medical School.............St. Louis

NEW YORK

Columbia University Coll. of Phys. and Surgs..New York City
Cornell University Medical College............New York City
University and Bellevue Hospital Med. Coll....New York City
Syracuse University, College of Medicine............Syracuse

OHIO

Ohio-Miami Med. Coll. of the Univ. of Cincinnati....Cincinnati
Western Reserve University Medical Department....Cleveland

PENNSYLVANIA

University of Pennsylvania, Dept. of Medicine...Philadelphia

TEXAS

University of Texas, Department of Medicine.......Galveston

VIRGINIA

University of Virginia, Department of Med....Charlottesville

2. *Giving a two-year course acceptably:*

MISSOURI

University of Missouri, School of Medicine..........Columbia

WISCONSIN

University of Wisconsin, College of Medicine........Madison

CLASS A.—COLLEGES LACKING IN CERTAIN RESPECTS BUT OTHERWISE ACCEPTABLE

1. *Giving a complete four-year course:*

ALABAMA

University of Alabama, School of Medicine.............Mobile

COLORADO

University of Colorado, School of Medicine....Boulder-Denver

DISTRICT OF COLUMBIA

Georgetown University School of Medicine.......Washington
George Washington University, Dept. of Medicine..Washington

ILLINOIS

College of Physicians and Surgeons..................Chicago

IOWA

Drake University College of Medicine............Des Moines

KANSAS

University of Kansas, School of Medicine...Lawrence-Rosedale

KENTUCKY

University of Louisville, Medical Department......Louisville

MAINE

Medical School of Maine...............Brunswick-Portland

MARYLAND

College of Physicians and Surgeons................Baltimore
University of Maryland, School of Medicine.........Baltimore

MASSACHUSETTS

Boston University School of Medicine................Boston
Tufts College Medical School.........................Boston

MICHIGAN

University of Michigan, Homeopathic College......Ann Arbor

MISSOURI

St. Louis University School of Medicine............St. Louis

NEBRASKA

University of Nebraska, College of Medicine...Lincoln-Omaha

NEW HAMPSHIRE

Dartmouth Medical School..........................Hanover

NEW YORK

Albany Medical College.............................Albany
New York Homeo. Med. Coll. and Flower Hosp..New York City
University of Buffalo, Medical Department...........Buffalo

OHIO

Starling-Ohio Medical College.....................Columbus

OREGON

University of Oregon, Medical Department..........Portland

PENNSYLVANIA

Hahnemann Medical College and Hospital........Philadelphia
Jefferson Medical College.......................Philadelphia
Medico-Chirurgical College of Philadelphia.......Philadelphia
Woman's Medical College of Pennsylvania.......Philadelphia
University of Pittsburgh, Medical Department.....Pittsburgh

TENNESSEE

Vanderbilt University, Medical Department........Nashville

VERMONT

University of Vermont, College of Medicine........Burlington

VIRGINIA

Medical College of Virginia[3]......................Richmond
University College of Medicine[3]...................Richmond

2. *Giving a two-year course:*

MISSISSIPPI

University of Mississippi, Medical Department........Oxford

NORTH CAROLINA

University of North Carolina, School of Medicine..Chapel Hill
Wake Forest College, School of Medicine.........Wake Forest

NORTH DAKOTA

University of North Dakota, College of Medicine...University

SOUTH DAKOTA

University of South Dakota, College of Medicine....Vermilion

UTAH

University of Utah, School of Medicine........Salt Lake City

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[3] It is reported that a merger of these schools has been definitely arranged.

CLASS B.—COLLEGES NEEDING GENERAL IMPROVEMENTS TO BE MADE ACCEPTABLE

1. *Giving a complete four-year course:*

Alabama

Birmingham Medical College[4]....................Birmingham

Arkansas

University of Arkansas, Medical Department......Little Rock

California

College of Physicians and Surgeons..............Los Angeles
Hahnemann Medical College of the Pacific......San Francisco
Oakland College of Medicine and Surgery...........Oakland

Georgia

University of Georgia, Medical Department.........Augusta
Atlanta College of Physicians and Surgeons..........Atlanta
Atlanta School of Medicine..........................Atlanta

Illinois

Bennett Medical College...........................Chicago
Chicago College of Medicine and Surgery.............Chicago
Hahnemann Medical College and Hospital............Chicago

Kansas

Kansas Medical College[5]...............................Topeka

Michigan

Detroit College of Medicine..........................Detroit

Missouri

University Medical College[6].....................Kansas City

Nebraska

John A. Creighton Medical College....................Omaha

New York

Fordham University, School of Medicine.......New York City
Long Island College Hospital.......................Brooklyn

Ohio

Eclectic Medical College..........................Cincinnati

Oklahoma

State Univ. of Okla., School of Med....Norman-Oklahoma City

Pennsylvania

Temple University, Department of Medicine......Philadelphia

Tennessee

University of Tennessee, Medical Department.......Memphis

Texas

Baylor University College of Medicine................Dallas

2. *Giving a two-year course:*

West Virginia

West Virginia University College of Medicine....Morgantown

CLASS C.—COLLEGES REQUIRING A COMPLETE REORGANIZATION TO MAKE THEM ACCEPTABLE

California

California Eclectic Medical College..............Los Angeles
College of Physicians and Surgeons............San Francisco
College of Medical Evangelists.................Loma Linda

Georgia

Georgia College of Eclectic Medicine and Surgery.....Atlanta
Southern College of Medicine and Surgery[7]...........Atlanta

Illinois

Hering Medical College[8]...........................Chicago
Jenner Medical College.............................Chicago

Maryland

Maryland Medical College[9].......................Baltimore

Massachusetts

College of Physicians and Surgeons[10]................Boston

Missouri

American Medical College.......................St. Louis
Eclectic Medical University[11]...................Kansas City
Ensworth Medical College......................St. Joseph
Kansas City Hahnemann Medical College........Kansas City
St. Louis College of Physicians and Surgeons........St. Louis

Nebraska

Cotner University Medical College..................Lincoln

New York

Eclectic Med. Coll. of the City of New York[12]...New York City
New York Med. Coll. and Hosp. for Women....New York City

North Carolina

North Carolina Medical College. ....Charlotte

Ohio

Cleveland-Pulte Medical College..................Cleveland
Toledo Medical College............................Toledo

Oregon

Willamette University Medical Department...........Salem

South Carolina

Medical College of the State of South Carolina.....Charleston

Tennessee

Lincoln Memorial University, Medical Department...Knoxville

Texas

Fort Worth School of Medicine.................Fort Worth
Southern Methodist University Medical Department....Dallas

Wisconsin

Milwaukee Medical College[13].....................Milwaukee
Wisconsin College of Physicians and Surgeons[14]....Milwaukee

MEDICAL SCHOOLS FOR THE COLORED RACE

Class A

Howard University, School of Medicine....Washington, D. C.
Meharry Medical College..................Nashville, Tenn.

Class C

Leonard Medical School......................Raleigh, N. C.
University of West Tennessee, Medical Dept...Memphis, Tenn.

Book Notices

Infant-Feeding. By Clifford G. Grulee, A.M., M.D., Assistant Professor of Pediatrics at Rush Medical College. Cloth. Price, $3. Philadelphia: W. B. Saunders Company, 1912.

This is the first book in English to present the new Continental thought on infant-feeding. It places before students and the profession the most important points concerning the infant's nutrition and feeding in health and disease. Grulee has followed the European teachers, particularly Czerny and his students, and Finkelstein and his co-workers. His chapters on physiology of the gastro-intestinal tract, and absorption and metabolism, though brief, are to the point and contain the most important facts on the subjects. The chapter on breast-feeding and the nutritional disturbances of the breast-fed infant contains much valuable matter concisely stated. Grulee advocates four-hour intervals for young infants at the breast, and points out that there is no better prophylaxis for overfeeding and colic. In the matter of artificial feeding, he believes in the simple dilution of cow's milk, with the addition of carbohydrates, especially malt-sugar and the various starches. There are excellent directions for the use of albumin milk (*Eiweissmilch*) and its preparation.

The nutritional disturbances of artificially fed infants are classified according to the prevailing German views, namely, those of Czerny and Finkelstein. It is not necessary at this point to discuss the permanency of the classifications as presented to us by the German authorities. More extended research along chemical and bacteriologic and pathologic lines may fill in many gaps in our knowledge. For the present, the classification is clinically descriptive of a group of disorders which can be verified by bedside observation. There can be no doubt that the etiologic classification of Czerny permits us to differentiate definitely the injuries which are produced by starch and the nutritional disturbances produced by fat. Similarly we believe that the classification of Finkelstein is borne out by the clinic.

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[4] When the three classes now enrolled have been graduated this college is to be converted into a postgraduate medical school.

[5] This college has voted to close at the end of the present session.

[6] Offers only the last two, or clinical, years.

[7] Declared not in good standing by the Georgia State Board of Medical Examiners.

[8] Declared not in good standing by the Illinois State Board of Health.

[9] Reported not recognized by the Maryland State Board of Medical Examiners.

[10] This college is reported as not recognized by the Massachusetts Medical Society.

[11] Reported not in good standing by the Missouri State Board of Health.

[12] Not included in the list of fully registered colleges issued by the New York Education Department, October, 1912.

[13] This college is reported to be undergoing reorganization.

[14] The entire property of this school is said to have been given over to Marquette University to be developed as an organic department of that university.

The story of dyspepsia, decomposition and intoxication, as Grulee tells it, is not new; but the description of the symptoms, the etiology and the rational plan of treatment is so detailed and clear that every practitioner recognizes conditions with which he has been familiar for a long time, though adequate explanation was lacking. The description of this group of cases is adequately portrayed in Grulee's book. The exudative and spasmophilic diatheses are explained in terms of their symptomatology and the treatment is given in detail. The book is well written and deserves a wide circulation. Although the author does not mention all the methods of infant-feeding which are employed, nevertheless, we feel that he has made an important contribution, because he has made accessible to students and physicians the results of the valuable researches in nutrition and feeding of infants which have been carried on for the past decade in German clinics.

The Tuberculosis Clinics and Day Camps of the Department of Health. By John S. Billings, Jr., M.D. Paper. Pp. 123, with illustrations. New York City, Department of Health, Monograph Series, No. 2, 1912.

A Guide to Some of the Hygienic Features of New York City, Prepared for the Fifteenth International Congress on Hygiene and Demography. By Charles F. Bolduan, M.D., Assistant to the General Medical Officer. Paper. Pp. 66. New York City, Department of Health, Monograph Series, No. 6, 1912.

Typhoid Fever in New York, Together with a Discussion of the Methods Found Serviceable in Studying Its Occurrence. By Charles F. Bolduan, M.D., Assistant to the General Medical Officer. Paper. Pp. 52. New York City, Department of Health, Monograph Series, No. 3, 1912.

The Division of Child Hygiene of the Department of Health of the City of New York. By S. Josephine Baker, M.D., Director of Child Hygiene. Paper. Pp. 103. Monograph Series, No. 4, 1912.

New York has probably as efficient a health organization as any city in the United States. Its enterprise is illustrated in the valuable pamphlets issued, covering the work of the various divisions. The pamphlets named above, covering the subjects of child hygiene, typhoid fever, tuberculosis clinics and day camps and a description of the general hygienic features of the city, contain a mass of valuable information. Health departments everywhere may profit by the experience of the health organization in New York and the practical methods developed.

Diagnostic Methods: Chemical, Bacteriological and Microscopical. A Text-Book for Students and Practitioners. By Ralph W. Webster, M.D., Ph.D., Assistant Professor of Pharmacological Therapeutics, Rush Medical College. Second Edition. Cloth. Price, $4.50 net. Pp. 682, with 201 illustrations. Philadelphia: P. Blakiston's Son & Co., 1912.

Not much need be added to the two extended reviews of the first edition of this book (The Journal A. M. A., March 12, 1910, p. 905 and March 19, 1910, p. 1000). In the many new subjects the author has exhibited the same good judgment and judicious attitude, and has been equally clear in description and in the clinical application of methods and findings. Some matter in the former editions has been deleted, and much of the remaining text revised. The book is up to date and is a most satisfactory working exposition of laboratory diagnostic methods.

A Manual of Personal Hygiene. Proper Living on a Physiologic Basis. By American Authors. Edited by Walter L. Pyle, A.M., M.D., Ophthalmic Surgeon to Mount Sinai Hospital. Fifth Edition. Cloth. Price, $1.50 net. Pp. 516, with illustrations. Philadelphia: W. B. Saunders, 1912.

To the fifth edition of this bock has been added a chapter on food adulteration. Simple tests are given for the detection of such adulteration. The remainder of the text has been revised, and the book is in consequence still better adapted than former editions for the instruction of the intelligent layman in the essentials of hygiene and right living.

Medicolegal

Constitutionality of Board of Health Law

(State vs. Snyder (La.), 59 So. R. 44)

The Supreme Court of Louisiana holds constitutional Act No. 98 of 1906, creating a State Board of Health, requiring it to prepare and promulgate a sanitary code, and making it a penal offense to violate any of the regulations thus to be made by the said board. The court says that the board prepared and promulgated a sanitary code, one of the provisions of which was that "The use of saccharin in any food product is prohibited." The defendant, who was prosecuted, convicted and sentenced for a violation of that provision, challenged its constitutionality on the ground that the legislature could not validly delegate to the State Board of Health the power to declare and provide what conduct should constitute a crime; that the power by which conduct otherwise innocent is made criminal is legislative, and that legislative power for state purposes can be validly exercised only by the legislature itself, and cannot be constitutionally delegated to some subordinate functionary.

The contention would be well founded if it were not for article 296 of the state constitution, reading: "The general assembly shall create for the state, and for each parish and municipality therein, boards of health, and shall define their duties, and prescribe the powers thereof." Here the legislature is authorized to "prescribe the powers" of the board of health. This can only mean to delegate to the board of health such powers as may be deemed to be necessary for efficiently carrying out the purposes for which a board of health is created, and the power most obviously necessary in such a case is that which creates health regulations that shall have the force of laws. And nothing more than this was done in this instance.

Moreover, the sanitary code was properly and sufficiently promulgated when it was done in the manner prescribed by the statute, by being printed in pamphlet form and widely distributed. These regulations of the board of health not being "laws passed by the general assembly," it was not necessary that they be promulgated by publication in the official journal, like statutes. Nor was there a violation of the constitutional provision that "The general assembly shall never adopt any system or code of laws by general reference to such system or code of laws; but in all cases shall recite at length the several provisions of the laws it may enact." That has no application to a case like this, where the legislature has not adopted a system or code of laws, but has made it a penal offense to violate whatever rules necessary for the conservation of the public health the board of health may make; that article is not aimed at anything of this kind.

Judgment of lower court affirmed.

Liability to Cancer May Be Considered as Result of Injuries

(Alley vs. Charlotte Pipe and Foundry Co. (N. C.), 74 S. E. R. 885)

The Supreme Court of North Carolina holds that, in an action for damages for injuries sustained by an employee in having a stream of molten iron strike his foot, set his trousers afire, and seriously burn him, it was not error to permit a physician to state that the character of the plaintiff's wound was such that a sarcoma, or eating cancer, was liable to ensue. The court says that it recognizes the general rule that an expert physician testifying to the consequences of a personal injury should be confined to probable consequences, but in this instance the court does not think the physician indulged in pure speculation. The word "liable" was used by him in the sense of probable, and was doubtless so understood by the jury. The court thinks the evidence competent, also, as tending to prove acute mental suffering accompanying a physical injury. The liability to cancer must necessarily have a most depressing effect on the injured person. Like the sword of Damocles, he knows not when it will fall. The jury thought the plaintiff entitled to $6,000 damages.

Society Proceedings

SOUTHERN SURGICAL AND GYNECOLOGICAL ASSOCIATION

Twenty-Fifth Annual Meeting, held at Old Point Comfort, Va., Dec. 17-19, 1912

(Concluded from page 152)

Suppurative Pylephlebitis

Dr. Charles R. Robins, Richmond, Va.: In this case I used Van Cott's vaccines. In all, twenty-eight doses were given. These vaccines caused improvement for a time, but finally the patient's abdomen was opened in two places and it was found that the fluid had become purulent. The patient gradually declined and died after an illness of 150 days. Since this malady is usually rapidly fatal, and no plan of treatment has yet effected a cure, treatment along this line probably offers the only hope, and the apparent success of these vaccines at one time in this case was encouraging.

The Embryogenetic Relationships of Tumors of the Kidney, Adrenal and Testicle

Dr. Louis B. Wilson, Rochester, Minn.: Renal Tumors: Of ninety-two tumors studied, there were three pelvic papillomas, four carcinomas, one squamous-celled epithelioma, one adenoma, one fibroma, seven sarcomas, one wolffian tumor, three embryomas (Wilms' tumors) and seventy-one mesotheliomas. The renal pelvic papillomas and carcinomas apparently arise secondarily to chronic irritative processes of the adult pelvic epithelium. The rare squamous-celled epithelioma probably is a neoplastic development from the embryonic inclusion within the renal pelvis of ectoderm which has found its way into the lower end of the primitive excretory duct by way of the cloaca. The embryomas of the renal cortex composed of renal and other tissues and occurring in young children are, according to Wilms, derived from inclusions of the lateral embryonic plate within the caudal portion of the nephrogenic cord in the early embryo. The most numerous tumors of the renal cortex, the so-called hypernephromas or grawitzian tumors, are apparently mesotheliomas derived from nephrogenic vesicles which have failed in the early embryo to form a tubular connection with the renal pelvis. Most of the few true sarcomas of the kidney develop primarily in adult tissue of the renal capsule and involve the cortex secondarily. The renal cortex is also frequently the site of inclusions from the mesonephros and rarely of inclusions from the adrenal gland. Rarely, if ever, do either of these inclusions in the renal cortex form malignant tumors.

Adrenal Tumors: Of three primary tumors of the adrenal studied, one was an adenoma and the other two hypernephromas of the adrenal cortex. Primary malignant tumors of the adrenal are either round-celled sarcomas or more frequently hypernephromas arising from the adrenal cortex. Adrenal hypernephromas frequently induce abnormalities of sex and strength. Tumors of the adrenal, in whatever stage of their development, bear no histologic resemblance to most mesotheliomas (so-called renal hypernephromas).

Testicular Tumors: Of twenty-one tumors of the testicle, all of the ten which it was possible to study in histologic detail were teratomas. So far as can be determined, the history and histology of these nineteen cases are in harmony with Ewing's hypothesis that teratomas of the testicle arise from sex cells whose normal development has been suppressed. The difference in time of development of the embryonic crop of genitaloid cells and the next generation which appears at puberty may account for variations in structure and tempo of the testicular teratomas.

Fat Hernia

Dr. Joseph Ransohoff, Cincinnati: According to my conception, certain characteristics accompany the primary fat hernia. 1. A true fat hernia is a protrusion of a preperitoneal fat mass or lipoma through one of the ordinary hernial apertures. It follows the course pursued by an ordinary hernia. 2. When a peritoneal process is found within such a hernia, it is always difficult to find, because of its small lumen. Such a process, when present, in a minority of cases, is secondary to the fat hernia and probably results from traction. The ordinary contents of a hernia are not found and can hardly enter into the narrow serous tube within the fat mass. 3. The onset of a fat hernia may be sudden, like that of the ordinary type of hernia with preformed sac. In three cases recorded the history of sudden onset was very clear and the proportion of cases too large to be charged to inaccuracy of observation on the part of the patient. 4. The diagnosis of fat hernia is far from easy. Although not reducible, they are capable of a seeming reduction in a fair proportion of cases. 5. An impulse on coughing can usually be obtained, since the hernia can receive the brunt of the increase of intra-abdominal pressure like an ordinary reducible hernia. 6. In very rare instances symptoms of strangulation may result from torsion of the fat hernia. 7. The treatment of fat hernia differs in no way from that of the ordinary type. It is probable that these cases will not be recognized as fat hernias until the operation; therefore measures for radical cure will be instituted such as those in vogue for the ordinary forms of hernia.

Head Injuries

Dr. Ap Morgan Vance, Louisville: Case 1.—The patient, twelve years before operation, was struck on the head with a shovel; epilepsy followed. Operation, twelve years later at site of injury, consisted of the removal of a good-sized button, resulting in complete recovery. There were no further epileptic seizures. The patient died of pneumonia ten years later.

Case 2.—The patient, aged 45, became paralyzed two days before operation, and gradually lapsed into complete coma and developed paralysis, beginning on the left side and extending to the whole body, including the face. Sensation on the left side was entirely absent, and greatly diminished on the right. Bowels and bladder were paralyzed; eye reflexes absent. When the scalp had been shaved, the head showed a curious condition. The whole scalp was edematous and the right half presented the appearance of an angioma, the veins were so greatly dilated. A piece of bone the size of a 10-cent piece was removed, and the opening then enlarged to the size of a half dollar. The dura was incised, the brain explored with suction needle, and half an ounce of fluid obtained. The wound was closed without drainage. Complete recovery ensued. This condition closely resembled what is designated by two or three authors as "wet brain." I believe it was really a case of obstruction of the venous return at the base, and that the decompression operation caused the brain to resume its work.

Case 3.—Boy, aged 10; head injury in street-car accident. Scalp torn from both sides of the skull. Loss of the parietal bone. Scalp cleaned, parts adjusted and separate dressings applied. Twelve days later with the patient in good condition, another physician was called to soak the dressing off, which I had declined to do. The uncovered meninges became infected and the boy died three days later.

Case 4.—Injury of the skull in the right parietal region, patient being struck on the head by a baseball. Decompression operation nine weeks later, with removal of a good-sized button. Complete recovery with no recollection on the part of the patient of the accident.

Case 5.—Boy, aged 10, sustained extensive compound, comminuted fracture of the skull. The mastoid region and the area back of and above the ear were crushed. Operation consisted of removal of several pieces of bone, the scalp being sutured without drainage. Complete recovery.

Case 6.—Epilepsy, with loss of speech and power of locomotion following an injury to the head. Examination revealed depression over the left brow and temporal region. Operation consisted of removal of a large piece of bone with subsequent drainage, followed by complete recovery.

Case 7.—Pistol wound at the junction of the frontal with the parietal bone, large enough to admit one's thumb. Operation consisted of removal of fracture with some brain matter as well as fragments of bullet, followed by complete recovery.

Case 8.—Pistol wound through the roof of mouth, a little anterior to the junction of the soft with the hard palates, the bullet going entirely through the brain. No operative measures were carried out at this time. Mouth was sprayed with antiseptic fluids and liquid nourishment given. At the end of six weeks the bullet was removed together with several pieces of the skull. This was followed by complete recovery.

Surgery of the Single and Horseshoe Kidney

Dr. Charles H. Mayo, Rochester, Minn.: Among thirty-six cases of gross renal and ureteral anomalies observed in our clinic during five years, seven were found incidentally to other abdominal operations, twelve were of the horseshoe type and six of the single or asymmetric type. Of 649 operations on the kidneys and ureters during this period of five years, there was an average of one serious anomaly associated with the disease in every twenty-six cases. In the horseshoe form 90 per cent. are fused at the lower pole. At the point of union there may be only connective tissue (in 15 per cent. of the cases). Usually the fusion consists of renal tissue and varies from a small area to the full width and thickness of the kidney. Ninety per cent. of cases are fused in front of the great vessels. The most common disease affecting horseshoe kidney is hydronephrosis, which may later develop into pyonephrosis. This hydronephrosis occurs in moderately young individuals, while pyonephrosis and lithiasis are usually seen in middle age or later. Tuberculosis is rarely seen. More horseshoe kidneys are found in women than in men, and more single kidneys in men than in women. When the kidneys are fused by heavy renal tissue, symptoms may undoubtedly be present. Despite the diagnostic data which have been given, as a rule the condition will not be recognized before operation. Braasch indicates, in addition to the cystoscope and skiagram, the great assistance of pyelography with colloidal silver injections. The lesson to be learned, when we do not have absolute data as to the condition of both kidneys, is always to explore the other kidney, usually through a separate incision, before the removal of a tumor of the kidney or the removal of a diseased kidney. In abdominal surgery, when the type of the presenting tumor is questionable, the kidneys should be palpated before removal of the tumor. In some instances transperitoneal incision is indicated. The lateral incision described by W. J. Mayo will suffice in most cases. At operation the possibility of horseshoe kidney must be kept in mind, especially whenever difficulty is experienced in delivering the lower pole. This occurred in my last case, in which pyonephrosis of half of the horseshoe kidney was present. The renal tissue, nearly the size of the normal kidney, passed in front of the large vessels. After examination of the blood-supply, the fused portion was divided and sutured with catgut.

Pseudoperitoneal Cauls of the Colon

Dr. John Wesley Long, Greensboro, N. C.: We often use inexact terms in speaking of the membranous formations found about the colon. The term "pseudoperitoneal caul" is descriptive and withal correct. "Caul" means a thin serous membrane, and is especially applied to peritoneal membranes as the layers forming the great omentum. The membranes in question are evidently of peritoneal origin and by the testimony of the majority of writers they are a new formation, therefore pseudo; hence the term, "pseudoperitoneal caul of the colon." There are four chronic conditions found in the right iliac fossa, namely, chronic appendicitis, Lane's kink, Jackson's membrane and cecum mobile, all of which have much in common as to etiology, pathology and symptom-complex, and are difficult to differentiate clinically. I believe the pseudoperitoneal cauls of the colon to be largely of infectious origin, though I do not deny the influence of developmental errors, splanchnoptosis and intestinal stasis.

Pancreatic Cysts

Dr. Lomax Gwathmey, Norfolk, Va., reported a case of cysts of the pancreas and said: The fluid content from the large cyst showed considerable detritus, few degenerated epithelial cells and leukocytes, and no cholesterin crystals. The small cysts showed a few degenerated epithelial cells. Attempts to cultivate the organism from the cyst contents were futile. These cysts present one or two interesting features. The fluid in the large cyst was entirely different from that in the smaller cysts, the difference being due to a hemorrhage or hemorrhages that took place in the large cyst. The smaller cysts were lined by epithelium, while in the large cyst not a vestige of epithelium could be found. The large cyst was evidently lined by epithelium, but this epithelium must have suffered autodigestion. The cyst was at one time uniformly colloid. A hemorrhage or hemorrhages took place in the large cyst, which caused the difference in the cyst contents and which produced some trauma to the epithelium of the cyst wall, thereby allowing the ferments in the cyst contents to digest the epithelial lining.

So lax was the abdominal wall after the removal of the tumor that the appendix was removed without difficulty through the same incision. It contained an extremely large appendolith in the tip and was actively inflamed. Old and fresh adhesions in the pelvis were broken up, adherent coils of small intestine removed from the culdesac, and the sigmoid properly placed in the pelvis. The kidneys, liver, gall-bladder and ducts, the pancreatic head and other abdominal organs were found normal. The wound was closed without drainage. The convalescence was smooth and uneventful, and the patient left the hospital in nineteen days to go to her home in Chicago. A recent letter, six months since her operation, reports her in excellent health, much better than she had ever before experienced.

DISCUSSION

Dr. Randolph Winslow, Baltimore: Did you remove several gallons or quarts of fluid?

Dr. Gwathmey: About six or eight quarts.

Dr. Rufus B. Hall, Cincinnati: Several years ago I reported to this association an operation for pancreatic cyst. In that case the cyst evidently arose from trauma. The man was lifting and injured himself. He came to operation five or six months after injury with an enormous tumor in his abdomen, which held more than two and a half gallons of fluid. I simply drained the cyst and stitched it to the abdominal wall. The man died from inanition the seventeenth day after the operation.

Dr. Joseph Ransohoff, Cincinnati, reported five cases of pancreatic cyst in which he had operated.

WESTERN SURGICAL ASSOCIATION

Twenty-Second Annual Meeting, held at Cincinnati, Dec. 20-21, 1912

(Continued from page 150)

Gunshot Wounds of the Abdomen

Dr. Maurice Kahn, Leadville, Colo.: Of forty-one cases of gunshot wounds seen in civil practice, thirteen (31 per cent.) were of the head, eight (19 per cent.) of the chest, and thirteen (31 per cent.) of the abdomen. I maintain that the soft tissues of the abdomen are incapable of deflecting a bullet, so that a bullet must traverse that cavity in the straight line of its projection. On account of the danger of hemorrhage, and the rapid absorption in the upper abdomen, I also combat the universal belief that wounds of the lower abdomen are attended with a higher mortality-rate than are those of the upper abdomen. Despite the fact that army statistics show that conservative treatment is the more successful in war, and that it is possible for a bullet to traverse the abdominal cavity without visceral perforation, nevertheless in every case of penetration of the abdomen by a bullet, multiple perforations of the viscera are to be assumed and prompt surgical exploration is demanded. The symptoms usually mentioned are not those of perforation, but are signs of hemorrhage or peritonitis. Needlessly long incisions, evisceration, rough handling of the intestine and long exposure are to be condemned; much time, however, may be wasted by attempting a thorough search through an insufficient opening; therefore I always make an opening large enough to permit rapid work regardless of its length. Also, in the presence of an abdomen full of blood, I turn out intestines abundantly to expedite finding the source of the hemorrhage, which, if profuse, arises from the solid viscera, mesentery, omentum or large vessels, as wounds of the hollow viscera bleed but slightly. Trimming the bruised edges of intestinal wounds is unnecessary, as the edges can be safely infolded, and requires time, which may be of great import. On account of the tonically contracted bowel, care should be exercised that the bite of the suture is no deeper than is intended. Thorough exploration for distant perforations is urged, as many patients have been lost by the surgeon's neglecting to repair all wounds. The general principles governing drainage in abdominal conditions will determine one's procedure in a given case. When in doubt it is safer to drain. In thirteen cases, seven operations were performed. Excluding one, which involved the thorax and abdomen, and which terminated fatally as the result of secondary pulmonary hemorrhage, there remain six abdominal cases with intestinal perforations in which operation was performed within eight hours of the accident; five patients recovered and one died, a mortality of 17 per cent.

Dr. W. W. Grant, Denver: If we know the points of entrance and exit of the bullet we can tell with some degree of accuracy the course it has pursued; but often there is no exit; the bullet is lodged in the body; under these circumstances and conditions we can locate the bullet by means of skiagraphy, and knowing its entrance, even if we do not know its exit, we will know pretty well what course it has pursued, and this can often be done within an hour or two. It is a fact that after about four hours the mortality from these wounds without operation steadily increases. Therefore operation in every case of wound from a bullet should be undertaken. If there has been no wound of the intestine or stomach, the patient will not die from an exploratory operation. The first consideration is hemorrhage and not extravasation, because it is the hemorrhage that produces shock; it is the hemorrhage that produces immediate death, and not peritonitis, so that the first consideration is to stop the hemorrhage.

Transplantation of Tissues

Dr. L. L. McArthur, Chicago: Given the appropriate conditions, any tissue may be transplanted, the difficulties increasing with the vascularity rather than the complexity of the structure; those structures requiring the least circulation prove the more successfully grafted. Fat is a tissue made up of a delicate living reticulum, stored with an enormously disproportionate amount of fatty globules. For its existence and maintenance it requires little else than plasma and asepsis under body conditions. Hence it can be transplanted free and in almost any bulk, provided that these conditions are maintained. For this reason we may now look to see the cavities in bones filled by pads of living fatty tissue taken elsewhere from the patient instead of with Mosetig-Moorhof's plug or Beck's paste. The cosmetic filling out of the deformity left after a partial resection of the lower jaw, has given me most gratifying results. Encouraged by the successful transplantation of this tissue, till recently considered so liable to slough, I have stolen elsewhere from the patient an envelope of fatty fascia to protect the musculospiral nerve just released from the callus of a humeral fracture, or a nerve-trunk just sutured after resection for neurofibroma. Again, the hygroma that develops after Murphy's interposition of fatty fascia in a joint need no longer be obtained from a pedunculated flap taken from the immediate neighborhood of the joint, often at the sacrifice of structures essential to a good result and adding a complication to the operation, but may be secured elsewhere. For the ankylotic hip or knee the operation can thus be much simplified.

An Experimental Study of the Therapy of Shock

Dr. M. G. Seelig, Dr. J. Tierney and Dr. F. Rodenbaugh, St. Louis: Henderson's theory of shock is that this symptom-complex is due to a lack of carbon dioxid in the circulating blood. We therefore attempted by direct methods to increase the carbon dioxid content of the blood. For this purpose we introduced intravenously into shocked dogs varying quantities of a molecular (8.4 per cent.) solution of sodium bicarbonate. Sodium bicarbonate is dissociated into sodium carbonate and carbon dioxid by three elements in the blood, namely, serum albumin, hemoglobin and acid sodium phosphate. The quantity of the solution used varied from 5 to 200 c.c., and the condition of the dogs varied from normal to a state of profound shock. An analysis of the results obtained in a large series of experiments on dogs showed that sodium bicarbonate was a powerful blood-pressure-raising salt, the rise in blood-pressure persisting over a fairly long period of time. Likewise, this salt markedly increases amplitude of the heart-beat, though it has no appreciably constant effect on the rate of the heart-beat. The depth of respiration was always increased by the infusions, though the rate of respiration varied within wide limits.

After it had been definitely determined that the above-noted effects were constant, it was attempted to determine by what mechanism the rise of pressure was occasioned. To this end the bulk of fluid injected, the alkalinity of the sodium bicarbonate, the hypertonicity of the solution, and the free carbon dioxid resultant from the injection were studied separately. We conclude that bulk and hypertonicity play a minor rôle in raising the blood-pressure; that alkalinity plays a more important part, but that it seems most probable that some additional undiscovered factor is responsible for the pronounced rise. Whatever this factor is, it seems to act directly on the heart, even when this organ is isolated from its central nervous system relationships. We are not able to attribute any of the pressor effect of the infusions to the increased carbon dioxid content of the blood.

(To be continued)

Current Medical Literature

AMERICAN

Titles marked with an asterisk (*) are abstracted below.

Albany (N. Y.) Medical Annals

December, XXXIII, No. 12, pp. 697-746

1 The Child and Fresh Air. H. L. K. Shaw, Albany, N. Y.

American Journal of Diseases of Children, Chicago

January, V, No. 1, pp. 1-88

2 Coagulation Time of Blood in Infants and Children. H. C. Carpenter and J. C. Gittings, Philadelphia.
3 Early Case of Chondrodystrophy with Radiogram and Necropsy. L. E. La Fétra, New York.
4 Methods of Estimating Kidney Function. R. M. Smith, Boston.
5 *Vaccine Therapy of Whooping-Cough. A. Bamberger, Chicago.
6 *Fat and Nitrogen Metabolism in Case of Congenital Absence of Bile-Ducts with Study of Ferments of Pancreatic Secretion and Feces. H. Koplik and B. B. Crohn, New York.
7 Acute Lymphatic Leukemia in Four-Year-Old Boy. A. Strauch, Chicago.
8 Cause of Persistence of Gonorrheal Vulvovaginitis in Children. I. C. Rubin and J. S. Leopold, New York.
9 Wassermann Reaction in Connection with Hereditary Syphilis. L. R. DeBuys, New Orleans.

5. **Vaccine Therapy of Whooping Cough.**—The vaccine Bamberger used was prepared from deep swabbings of the throat of children having pertussis, each cubic centimeter containing 20,000,000 dead organisms. The cultures are plated and replated until a pure culture is obtained; the vaccine is then made from several strains of the bacilli, so that it is polyvalent in character. All of Bamberger's six cases were clinic patients of the poorer class of society, who are less apt to react to this treatment than children of the better class. He used a dosage of 20,000,000 bacteria every other day; no case receiving less than five injections, and none more than fifteen. A daily record of the temperature, pulse and number of paroxysms was kept in all cases, so that he obtained a fairly accurate idea of the effect of the vaccine. The vaccine was injected hypodermically in the gluteal region, the part first washed with soap and water, and then with alcohol. There were no constitutional effects such as fever, rashes, rheumatoid pains, vomiting or malaise during the treatment, and a local reaction, as a few small blisters at the site of injection, occurred just once in one case. The children ranged in age from 1 to 4 years. The treatment seemed rather to lessen the severity of the disease and shorten complications, than to shorten the duration markedly, although only two of the cases lasted as long as six weeks. The sooner the treatment is begun, the better the results.

6. **Fat and Nitrogen Metabolism in Congenital Absence of Bile-Ducts.**—The nitrogen metabolism in this case of congenital absence of the bile-ducts was normal, but fat metabolism was greatly disturbed, characterized by poor absorption and deficient splitting of neutral fats. The pancreatic ducts were

patent and the pancreatic secretion was of normal strength. The lipolytic ferment of the pancreas, while present, performed its`function weakly on account of the absence of the bile salts, which normally accelerate its enzymatic activity.

American Journal of Medical Sciences, Philadelphia

January, CXLV, No. 1, pp. 1-156

10 Theory and Treatment of Diabetes. C. von Noorden, Vienna, Austria.
11 Extracardiac Causes of Failure of Compensation in Valvular Diseases of Heart. A. Stengel, Philadelphia.
12 Kinetic Theory of Exophthalmic Goiter. G. W. Crile, Cleveland.
13 *Commoner Forms of Renal Disease, with Special Reference to Knowledge of Them Most Useful at Present to General Practitioner. L. F. Barker, Baltimore.
14 Influence of Exercise on Heart. R. T. McKenzie, Philadelphia.
15 Case of Mediastinopericarditis Treated by Cardiolysis (Brauer). A. D. Dunn and J. E. Summers, Omaha, Neb.
16 Relation of Parasitic Amebae to Disease. C. F. Craig, Washington, D. C.
17 Breast Tumors, with Special Reference to Carcinoma. A. Primrose, Toronto.
18 Relief of Gastric Crises in Tabes Dorsalis by Rhizotomy. C. H. Frazier, Philadelphia.
19 Case of Alkaptonuria. H. Baldwin, New York.

13. **Commoner Forms of Renal Disease.**—Leaving out pyelitis, on the one hand, and chronic passive congestion (stasis) of the kidneys, on the other, the forms of renal disease commonly met with by the general practitioner are subdivided by Barker into three great groups. 1. Cases of acute renal disease (or nephropathy), with or without dropsy. 2. Cases of subacute or chronic renal disease (or nephropathy), with true "renal" edema occurring in their course. 3. Cases of chronic renal disease (or nephropathy), without "renal" edema, lasting perhaps for years. The first group of cases are often designated as "acute Bright's disease," a scoop-net which includes a large variety of renal diseases histologically and etiologically very different from one another (for instance, embolic purulent nephritis, ascending purulent nephritis, acute glomerulonephritis, acute tubular degenerations, etc.). The second group includes the cases often described as "subacute Bright's disease" or as "chronic parenchymatous nephritis" (large white and large variegated kidney). The third group includes the contracted kidneys, not only the so-called "genuine" or "primarily contracted kidney" but also the so-called "secondary contracted kidney."

From the etiologic side he divides the renal diseases or nephropathies into two great groups: (1) Those due to injuries reaching the kidneys through the blood, the so-called hematogenous or descending nephropathies, and (2) those due to injuries reaching the kidneys through the urine, the so-called urinogenous or ascending nephropathies. The hematogenous nephropathies are, in turn, divided into (a) those which are diffuse and (b) those which are focal. The former are due to soluble toxic substances circulating in the blood, the latter to organized particulate substances, namely bacteria. The diffuse hematogenous nephropathies, due to soluble toxic substances, are further analyzable on the etiologic side, and here it is interesting that the different soluble toxins seem to a certain extent, selective, regarding the particular structures of which the kidney is made up. Thus one set of toxins picks out the epithelial cells of the tubules, another has a selective effect on the glomeruli, and a third group, apparently, on the small arterioles of the organs, especially on the vasa efferentia. Tubular degenerative nephropathy may be due to a whole series of soluble poisons, including corrosive sublimate, phosphorus, potassium bichromate, the poisons produced in the uterus of the pregnant woman, the toxins of cholera, yellow fever and of other acute infections and hemoglobin.

In the following table Barker has tentatively classified the commoner forms of nephropathy, according to their pathology and etiology:

I. Renal Diseases Due to Injuries Reaching the Kidneys Through the Blood (Hematogenous or Descending Nephropathies).
  A. Diffuse hematogenous nephropathies due to soluble toxic substances.
    (a) Tubular degenerative nepropathies (e. g., sublimate kidney; phosphorus kidney; bichromate kidney; pregnancy kidney; hemoglobinuric kidney; kidney of cholera, yellow fever and other acute infections).
    (b) Glomerulonephritis (acute, subacute, chronic), due most often to streptococcus toxins.
      (1) Catarrhal form with desquamation and proliferation of capsular epithelium.
      (2) Intracapillary or thrombosing form of glomerulitis.
    (c) Arteriolar nephropathy (chronic), probably due to action of toxic substances on organ arterioles, causing atherosclerosis of vasa afferentia.
  B. Focal hematogenous nephropathies due to bacteriemias.
    (a) Embolic (purulent) nephritis from streptococcus and staphylococcus.
    (b) Embolic hemorrhage (non-purulent) glomerulonephritis (large red or variegated kidney due to streptococcus viridans).
    (c) Acute interstitial nephritis with lymphocytic exudate after scarlet fever.
    (d) Excretory bacterial nephritis (nephritis papillaris mycotica of Orth) (casts of cocci).
II. Renal Diseases Due to Injuries Reaching the Kidneys Through the Urine (Urinogenous or Ascending Nephropathies).
    (a) Hydronephrotic nephropathy (due to obstruction in urinary passages) depending on renal calculus, ureteral obstruction, prostatic hypertrophy, stricture of urethra, etc., may be unilateral or bilateral.
    (b) Pyelonephritis.
      (1) Pyogenic.
      (2) Tuberculous.

The pathogenesis of each of these varieties of renal disease, its symptoms, pathology, diagnosis and therapy are fully discussed by Barker but space forbids a longer abstract. Only one statement will be quoted, namely: Every individual who suffers from sore throat, tonsillitis, or a "bad cold" with fever, should be put to bed, and be kept warm there, until the infection is overcome. Not only would much renal disease be thus avoided, but also many serious diseases of the heart and of the joints. If infections of the tonsils keep recurring, the risk to the kidneys, endocardium and joints is very great; in many cases, it may be wise completely to excise the infected tonsils. Other foci of chronic infection should be watched for, and, if found, removed.

American Journal of Public Health, New York

December, II, No. 12, pp. 909-1012

20 Need for More Accurate Data in Refuse Disposal Work. R. Hering, New York.
21 Refuse Materials. S. A. Greeley, Winnetka, Ill.
22 House Treatment of Refuse. P. M. Hall, Minneapolis.
23 Collection of Municipal Refuse. J. H. Gregory, New York.
24 Systems of Collection and Disposal of Garbage in City of New Orleans. G. S. Smith, New Orleans.
25 Disposal of Municipal Waste by Burial Method. A. M. Compton, Davenport, Iowa.
26 Garbage Piggeries. A. W. Brown, Grand Rapids, Mich.
27 Disposal of Garbage by Reduction Method. I. S. Osborn, Columbus, Ohio.
28 Incineration of Refuse. J. T. Fetherston, New York.

Boston Medical and Surgical Journal

December 26, CLXVII, No. 26, pp. 903-942

29 *Problem of Drunkenness. I. H. Neff, Foxborough, Mass.
30 *Tuberculous Mesenteric Lymph-Nodes Simulating Appendicitis. D. W. Parker, Manchester, N. H.
31 *Idem. F. B. Lund, Boston.
32 Physiology at Harvard Medical School, 1870-1871. W. T. Lusk, Boston.
33 Chronic Alveolar Osteomyelitis (Pyorrhea Alveolaris); Its Causes and Treatment with Vaccines. L. S. Medalia, Boston.
34 Treatment of Pulmonary Tuberculosis by Artificial Pneumothorax, According to Method of Forlanini. G. M. Balboni, Boston.

January 2, CLXVIII, No. 1, pp. 1-36

35 Orthopedic Principles for Use in General Practice. J. W. Sever, Boston.
36 *Six Years' Treatment of Pulmonary Tuberculosis by Class Method. N. K. Wood, Boston.
37 Ptosis in Gynecology. R. M. Green, Boston.
38 Marine Hospital at Berck-Sur-Mer, Principally for Crippled Children. Largest Institution of Its Type in World. D. C. McMurtrie, New York.

29. **Drunkenness.**—In this paper Neff presents as briefly as possible the modern views of inebriety and suggests a workable plan for taking care of these perplexing cases which are so frequently seen in all walks of life. He believes that all inebriates should be removed, at least temporarily, from their customary environment and that non-institutional treatment should supplement institutional care and should be considered as a part of the out-patient medical service of an institution designed for the care of inebriates. It is also his belief that the ultimate solution of the problem of drunkenness is intimately associated with the study of the personality of the inebriate. An institution designed for such a study, scientifically and humanely conducted, should be considered as an educational center offering opportunities for the study of drunkenness from all view-points.

Any method inaugurated for the care and treatment of confirmed drunkenness, to be practical and wide-reaching, Neff says, must recognize certain fundamental starting points, which can be enumerated as follows:

1. A comparatively small percentage of users of alcohol are confirmed drunkards or inebriates.

2. The appropriate care of the alcoholic implies both curative treatment and custodial care; the curative treatment being directed to the case which is likely to be benefited; the custodial, for economic reasons, should be directed to the recidivist, constantly appearing in the courts. Such a differentiation must eventually be made and appropriate segregation of these two types established. The result of his experience Neff expresses as follows: Inebriety is an expression of nervous weakness; founded on this weakness is a habit, which we call drunkenness. The antecedent weakness is either acquired or in the nature of an inborn defect. The nature of this nervous weakness is as yet not accurately defined; it appears to be closely allied to degeneracy and related to the minor functional nervous diseases. The inebriate is, as it were, a sum total of his personality and the symptoms attributable to alcoholism. Inebriety should be considered a disease in the sense above described. The acceptance of this theory implies responsibility on the part of the inebriate, although it admits of extenuating circumstances. There is no known drug which can permanently eradicate the desire for drink. The inebriate is a personal equation, each case a personal problem requiring for its solution individual consideration and treatment. The most obvious needs for the proper constructive treatment of the inebriate are: Sufficient land for agricultural development. Sufficient accommodations for industrial training and workshops. An opportunity for segregation of the diverse types. An opportunity for the treatment of both sexes.

Neff believes that his plan, allowing for the colonization of non-criminal cases of drunkenness, and proper segregation of the types, will facilitate the study of contrasts in cases, and by furnishing opportunity for scientific study, will contribute to medicine and society new and important knowledge for the better study of the problems of drunkenness.

30. **Tuberculous Mesenteric Lymph-Nodes Simulating Appendicitis.**—One of the cases cited by Parker was a case of isolated tuberculosis of mesenteric glands beginning with the symptoms of an acute recurrent appendicitis and progressing along the lines of an intestinal obstruction, although the latter did not appear in the symptoms during the early stages. The disease had caused by direct contact irritation and adhesion to a contiguous loop of bowel with resultant obstruction. In another instance the disease manifested itself in a different phase, that of a slowly developing, moderately severe appendicitis with nothing in the history or symptoms pointing to the true condition. Out of thirty-nine cases reported in the literature, in a very large percentage a diagnosis of acute or chronic appendicitis or ileus was made, and the true condition recognized only after the abdomen had been opened. Because of the rarity of its appearance, the almost absolute lack of all indications of tuberculosis in other parts of the body, especially of the intestines, its peculiar character even in the cases in which a mass is to be plainly felt, a diagnosis can be arrived at only in a conjectural way. Laparotomy is indicated always and the condition found can be dealt with as indicated.

31. **Idem.**—Lund has seen about one dozen cases of tuberculosis of the mesenteric glands with or without a chronic appendicitis. They have all been in children. In only two of these cases have the glands broken down so as to form an abscess. He has been inclined to remove as many of the glands as he could conveniently, being, of course, careful to shell them out without injuring the larger vessels of the mesentery, usually not a difficult procedure and not infrequently an opening is made clear through the mesentery which is easily closed by sutures. Some of the smaller glands lying up near the vena cava and aorta it has not been his practice to remove, only those which are undoubtedly tuberculous. Only in two abscess cases has drainage been necessary. In none of them has there been intestinal obstruction. The patients have all recovered and have been free from symptoms since.

36. **Pulmonary Tuberculosis Treated by Class Method.**—Wood's present paper is based on data taken from the six years' continuous work as the physician-in-charge of the tuberculosis class under the auspices of the Arlington Street Church, Boston. Between the dates May 1, 1906, and May 1, 1912, 113 patients applied for admission to the class; of these, 103 were admitted as members. These 103 patients have been under observation for periods ranging from one month to five and one-half years. Wood has direct personal knowledge of 99 of these 103 cases. Of the 99, 24 are known to be dead, 75 are living. Only 10 per cent. of the patients, who have been chosen for the class, could be considered incipient at entrance. Ninety per cent. were well marked—38 per cent. moderately, and 52 per cent. far advanced. Of the incipient cases, all but one have been arrested or apparently cured. Of the 39 moderately advanced, 28 per cent. have been apparently cured, 30 per cent. arrested, 28 per cent. improved, and 12 per cent. have been progressive or have died. Of the 54 far advanced, 3½ per cent. have been apparently cured, 13 per cent. arrested, 39 per cent. improved, and 44½ per cent. progressive, or have died.

The scope of the class work, Wood says, though small, is larger than appears at first sight, because its influence extends beyond the individual patient and includes his entire family. It is not too special to be practical, since one case in six of an ordinary clinic is suitable for this treatment; and 90 per cent. of the cases treated were advanced. The expense in money is comparatively small; $65 per patient, or $5.95 per patient per month. The expense of energy, though considerable, is not out of proportion to the results obtained. (a) The results show that 72½ per cent. of the patients are living at the end of six years. (b) That this furnishes a means by which patients can be kept under observation for long periods, one to five years. (c) That it cultivates in the patients a spirit of great faithfulness toward the treatment after discharge from the class, which is evidenced by their continuance of out-door sleeping and their marked after-improvement. (d) That a large proportion, 57 per cent. of the cases have returned to useful occupations for an average of 26½ months; and that some cases were able to have their processes arrested without losing a day's work. (e) That the number of deaths has not been discouragingly large, 23½ per cent. in six years. That 50 per cent. or more occurred among those in the class less than three months. It affords relief to persons who would otherwise not be reached. (*a*) The far advanced. (*b*) Those without civic settlement. (*c*) Children. (*d*) Those who under no conditions will leave their homes. For these reasons this method of treatment is entitled to definite recognition. Without it, a valuable aid in the common fight against tuberculosis is lost. Just as the sanatorium teaches the discipline, encouragement and details of treatment to the individual, in like manner does this method act as an object lesson to teach the same essentials in the home amid the routine of daily living.

Delaware State Medical Journal, Wilmington

December, III, No. 13, pp. 1-26

39 Rheumatoid Arthritis, with Exhibit of Cases. J. J. Jones, Wilmington.

Journal of Arkansas Medical Society, Little Rock

December, IX, No. 7, pp. 157-180

40 Cesarean Section and Porro Cesarean Section. W. V. Laws, Hot Springs.
41 Sarcoma of Nasopharynx. R. C. Dorr, Batesville.
42 Open Treatment of Fractures of Long Bones. M. G. Thompson, Hot Springs.
43 Treatment of Pellagra. C. J. March, Fordyce.
44 Roentgen Diagnosis in Medicine. A. M. Zell, Little Rock.

Journal of Experimental Medicine, New York

January, XVII, No. 1, pp. 1-116

45 *Effects of Subdural Injections of Leukocytes on Development and Course of Experimental Tuberculous Meningitis. W. H. Manwaring, New York.
46 Artificial Activation of Growth in Vitro of Connective Tissue. A. Carrel, New York.
47 Nature and Origin of Nitrogenous Compounds in Feces in Infantilism. F. H. McCrudden and H. L. Fales, New York.
48 *Causes of Excessive Calcium Excretion Through Feces in Infantilism. F. H. McCrudden and H. L. Fales, New York.
49 Negri Bodies in Rabies. E. M. Watson, Baltimore.
50 *Growth of Chicken Bone-Marrow in Vitro and Its Bearing on Hematogenesis in Adult Life. N. C. Foot, Munich.
51 *Studies on Ferment Action. VI. Relation of Immune Serum Lipase to Hemolysis. J. W. Jobling and C. G. Bull, Chicago.
52 *Studies of Inorganic Metabolism in Pneumonia, with Special Reference to Calcium and Magnesium. F. W. Peabody, New York.

53 *Absorption of Arsenic Following Intramuscular Injections of Salvarsan and Neosalvarsan. H. F. Swift, New York.
54 *Cultivation of Treponema Calligyrum (New Species) from Condylomata of Man. H. Noguchi, New York.
55 Classification of Streptothrices, Particularly in Their Relation to Bacteria. E. J. Claypole, Berkeley.

45. **Effects of Subdural Injections of Leukocytes.**—Rabbit leukocytes, injected into the basal meninges of dogs, in doses from 0.7 to 1 cubic centimeter, Manwaring found apparently invariably cause death. Horse leukocytes, injected in the same amounts, cause death in about 25 per cent. of the dogs. The injection of foreign leukocytes into the meninges of monkeys causes few if any symptoms. The injection of from 1 to 3 cubic centimeters of horse leukocytes into the meningeal cavities of dogs, simultaneously with the inoculation of the meninges with tubercle bacilli, causes a slight delay in the development of the paralytic symptoms in about half the treated animals. This delay, however, is very slight when compared with the remarkable prolongation of the latent period previously observed after treatment with dog leukocytes. The injection of foreign leukocytes into the meningeal cavities of monkeys has thus far given almost uniformly negative results. In one small group of monkeys, however, inoculated by the method of lumbar puncture, the injection of rabbit leukocytes has been associated with a prolongation of the latent period in one of the treated monkeys and with a complete prevention of the subsequent tuberculosis in a second monkey.

48. **Excessive Calcium Excretion in Infantilism.**—Analyses of the principal known bases and acids of the feces in cases of infantilism in which excessive amounts of calcium are being lost, and comparison with cases which are normal in this respect, showed that the fats, fatty acids and volatile acids are not high, and led the authors to the conclusion that the loss of calcium is not secondary to the presence of large quantities of phosphates, fatty acids, or volatile acids.

50. **Growth of Chicken Bone Marrow in Vitro.**—Foot claims that the development of the polymorphonuclear leukocyte from a mesenchymal, lymphoid type of cell is possible in adult life and *in vitro* in chicken bone marrow. These cells can rapidly proliferate by means of amitotic division of an unripe form very similar to, but smaller than, themselves. All the cells of chicken bone marrow can undergo a transformation to a type of cell resembling, although not proved to be identical with, the cells of connective tissue.

51. **Studies on Ferment Action.**—The specific lipase of immune hemolytic serum, the authors claim, is not necessary for hemolysis, but this does not prove the non-necessity of a lipolytic action in serum hemolysis, since a lipase is always present in the complement serum. Serum lipase is found in the end-piece of split complement. There is a parallelism between the lipase content and complement strength of the sera of different animals (man, rabbit, guinea-pig, sheep, ox, cat).

52. **Inorganic Metabolism in Pneumonia.**—During pneumonia the metabolism of inorganic substances deviates markedly from the normal. While chlorin, sodium and calcium are retained in the body, Peabody found that potassium and magnesium are excreted normally or in excess. Two of his cases showed a definite loss of magnesium to the body in the febrile period. During the period of retention the chlorin content of the blood is distinctly lower than normally, the calcium content is apparently slightly lower, and the magnesium content tends to be a little lower. The skin is shown to play no special part in the chlorin retention. Since no organ or organs have been shown to store up large amounts of the retained substances, it is probable that they are spread diffusely throughout the body.

53. **Absorption of Arsenic.**—Swift says that intramuscular injection of salvarsan and neosalvarsan in rabbits always produces necrosis of the muscles. A much more intense reaction is produced by salvarsan than by neosalvarsan. The rate of absorption of arsenic following intramuscular injections of salvarsan is very slow, while following intramuscular injections of neosalvarsan between 75 and 85 per cent. of the arsenic is absorbed during the first week. The subsequent absorption is quite slow.

54. **Cultivation of Treponema Calligyrum.**—On the surface of genital or anal lesions, either syphilitic or non-syphilitic, Noguchi has occasionally found a spirochete resembling *T. pallidum*, but somewhat thicker than the latter. In general characteristics, this organism occupies an intermediary position between *T. pallidum* and *S. refringens*. The treponema was obtained in pure culture from two cases. For the organism the name of *Treponema calligyrum* is proposed. It is nonpathogenic for monkeys and rabbits. It can be distinguished from pallidum, microdentium, macrodentium, mucosum and refringens either by the morphology, cultural and biologic properties, or all these conditions in combination. Under certain cultural conditions calligyrum becomes thinner and may cause some difficulty of differentiation from a strain of the thick type of pallidum, especially when the latter is grown under conditions which tend to render it thicker. There is no such difficulty when the average and thin types of pallidum are concerned. On the other hand, by providing the calligyrum with conditions which lead to the appearance of thicker specimens and by supplying refringens with conditions of growth that favor the development of individuals that are thinner and more regularly curved, the refringens may be made to resemble the calligyrum in general appearance; but under identical cultural conditions they can be readily distinguished.

Journal of Kansas Medical Society, Kansas City

December, XII, No. 12, pp. 461-506

56 Appendicular Liver. C. C. Neselrode, Kansas City.
57 Dislocation of Lens and Perforation of Cornea. R. S. Magee, Topeka.
58 Rabies. W. T. McDougall, Kansas City.
59 Epistaxis as Met by General Practitioner. J. H. Johnson, Coffeyville.
60 Plea for Uniformity in Drug Standards and for Uniform Requirements in Dispensing. L. E. Sayre, Lawrence.

Journal of Michigan State Medical Society, Battle Creek

December, XI, No. 12, pp. 757-830

61 Acute Heart Failure. E. Boise, Grand Rapids.
62 Uterine Prolapse. J. H. Carstens, Detroit.
63 Abscess in Frontal Lobe of Brain. D. M. Campbell, Detroit.
64 Management of Gonorrheal Rheumatism. F. M. Hartsock and J. L. Robinson, Fort Wayne.
65 Operative Treatment of Fractures. G. H. Palmerlee, Detroit.
66 Chronic Diarrhea as Surgical Symptom. L. J. Hirschman, Detroit.
67 Michigan's Midwife Problem. W. E. Welz, Detroit.

Journal of Nervous and Mental Disease, Lancaster, Pa.

December, XXXIX, No. 12, pp. 793-864

68 *Temporary Paralysis of Right Vocal Cord with Sensory Disturbance on Left Side of Body. D. I. Wolfstein, Cincinnati.
69 *Examination of Cerebrospinal Fluid for Arsenic Following Administration of Salvarsan. C. D. Camp, Ann Arbor, Mich.
70 Dementia Praecox. H. D. Singer, Hospital, Ill.
71 Some Atypical Forms of Tabes and Paresis Considered in Light of Serodiagnosis. C. E. Riggs, St. Paul, Minn.

68. **Temporary Paralysis of Right Vocal Cord.**—Wolfstein's case is of some interest, in that it presented the following symptom-complex: Transitory paralysis of the right vocal cord. Marked disturbance in swallowing at first complete and disappearing in the course of two weeks. A crossed dissociated sensory impairment involving the pain and thermic elements without implication of tactile and muscle sense. Pressure sense was not tested. There was no loss of localization, and stereognosis was intact. Further points of interest were: The rapid onset and rapid subsidence of the symptoms; the apparently strictly circumscribed character of the lesion; the absence of any sensory impairment in the distribution of the fifth nerve on either side, even the first branch showing no involvement. As to the character of the lesion in the case: on this, Wolfstein says, one can only speculate. The man was syphilitic without doubt. There could not have been an embolus or thrombus of the posterior inferior cerebellar artery; the meager symptoms noted and their exceedingly short duration is not consonant with this view. The only lesion which can account for the exceedingly circumscribed effect must have been a very small hemorrhagic focus which was rapidly absorbed.

69. **Examination of Cerebrospinal Fluid.**—Doses of salvarsan up to 0.6 gm., or perhaps more, given intravenously, Camp says, do not ordinarily result in the presence of any arsenic

in the spinal fluid, and that arsenic is present in the spinal fluid practically only when the dose is so large or so frequently repeated as to cause a meningo-encephalitis, which is sometimes of a fatal character. The assumption that the introduction of salvarsan into the blood-stream causes it to reach all parts of the body is, therefore, not borne out by observations. If, as Sicard suggests, the therapeutic activity of salvarsan on cerebrospinal syphilis may be gauged by the presence of arsenic in the cerebrospinal fluid, they have an adequate explanation for its failure to benefit most cases, since it may be assumed that salvarsan destroys the spirochete of syphilis, but it can destroy them only by contact, so that if the so-called syphilitic meningeal affections are due to the presence of the spirochetes they would not be reached by the spirillicide.

Journal of Ophthalmology and Oto-Laryngology, Chicago

December, VI, No. 12, pp. 395-428

72 General Anesthesia in Cataract Work. V. C. Hulen, San Francisco.
73 Differential Diagnosis Between Brain Abscess and Sinus Thrombosis and Treatment of These Conditions. E. B. Dench, New York.

Journal of Outdoor Life, New York

December, IX, No. 12, pp. 289-320

74 Preliminary Talk to Patients Undergoing Treatment for Pulmonary Tuberculosis. L. Brown, Saranac Lake, N. Y.
75 New Sitting-Out Bag for Fresh-Air Classes. F. H. Mann, New York.
76 Tuberculosis in Motion Pictures. P. P. Jacobs, New York.
77 Visiting Nurse and Tuberculosis Control. L. D. Wald, New York.

January, X, No. 1, pp. 1-32

78 Hygienic Qualities and Physical Action of Fabrics for Clothing. A. M. Cooley, New York.
79 What State Forest Reserves Offer to Consumptive. E. M. Griffith, Madison, Wis.
80 Ladies and Alley-Children. J. N. Hurty, Indianapolis.
81 Remarkable Tuberculosis Colony. H. B. Masten, Cimarron, N. Mex.
82 Tuberculosis and Public Health in South Africa. J. A. Honeij, Boston.
83 Adequate Educational Campaign Against Tuberculosis. H. E. Dearholt, Milwaukee, Wis.

Journal of Tennessee State Medical Association, Nashville

December, V, No. 8, pp. 309-350

84 Pernicious Anemia. W. H. Witt, Nashville.
85 Precancerous Lesions. W. A. Bryan, Nashville.
86 Advantages and Disadvantages of Nitrous Oxid and Oxygen Anesthesia from Surgical Viewpoint—Review of Literature. W. T. Black, Memphis.
87 Fundamental Principles of Psychotherapy. S. T. Rucker, Memphis.
88 Emotional Paraphronia. J. W. Macquillan, Chattanooga.
89 Diagnosis of Insanity. G. E. Hatcher, Nashville.
90 Short, Sensitive Uterosacral Ligament: Its Significance and Treatment. M. M. Hannum, Maryville.

Lancet-Clinic, Cincinnati

December 14, CVIII, No. 24, pp. 631-656

91 Mercury vs. Salvarsan in Treatment of Syphilis. E. H. Shields, Cincinnati.
92 Local Anesthesia in Ophthalmology, Otorhinology and Some Branches of Major Surgery. K. L. Stoll, Cincinnati.
93 Physiologic Therapeutics. F. L. Davis, Evansville, Ind.
94 Differential Diagnosis of Eruptive Fevers. E. M. Strasser, Cincinnati.

December 21, CVIII, No. 25, pp. 657-674

95 Functional Psychoneuroses. F. W. Langdon, Cincinnati.
96 Clinical Diagnosis of Malignancy of Mammary Gland. A. D. Willmoth, Louisville, Ky.

December 28, CVIII, No. 26, pp. 675-692

97 Modern Treatment of Open Fractures, Fractures with Intractable Fragments and Ununited Fractures. W. D. Haines, Cincinnati.
98 Motor Insufficiency of Stomach: Its Influence in Headache and Neurasthenia. J. D. Dunham, Columbus, Ohio.

Medical Record, New York

December 28, LXXXII, No. 26, pp. 1155-1208

99 Osteitis Deformans (Paget's Disease). S. F. Jones, Denver.
100 Case of Lupus Erythematosus Disseminatus. A. J. Gilmour, New York.
101 Adenomatous Hyperplasia of Prostate. V. C. Pedersen, New York.
102 *Production of Malignant Tumors from Parasites of Earthworm. H. D. Walker, Buffalo, N. Y.
103 Cervical Adenitis in Children. R. H. Fowler, Brooklyn.
104 Artificial Vagina by Intestinal Transplantation. J. F. Baldwin, Columbus, Ohio.

January 4, LXXXIII, No. 1, pp. 1-46

105 Mental Tests. C. L. Dana, New York.
106 Experiences with Antityphoid Inoculation. J. W. Brannan, New York.
107 Conservative Treatment of Tuberculous Lymph-Nodes of Neck, Based on Their Pathology. J. S. Brown, Montclair, N. J.
108 Recent French Progress in Medical Renal Disorders. C. K. Austin, Paris, France.
109 Fatal Case of Gonococcus Septicemia. G. A. Rueck, New York.
110 Comparison of Internal and External Urethrotomies for Tight Strictures of Male. C. A. Bucklin, Glasgow, Scotland.

102. **Production of Malignant Tumors.**—Walker fully believes that he has found the origin and cause of malignant disease, the manner of its production and the methods by which it may be prevented. He has produced many tumors in animals by feeding or injecting them with the parasites from the earthworm. That these tumors were malignant there can be no doubt, for he killed the animals, and some of these tumors were pronounced malignant by competent pathologists. No earthworms, no cancer; plenty of earthworms, plenty of cancer.

Military Surgeon, Washington, D. C.

December, XXXI, No. 6, pp. 625-754

111 Medical Department of United States Army in Civil War. L. C. Duncan, U. S. Army.
112 *How May We Determine Potability of Water in Temporary Camps, Marches and Maneuvers? R. S. McCaughey, Hoopeston, Ill.
113 Organization and Equipment for Evacuation of Wounded. J. H. Ford, U. S. Army.
114 A New Travois: Plea for Its Addition to Equipment of Ambulance Companies. W. W. Reno, U. S. Army.

112. Abstracted in The Journal, Oct. 26, 1912, p. 1564.

New York Medical Journal

December 28, XCVI, No. 26, pp. 1313-1356

115 Salvarsan vs. Mercury. E. W. Ruggles, Rochester, N. Y.
116 Municipal Supervision of Maternity. S. W. Newmayer, Philadelphia.
117 Women in Medical World. J. J. Walsh, New York.
118 Progressive Deafness: Systemic Factors in Etiology. J. A. Stucky, Lexington, Ky.
119 Adequate Hospital Control. B. H. Waters, New York.
120 Confidential Communications Between Patient and Physician. L. M. Gompertz, New Haven, Conn.
121 Ruptured Sac in Ectopic Pregnancy. F. W. Bradner, New York.
122 New Operating Urethroscope. G. Greenberg, New York.

January 4, XCVII, No. 1, pp. 1-56

123 The Doctor's Future. C. L. Dana, New York.
124 National Medical Insurance as Affecting Future of the Doctor. A. T. Bristow, New York.
125 Cancer of Uterus. H. J. Boldt, New York.
126 Aphasia. A. Gordon, Philadelphia.
127 Ventrosuspension of Uterus (with Linen Thread) Indication for Cesarean Section. J. D. Whitall, Philadelphia.
128 *Etiology of Rabies. F. Proescher, Pittsburgh.
129 Treatment of Hemorrhage by Means of Precipitated Blood Sera. G. H. A. Clowes and F. C. Busch, Buffalo.
130 Suspension Laryngoscopy. L. G. Kaempfer, New York.
131 Infected Knee-Joint: Two Cases of Drainage Without Subsequent Ankylosis. H. Shoemaker, Shelby, N. C.
132 Cheap and Efficient Electric Headlight. J. Wagner, New York.

128. **Etiology of Rabies.**—In 1911, Proescher found an antiformin resistant microorganism in the brain of twelve dogs infected with street virus and in three rabbits infected with fixed virus. The microorganisms were non-acid resistant, stained after Gram, and found in form of bacilli and cocci, either isolated or arranged in chains or groups. The bacilli were 0.5 to 1 micron long and 0.3 micron thick. They were similar to the microorganism found in one instance only, in a smear of freshly prepared fixed virus which was fixed in bichlorid alcohol and stained after the modified Gram method. By dissolving the salivary glands of three dogs and the salivary glands and nerve ganglion of a cow, all of which were proved hydrophobic by animal inoculations, Proescher found the same microorganism as in the brain. Further proof of their etiologic relation to rabies was demonstrated by the intracerebral injection of rabbits with the antiformin sediment from the dogs' brains which produced typical hydrophobia.

On account of the difficult technic in finding these microorganisms by use of antiformin, Proescher resolved to try again to demonstrate them by direct staining of smears and sections without using antiformin. As a consequence, he found, after using a great list of aniline dyes, that the azur carbonate (Unna-Giemsa) was the only one which gave a uniform and constant result. Sections and smears were stained with 1 per cent. carbolazurcarbonate solution and differentiated in equal parts of acetone and alcohol. With this staining method, the entire cycle of the rabies virus can be demonstrated. A more extensive report of Proescher's observation of rabies and poliomyelitis is promised later.

Ohio State Medical Journal, Columbus

December, VIII, No. 12, pp. 605-654

133 Foreign Bodies Within Eye or Orbit. W. K. Rogers, Columbus.
134 Blunt Dissector for Submucous Septum Resections. W. K. Rogers, Columbus.
135 Method (Magnet) of Removing Fragments of Iron from Interior of Eye. F. W. Lamb, Cincinnati.
136 Ionic Vaccine Therapy in Acne. W. I. Lefevre, Cleveland.
137 Prophylaxis and Therapy of Tetanus. V. A. Dodd, Columbus.
138 Feeding Problem in Infantile Diarrhea. H. J. Morgan, Toledo.

Old Dominion Journal of Medicine and Surgery, Richmond, Va.

December, XV, No. 6, pp. 279-355

139 *Relations of Vascular System to Certain Ocular Diseases. W. H. Wilmer, Washington, D. C.
140 Monosymptomatic Tabes. J. Collins, New York.

139. **Relations of Vascular System.**—Wilmer reports five cases of uveitis, three of which were due to infection from the intestinal tract. He believes that uveitis not due to traumatism and external infection is usually caused by some toxic material in the blood. The type and severity of the inflammation depend on the character of the bacteria, their number, their actual presence in the tissue and the resisting power of the tissues. Suppurative diseases in other parts of the body may cause non-suppurative inflammations in the eye, because the bacteria may lose something of their virulence in the serum and because the number finding a habitat in the uveal tract are not sufficient to produce a true suppuration in such a vascular tissue.

Ophthalmic Record, Chicago

December, XXI, No. 12, pp. 639-696

141 Study in Dextrophoria. F. Valk, New York.
142 Case of Steel Passing Through Eyeball into Orbit. E. E. Krider, Oelwein, Iowa.
143 Technic of Advancement. A. Elschnig, Prague, Bohemia.
144 Trachoma and Its Surgical Treatment. L. W. Fox, Philadelphia.
145 Pupillary Disk for Correction of Spheric Aberration. A. B. Mason, Atlanta, Ga.
146 Case of Macular Hole Due to Traumatism. E. M. Blake, New Haven, Conn.
147 Case of Retrobulbar Neuritis of Toxemic Origin. F. Allport, Chicago.
148 Migratory Ophthalmia Followed by Recovery of Useful Vision. W. A. Fisher, Chicago.

Pennsylvania Medical Journal, Athens

December, XVI, No. 3, pp. 171-252

149 Glaucoma, Particularly in Regard to Surgical Treatment. J. E. Weeks, New York.
150 Etiology of Phlyctenular Conjunctivitis and Suggested Treatments. H. F. Pyfer, Norristown.
151 *Medical Profession, Public Opinion and Animal Experimentation. O. Klotz, Pittsburgh.
152 *Proctoclysis as Curative and Prophylactic Agent in Primary and Secondary Acute Nephritis in Children. H. Lowenburg, Philadelphia.
153 Occupational Diseases of Skin, Exclusive of So-Called Trade Eczemas. F. C. Knowles, Philadelphia.
154 *Report of Commission on End-Results of Fractures of Femur. W. L. Estes, South Bethlehem.
155 *Use of Tuberculin in Tubercular Adenitis of Neck. A. R. Allen, Carlisle.
156 *Vaccine Therapy in Tubercular Bone and Joint Disease. D. Silver, Pittsburgh.
157 *Acute Osteomyelitis. J. H. Gibbon, Philadelphia.
158 Inflammation of Eye Resulting from Explosion of Golf Ball. J. T. Carpenter and B. F. Baer, Philadelphia.

151. Abstracted in The Journal, Oct. 26, 1912, p. 1566.

152. Abstracted in The Journal, Nov. 16, 1912, p. 1816.

154. **End-Results of Fractures of Femur.** The first recommendation of the commission and the first deduction from its work is, that teachers of surgery in medical schools should give far more attention than they have done in the last decade or more to their own investigation of fractures, and to the teaching of this most important branch of surgery to the students who belong to their classes. Second, while recognizing the fact that skiagrams may be most misleading, the commission believes, nevertheless, when taken by competent anatomists who understand the importance of proper relative position of tube and limb and the importance of taking more than one view of the fracture, these skiagrams will furnish an indication for the proper reduction and the mechanical appliances for the preservation of proper apposition, and that they will serve as a graphic record of the fracture itself. These skiagrams to be most valuable should be taken before reduction of the fracture, when it has been reduced and has a fixed dressing, and finally after union has taken place and the patient is able to be up and about.

In regard to the method of treatment, the commission from the study of cases finds that some form of traction is the method most commonly employed, and that the results after such treatment in most cases enables the patient to resume his occupation and function without serious detriment. Properly taken skiagrams, however, show that absolute apposition and restoration of proper axis of the bone is very seldom accomplished. It is evident that the open method itself introduces into the treatment of these cases such a very marked element of danger that the commission cannot recommend the method for general use nor recognize it as a routine practice. In selected cases in which it is impracticable to restore the fragments, to their proper position and where mechanical means have failed within a reasonable time to produce proper restitution of the fragments, the open method may be employed, but then only by an experienced surgeon, one who habitually employs most thorough aseptic methods. The commission is not prepared to recommend any one method of mechanical treatment. As in everything else the method must be adapted to the case itself, and not the case to the method. Some form of traction, such as Buck's extension, seems to be the preferable method of treatment. If Bardenheuer's suggestion of transverse traction over the ends of the fragments in order to overcome lateral displacements be added, it will greatly improve the results in many cases. Hamilton's apposition splints placed about the fracture at proper places will serve for this purpose in the majority of cases. Plaster-of-Paris is also a valuable means of treating these fractures, but it should be applied under anesthesia. Complete relaxation, unconsciousness of pain and laxity of muscle are necessary in applying the plaster dressing properly to these cases.

155, 156 and 157. Abstracted in The Journal, Nov. 2, 1912, p. 1646.

FOREIGN

Titles marked with an asterisk (*) are abstracted below. Single case reports and trials of new drugs are usually omitted.

British Medical Journal, London

December 14, II, No. 2711, pp. 1649-1696

1 Cardiolysis. R. M. Simon.
2 Intracellular Parasite Developing into Spirochetes. E. H. Ross.
3 Infective Granule as Initial Phase in Life-History of Hemogregarine. H. Henry.
4 *Parasites Recently Found in Syphilis by Jelly Method. E. Jennings.
5 *Certain Bodies Found in Syphilitic Lesions Demonstrated by Jelly Method. S. R. Moolgavkar.
6 Influence of Meteorologic Conditions on Development of Trypanosoma Rhodesiense in Glossina Morsitans. A. Kinghorn and W. Yorke.
7 Salvarsan in Pernicious Anemia. E. Hobhouse.
8 Cytology of Blood in Passive Immunity. J. S. C. Douglas.

December 21, II, No. 2712, pp. 1697-1740

9 Some Manifestations of a Healthy Heart in Young Frequently Taken as Indications for Treatment. J. Mackenzie.
10 *Acoustic Phenomena in Mitral Stenosis. T. Lewis.
11 Regional Anesthesia. F. Rood.
12 Case of Stokes-Adams Disease. J. L. Falconer.
13 Nervous and Mental Symptoms in Case of Addison's Disease. J. G. P. Phillips.
14 High-Frequency Currents in Trigeminal Neuralgia. W. F. Somerville.

4. **Parasites in Syphilis.**—The jelly method so often referred to in connection with the diagnosis of syphilis is as follows: "Coefficient jelly" consists of 2 per cent. agar, containing a sufficiency of saline solution to prevent cytolysis; 5 c.c. of this is placed in a test-tube and 0.4 c.c. of Unna's polychrome methylene blue, and 0.4 c.c. of a 5 per cent. solution of sodium bicarbonate in water is added; the total bulk of the mixture in the test-tube is then made up to 10 c.c. This jelly is boiled, and when molten a drop is poured onto a microscope slide and allowed to spread into a thin film. When cool and set, the blood or pus from a chancre is put on a cover-glass, and this is inverted onto the surface of the set jelly. The cells spread out between the cover-slip and jelly, and in a few minutes the leukocytes and parasites begin to stain and can be examined. The parasites appear as small, round, brown-colored bodies lying free in the plasma. Each one contains some deeply staining granules and a vacuole. Besides these, similar bodies are found enclosed within the mononuclear cells. In this situation they show up on the jelly as copper-colored "inclusions," which

on careful examination contain a stained structure resembling the spirochete.

5. **Bodies Found in Syphilitic Lesions Demonstrated by Jelly Method.**—Moolgavkar makes the jelly as follows: Agar, 1 gram; sodium chlorid, 0.5 gram; polychrome methylene blue, 4 c.c.; distilled water, 100 c.c.; boil, filter and store in test tubes. When required for use, the jelly is melted and a small quantity is poured on to a slide to cover an area of about a square inch and allowed to cool and set. The syphilitic material to be examined is obtained from a hard chancre; a drop of the scraping is mixed with an equal quantity of a 3 per cent. solution of sodium citrate in water and placed on a cover-slip, which is inverted on to the surface of the set jelly. Or a hard, "shotty" syphilitic gland is punctured with a Bayly needle and the gland squeezed; after a minute the needle is withdrawn and the material contained in it is expelled into the citrate solution as before. On the jelly the cells, leukocytes, epithelial cells, lymphocytes, stain a general blue; the "bodies" stain red and this serves to distinguish them readily.

Moolgavkar has examined 25 chancres and 22 glands by this method and has found the bodies in every syphilitic case. They may be described as (1) extracellular, (2) intracellular. The former consist of two forms: (a) Oval bodies, 2 to 10 microns in diameter, containing a granular nucleus and one or two chromatin dots; (b) bodies varying in size from 6 to 15 microns, in which he could find no definite nucleus, but they were completely filled with granules sometimes in violent movement. (2) The intracellular bodies may be divided into two classes also: (c) A red-staining mass, embedded within the cytoplasm of large cells, containing several definite round or pear-shaped chromatin structures. Sometimes this mass appears to have burst when the chromatin structures are found free inside the cell cytoplasm; (d) a large mononuclear cell containing similar red-staining masses which show within their interior either chromatin rods or a skein or tangle of chromatin threads. Apparently these intracellular bodies burst out of the cells, for the threads can sometimes be seen near, but outside, the cells attached to a common chromatin ring. In addition to the above he has seen certain other forms about 10 microns in diameter, which stain very deeply and contain five to six chromatin granules. This form, which is free, frequently seems to divide into six daughters, each containing a chromatin granule. Occasionally in the glands, but frequently in the chancres, refractile bodies about a micron in size are found; each contains two chromatin dots. Moolgavkar believes it is possible that this is but a phase, incompletely stained, of the free forms already described. He is of the opinion that these "bodies" are parasites because of their peculiar staining reaction and because they develop while included within the cytoplasm of the cells of the chancres and glands. Up to the present he has only seen them in syphilitic subjects.

10. **Acoustic Phenomena in Mitral Stenosis.**—The time relation of the first and second sounds in the control curves of mitral stenosis, Lewis says, are practically the same as in normal hearts. The sounds are usually much more intense, though of similar duration to those of the normal heart. When the heart is beating regularly and the sequence of contraction is normal, the shortest diastolic murmurs of mitral stenosis precede the first sound and consequently precede the initial rise of intraventricular pressure. They lie in presystole. Generally speaking the presystolic or diastolic murmur is not a crescendo; the crescendo is an effect of the proximity of the loud first sound. The vibration frequency of the murmur is from 41 to 107 per minute. The murmur begins from 0.05 to 0.22 sec. before the commencement of R and runs over a variable proportion of diastole, according to the variation in the length of the latter; in the longest diastoles and in slow acting hearts there is a period of silence between murmur and first sound; in a shortest diastole the murmur may occupy its whole extent. When heart-block is present the position of the diastolic murmur is largely controlled by the position of the auricular contraction. Lewis concludes that the diastolic murmurs of mitral stenosis are due to the rapid onflow of blood through the stenosed mitral orifice. Those periods of diastole are occupied by murmurs, during which the velocity of flow reaches a certain grade. When the auricle contracts at the normal time and the heart beats slowly, the velocity tends to be greatest in presystole. Otherwise it is usually greatest in early diastole; these are the periods at which murmurs are most commonly audible.

Journal of Tropical Medicine and Hygiene, London

December 16, XV, No. 24, pp. 369-384

15 Origin and Significance of Leishman's Chrome-Cells in Blackwater Fever (Basophil Granular Leukocyte of Ehrlich). V. Shilling-Torgau.
16 Beriberi in Infants. A. J. McLaughlin, Washington, D. C.
17 Porocephaliasis in Man. L. W. Sambon.
18 Copra Itch. A Castellani.

Lancet, London

December 14, II, No. 4659, pp. 1633-1700

19 Pharmacotherapy of Pneumococcus Infections. (To be continued.) A. E. Wright.
20 *Aural Vertigo (Non-Suppurative): Clinical and Therapeutical Study. R. Lake.
21 *Pneumothorax Treatment of Phthisis. C. Lillingston.
22 Complete Eradication of Extensive Recurrent Cancer Affecting Both Breasts and Axillae. R. C. Lucas.
23 Mucocele of Anterior Ethmoidal Cells. E. C. Alles.
24 Case of Acute Nasal Catarrh Due to Gram-Negative Bacillus Resembling "Distemper" Group of Organisms. A. H. G. Mackintosh.
25 *Method of Rapidly Exterminating Pediculi Capitis. A. Whitfield.

December 21, II, No. 4660, pp. 1701-1770

26 Pharmacotherapy of Pneumococcus Infections. (Concluded.) A. E. Wright.
27 *Chronic Intestinal Stasis. W. A. Lane.
28 *Treatment of Pott's Disease, with Analysis of 116 Cases. T. H. Openshaw and P. B. Roth.
29 Is Gastric Ulcer a Frequent Precursor of Cancer? H. J. Paterson.
30 *Secretory Activity of Stomach in Chronic Appendicitis with Gastric Symptoms. C. Singer.
31 Early Signs of Mediastinal Tumors. J. L. Roberts.
32 Vaccine Treatment of Hay-Fever. A. G. Lovell.
33 Abnormal Tuft of Hair Over Sacrum and Plica Neuropathica. W. K. Sibley.

20. **Aural Vertigo.**—Lake deals with these cases under the following grouping, not as a final solution of the clinical problems, but as a basis on which to start. 1. Peripheral causes: (a) Chronic progressive middle-ear deafness; (b) hemorrhage into labyrinth and embolism; (c) traumatism. 2. Aural vertigo due to altered state of blood-pressure: (a) increased blood-pressure; and (b) diminished blood-pressure. 3. Aural vertigo due to general systemic causes: (a) leukemia; (b) occasional; (c) with ocular symptoms; (d) specific; (e) cerebral anemia. Chronic progressive middle-ear deafness and arteriosclerosis are, according to his investigations, the most frequent causes of aural vertigo, and fortunately one finds that a large amount of benefit can be derived from the use of drugs in these cases, though by no means all of them are capable of this relief. Operative interference is justified, and where it is used it should be uniformly successful.

21. **Pneumothorax Treatment of Phthisis.** — Lillingston's experience embraces eighteen patients treated for periods ranging from six months to three and a half years. The disease was in the third stage and active and the prognosis was very bad in every case. Yet the disease is either arrested or is undergoing arrest in thirteen. Five patients are either dead or dying; but Lillingston sincerely believes that the treatment has prolonged their lives. He has seen no fatal accident from the treatment.

25. **Method of Exterminating Pediculi Capitis.**—The following method is employed by Whitfield in the case of female children, in which treatment is made difficult by the length of hair. The patient is laid on her back on the bed with the head over the edge, and beneath the head is placed a basin on a chair so that the hair lies in the basin. A solution of 1 in 40 phenol is then poured over the hair into the basin and sluiced backward and forward until the whole of the hair is thoroughly soaked with it. It is especially necessary that care should be taken to secure thorough saturation of the hair over the ears and at the nape of the neck, since these parts are not only the sites of predilection of the parasites, but they are apt to escape the solution. The rule Whitfield gives is that this sluicing shall be carried out for ten minutes by the clock. At the end of the ten minutes the hair is lifted from the basin and allowed to drain, but is not dried or even very thoroughly

wrung out. The whole head is then swathed with a thick towel, or better a large piece of common house flannel, which is fastened up to form a sort of turban and the head is allowed to remain like this for an hour. It can then be either washed or simply allowed to dry as the phenol, being volatile, quickly disperses. At the end of this period every pediculus and, what is more important, every ovum is dead, and although the ova are left on the hair they will not hatch and no relapse will take place unless exposure to fresh contagion occurs. Incidentally any impetiginous scabs are softened so that they come away easily and allow any ointment which is used for the cure of this complication to be applied easily. In cases in which there is no impetigo no further treatment is necessary.

27. **Chronic Intestinal Stasis.**—Lane believes that unless the capacity of the several tissues of the body to resist the entry of certain organisms is inhibited by the auto-intoxication resulting from intestinal stasis it is impossible for these diseases to develop. Therefore, to meet these diseases, he adopts means to improve the drainage scheme, whether simply mechanical or operative, with the most excellent results. This is nowhere better exemplified than in the extraordinarily rapid disappearance of large tuberculous glandular masses in the abdomen after disconnection of the big bowel. The disease disappears and the health and weight of the patient improve correspondingly, and if the subject be a growing child the rate of growth is much greater than before. Certain symptoms of auto-intoxication present problems of great interest as regards their causation. Pigmentation of the skin becomes a very marked feature in advanced cases of stasis, especially in patients with dark hair. These cases have occasionally been diagnosed as Addison's disease by very competent physicians, and no doubt would have gone to the post-mortem room as such except for operative interference. On eliminating the supply of poison the color of the skin changes with remarkable rapidity. The deep brown or coppery tint disappears, and is replaced by the warm red color indicative of health. Following almost immediately on the exclusion of the large bowel, the cold, blue, clammy hand is replaced by a nice warm, pinkish dry one. Again, in the case of the kidney affected by so-called Bright's disease, which is merely a product of chronic intestinal stasis, the exclusion of the large bowel is followed by an improvement in functioning which is as extraordinary as it is rapid, and a patient who has been face to face with death is quickly restored more or less completely to health, usefulness and activity.

The great difficulty in the treatment of chronic intestinal stasis and its results is to recognize when it is too late to interfere; in other words, when the end result has assumed such proportions that the removal of the primary cause does little or no good. Again, as regards the influence of these toxins or poisons on the nervous system, Lane has seen a patient who had been confined to bed for many months, having neither the capacity nor desire to stand or walk and whose mental condition was such that she was regarded by many as an imbecile, become a happy, active, intelligent woman within a few weeks of the removal of the large bowel. Since that operation she has been leading a useful life and earning her living. What is the source from which these poisonous products are obtained? They may be absorbed from any portion of the gastro-intestinal tract as a primary absorption from the intestine. This supply may be supplemented by absorption of poisonous products from the secondary results of their absorption, such as from suppurating gums or from any secondary infective process communicating or not with the gastro-intestinal tract. The absorption from the secondary result of auto-intoxication may in some cases be very considerable, and the removal of the absorption from the secondary focus may result in great improvement in the patient's condition, though the source of absorption from the intestine be uninfluenced by its treatment.

The primary absorption from the intestine varies in importance, not with the degree of stasis, but rather with the unfitness of that portion of the bowel to deal with organisms, etc., to which it is unaccustomed. For instance, solid material may remain in the sigmoid flexure or pelvic colon for a considerable time and produce but a moderate amount of auto-intoxication. On the other hand, the infection of the contents consequent on a very moderate stasis in the small intestine may bring about a very severe condition of auto-intoxication, while at the same time the mechanical symptoms resulting from it are also much more conspicuous. Stasis of the small intestine with the associated infection of its contents by organisms to which it is unaccustomed is not primary but is secondary to a stasis in the large bowel. In other words, if it were not for the presence of the large bowel the conditions producing stasis in the small intestine would not arise. If the cecum did not become overloaded, the obstruction to the ileal effluent, either by an acquired mesentery, an appendix hitching it up, or by simple stasis, would not develop. Consequently the contents of the small intestine would not become infected by organisms, the duodenum would not be blocked by the drag of the small intestines obstructed at the end of the ileum, the mucous membrane of the duodenum would not inflame and ulcerate, the biliary and pancreatic ducts would not be infected, and the obstructed outflow from the stomach with all its associated sequelae would not occur.

Results from short-circuiting and the disconnection or removal of the large bowel are due largely to the fact that the evacuation of the small intestine is facilitated by its introduction into the pelvic colon and that the infection of its contents by organisms which grow in the stagnating material in the large intestine ceases abruptly. The point of greatest difficulty in the passage of material along the gastro-intestinal tract is through the last few inches of the ileum. This is particularly the case when the cecum has been securely fixed by acquired adhesions in the iliac fossa.

28. **Treatment of Pott's Disease.**—A brief account of the treatment of Pott's disease as carried out in the orthopedic department of the London Hospital during the last ten years is given by Openshaw and Roth. The treatment throughout has been rigidly conservative; and the two principles underlying the treatment have been (1) to put the diseased parts absolutely at rest, and (2) not to interfere surgically until forced to do so. This treatment has been adopted as the result of observations extending over thirty-five years, and after prolonged trials of other methods, e. g., plaster-of-Paris and poroplastic jackets without recumbency, forcible stretching, laminectomy, early incision and drainage of abscesses, injection of iodoform and other substances after aspiration, irrigation of sinuses with various antiseptics, curetting and laying open of sinuses, etc. Directly the condition of active Pott's disease is diagnosed the child is measured for a double Thomas hip splint with head and feet extensions. While this is being made the child is kept in bed at home or in the hospital. When once the child has been placed in the splint he is never taken out, except once weekly, until a complete cure has been brought about. Its great advantages over other splints are, (1) that it fits for years, for the head and feet extensions being adjustable are lengthened as the child grows; (2) that the diseased portion of the spine and the abdomen and groins can always be inspected without removing the splint; (3) that if a sinus is present dressings can be applied; (4) that the child can be washed daily, and so prevented from becoming verminous; (5) that the splint does not cause sores; and (6) that it does not interfere with growth or chest development.

30. **Secretory Activity of Stomach in Appendicitis.**—Paterson finds it difficult to accept the view that grafting of cancer on simple ulcer is a frequent event.

Annales de Gynécologie et d'Obstétrique, Paris

November, XXXIX, No. 11, pp. 641-703

34 *Transfusion of Blood After Obstetric Hemorrhage. Lambert and Oui.
35 *The High Blood-Pressure in Pregnant Women. (L'hypertension gravidique.) V. Wallich.
36 *Remote Prognosis of Albuminuria in Pregnant Women. (Pronostic éloigné de l'albuminurie chez les femmes enceintes.) G. Lepage. Commenced in No. 10.

34. **Transfusion of Blood for Obstetric Hemorrhage.**—Already abstracted in The Journal, Dec. 7, 1912, p. 2098.

35. **The High Blood-Pressure in Pregnant Women.**—Wallich has tested the blood-pressure in a number of pregnant women and found it abnormally high as a rule. This favors hemorrhage and especially the hemorrhagic lesions so common in eclampsia and albuminuria. He was able to produce similar lesions by injecting the blood-vessels in cadavers with a fluid under pressure. The abnormally high blood-pressure explains by its mechanical action the lesions in especially fragile tissues such as the placenta and in some of the viscera in eclampsia and albuminuria. The hypertension of pregnancy seems to be connected with some functional disorder in the kidney and the action of some toxin or toxins. The hypertension is liable to entail insomnia, headache, edema and polyuria besides the hemorrhages in the placenta and viscera. The pulse in the pregnant woman should be supervised with as much care as the urine. When the blood-pressure is found high, repose, dieting and laxatives should be the main reliance until we are better posted on the action of drugs to reduce the tension during pregnancy. In extreme cases, copious and repeated venesection may be useful. The convulsions in eclampsia send the blood-pressure flying up, with consequent danger of fatal hemorrhagic lesions in mother and child, and greater stress than ever should be placed on means to ward off the convulsions. The intoxications of pregnancy are not peculiar to this condition but are merely the result of interference with the functioning of the kidneys, thus causing unusual retention of toxic waste. An abnormally high blood-pressure is thus a matter of concern to the obstetrician not only as a sign of retention of toxins, but on account of the danger of hemorrhages into the tissues.

36. **Prognosis of Albuminuria During Pregnancy.**—Lepage concludes from his review of his extensive clinical experience that a woman who has had symptoms of pregnancy intoxication once, especially at the first pregnancy, should be supervised with special care during succeeding pregnancies, from the earliest months onward. When the intoxication was severe enough to bring on convulsions or premature separation of the placenta compelling interruption of the pregnancy or killing the fetus, the woman should have her urine examined for albumin at least once a week, and the amount and quality noted. Lepage suggests that the patient can be trained to do this herself. Once a month, especially during the three last months of the pregnancy, a complete analysis of the urine should be made. The diet should be restricted almost exclusively to milk and water. A milk-vegetable diet may be allowed if the accidents were not very serious. Abstention from salt is advisable in case there is manifest retention of chlorids. Milk, white meat and starchy dishes—the "white diet"—may be permitted if the woman has carried through without mishap one or two pregnancies outside the pregnancy with the serious trouble. Every cause for fatigue, everything entailing exposure to bad weather or chilling should be avoided. The blood-pressure should be supervised and venesection done at need. The remote prognosis may be regarded as the more favorable the better the woman is supervised and the stricter the heed she pays to medical advice in further pregnancies. He gives the details of seventeen hospital cases in which the albuminuria seemed to be the direct cause of the death of the fetus, while in a group of three from his private practice the woman was safely tided past the danger point. In another group of eleven hospital cases of albuminuria there was premature separation of the placenta and in eight of the cases the women never bore a living child afterward in their numerous pregnancies. The other cases show, however, that with systematic care later pregnancies can be carried to a successful termination.

Annales de l'Institut Pasteur, Paris

November, XXVI, No. 11, pp. 825-936

37 *Attempts to Rid the Intestines of Toxins. (Sur quelques essais de désintoxication intestinale.) E. Metchnikoff and E. Wollman.
38 *The Chemical Imponderables in Agriculture. (Sur le rôle des infiniment petits chimiques en agriculture.) G. Bertrand.
39 *Attenuated Tubercle Bacilli and Fluctuation in Virulence. (La virulence des bacilles tuberculeux et les tuberculoses dites atténuées. E. Burnet.
40 Trypanosoma Contagious for Mice. (Trypanosomie d'un réduvide inoculable au rat et à la souris.) A. Lafont.
41 The Ferments Attacking Mannite. (Recherches sur le ferment mannitique.) E. Dubourg.
42 Hydrolizing of Saccharose. (Recherches sur l'hydrolyse comparée du saccharose par divers acides en présence de la sucrase d'aspergillus niger.) G. Bertrand and M. Rosenblatt.

37. **Prophylaxis of Auto-Intoxication from the Intestines.**—This article is another contribution to Metchnikoff's series of works on the possibility of warding off senile changes by preventing accumulation of toxins in the digestive tract. His latest preceding work was summarized in these columns Oct. 12, 1912, p. 1409.

38. **Rôle of Chemical Imponderables in Agriculture.**—This article was read at the international congress of applied chemistry held at New York last September.

39. **Fluctuations in Virulence of Tubercle Bacilli.**—Burnet has been studying the virulence of seventy-five different strains of tubercle bacilli cultivated from tuberculous bone and joint processes (26), lymph-node processes (23), cutaneous (10), and lungs, kidneys or meninges (16). Among the fifty-nine strains isolated from external tuberculous processes, none was of the bovine type. Inoculation of hundreds of guinea-pigs with forty-two of the strains showed that all were virulent although mostly from processes of the mild, scrofulous type. The fact that the tuberculous process is mild by no means justifies the assumption that the bacilli have lost their virulence. In only one of the mild cases was the bacillus apparently attenuated in virulence.

Archives Générales de Chirurgie, Paris

November, VI, No. 11, pp. 1261-1388

43 *Infection of Submaxillary Gland. (Sur les infections non specifiques de la glande sous-maxillaire.) G. Potel and E. Verhaeghe.
44 *Mercurial Treatment of Puerperal Septicemia. (Traitement par le mercure de l'infection puerpérale à forme septicémique.) E. Girou.
45 Appendicectomy in a Herniotomy. (L'appendicectomie dans les opérations de cure radicale des hernies crurales et inguinales.) Lennart-Norrlin.

43. **Infection of the Submaxillary Gland.**—The text-books classify the non-specific affections of this gland as "fistulas, concrements and infections," but Potel and Verhaeghe declare that infection is at the bottom of all. In a case recently under observation the patient was a man of 28 with recurring painful swelling of the region below the left jaw for about a year, the attacks growing constantly longer, with inability to chew or swallow properly. He was subject to recurring tonsillitis and a tumor the size of a walnut was evident in the region, movable and not tender at the time of examination but during mastication the tumor increased in size, became tender and painful, the pain radiating to the ear, but there was no fever. As the condition continued to grow worse in spite of ten days of disinfection of the mouth, the inflamed gland was removed after a difficult operation, the region being so vascular; the gland was found diseased throughout and adherent. The outcome was a complete cure. Radical operative treatment seems indispensable in such cases of infection of the submaxillary gland outside of mumps, tuberculosis and actinomycosis. General anesthesia is preferable as local conditions render circumscribed anesthesia exceedingly inconvenient. It is better to leave some diseased tissue rather than run the risk of injuring the jugular vein. Thorough drainage protects against retention of septic matters and the spread of the infection into the mouth. A hard patch may be left in the region, resembling a woody phlegmon, as in the case described, but under the systematic application of heat the tissues gradually resume their normal aspect.

44. **Mercurial Treatment of Puerperal Septicemia.**—Girou calls attention to the fine results obtained by the Italians, Barsony at Budapest and Souligoux at Paris from intra-uterine, intravenous or intramuscular injections of some preparation of mercury. This revival of the old method of mercurial treatment of puerperal infection seems very promising in the cases in which the infection—although originating in the uterus—has spread throughout the organism and there is no special localization, the uterus being empty of débris. Intra-uterine injection of the disinfectant is of no use at this

stage, but attempts in this line were responsible for the discovery of the general efficacy of the mercury in these cases. Patients given the intra-uterine injections of the mercury developed mercurial intoxication in a large proportion of cases but these patients were the ones who recovered from the puerperal septicemia. The next step was to apply the mercury in such a way as to avoid the intoxication while obtaining the general effect. Giron relates the details of four typical cases out of 149 in which this method of treatment had been applied. The women had all been delivered at home, mostly in extremely unhygienic environments. Four of the patients were moribund. Of the remaining 145, all the women recovered except three, a mortality thus of 2.06 per cent. Barsony has reported a mortality of only 0.059 in his infected parturients at Budapest given mercurial treatment 1903-1909, but the two statistics embrace the extremes, one the slum homes of Paris, the other a well-equipped maternity. Souligoux and his imitators prefer the cyanid rather than the bichlorid which is used in Italy and by Barsony. Giron injects into a muscle 1 c.c. of a solution of 0.01 gm. mercuric cyanid in 1 c.c. of distilled water with a little anesthetic. He repeats this daily for seven days, then suspends it for a week, and then resumes for another seven days if necessary, but a second series is rarely required. He stops the injections as soon as the temperature drops to normal. With the cyanid there is seldom any warning stomatitis, so that extreme prudence is necessary and the blood should be examined every day or at least every second day. If the number of reds drops, the mercury must be suspended and a liter or liter and a half of artificial serum injected to spare the reds further harm. The regeneration of the blood can be hastened by withdrawal of a small amount of blood by venesection every day. When the blood-count approximates normal once more the cyanid can be resumed but with extreme caution. Barsony's method differs from this; he uses three solutions of mercuric chlorid, respectively at 2, 3 and 5 per cent., all in a 0.9 per cent. salt solution. Before every delivery and every operation he injects 1 c.c. of the 2 or 3 per cent. solution; the first day the fever presents itself he injects morning and evening 1 c.c. of the 3 or 5 per cent. solution, and the following days, morning and evening 1 c.c. of the 2 or 3 per cent. solution. On symptoms of mercurial poisoning he suspends the mercury and resumes it again after the symptoms have subsided, using the weakest solution for a day or two. In case of anemia or mild nephritis he uses only the weaker solution throughout. The intramuscular technic is much simpler and easier than the intravenous, and is within the reach of all, Giron remarks, while it has the additional advantage of inducing at each injection a mild hyperleukocytosis, the effects of which become superposed. With intravenous injections, the first injection is followed by a considerable leukocytosis, but after this the reaction is less marked and very transient. The contra-indications of the method are those of mercury in general. The only by-effects Giron has observed compelling suspension of the treatment were diarrhea in some cases and a rapid drop in the number of red corpuscles. The diarrhea soon yields to enemas containing laudanum or to opium by the mouth. The general improvement noted by the second or third injection shows the benefit being realized from the mercurial treatment, the organism rallying anew to the struggle.

Bulletin de l'Académie de Médecine, Paris

December 10, LXXVI, No. 42, pp. 503-522

46 *Salvarsan in Chorea. (Sur les effets favorables des injections intra-veineuses de Salvarsan dans 25 cas de Chorée de Sydenham.) P. Marie and C. Chatelin.

46. Summarized in Paris Letter in The Journal, January 4, p. 63.

Bulletins de la Société de Pédiatrie, Paris

November, XIV, No. 8, pp. 413-474

47 Retention of Nitrogen and Salt in Bottle-Fed Infants. (Les rétentions azotées et salines des nourrissons nourris au biberon.—Les atrophiques florides.) H. Barbier.

48 Roentgenotherapy for Enlargement of the Thymus; Two Successful Cases. V. Veau.

49 Necessity for Modifying Technic in Applying Abbott's Method of Treating Scoliosis. (Un nouveau traitement de la scoliose. Méthode d'Abbott.) J. Calvé and L. Lamy.

50 Roentgenotherapy Effectual Stimulant in Simple Anemia in Girl of 7. (Purpura. Pseudo-hémophilie. Insuccès des différentes thérapeutiques. Radiothérapie. Guérison.) Triboulet, Albert-Weil and Paraf.

51 Nitrogenous Bodies in the Blood of Cachectic Infants. (La forme athrepsique de l'azotémie des nourrissons.) Nobécourt and Maillet.

52 Roentgenoscopy of Pulmonary Tuberculosis in Infants. L. Ribadeau-Dumas, A. Weill and Maingot.

53 Sunlight as Adjuvant in Treatment of Tuberculous Peritonitis; Three Cases; Rapid Recovery. D'Oelsnitz.

Lyon Médical, Lyons

November 17, XLIV, No. 46, pp. 809-856

54 Action of Roentgen Rays on the Dog's Thymus. (Action des rayons de Röntgen sur le thymus du chien.) C. Regaud and R. Cremieu.

55 *Antimeningococcus Serum in Treatment of Gonorrheal Urethritis. (Trois observations d'urétrite blenorragiques traitées par le sérum antimeningococcique.) R. Salle.

December 1, No. 48, pp. 905-948

56 *Pelvic Cellulitis Following Wertheim's Operation. Violet. Commenced in No. 47.

55. **Antimeningococcus Serum in Treatment of Gonorrheal Urethritis.**—Three cases of acute gonorrhea are described in which subcutaneous injections of 10 c.c. of antimeningococcic serum were given at intervals of three days with a prompt and permanent cure in each instance.

56. **Pelvic Cellulitis Following Wertheim's Operation.**—Violet reports four cases of pelvic cellulitis following Wertheim's operation, giving temperature charts. It is difficult to distinguish these cases from peritonitis. They may begin with even more violent symptoms as to temperature and pulse, but the abdomen is soft, not distended, and there is no nausea or vomiting. On the second day there is generally a fall in temperature, whereas in a peritonitis of equal severity death would occur in two or three days. The temperature generally returns to normal within a week. Phlebitis is a frequent complication. Three of the cases reported were cancer of the uterus. One patient is still well at the end of five years, two others after three and two years.

Presse Médicale, Paris

November 30, XX, No. 99, pp. 1001-1012

57 *Paroxysmal Hemoglobinuria. (Pathogénie de l'hémoglobinurie paroxystique: syndrome spléno-hépato-rénal.) A. Gilbert, E. Chabrol and H. Bénard.

58 *Pain in the Cystic Duct as Sign of Typhoid Fever and in Prognosis. (Douleur cystique dans la fièvre typhoide.) A. D. Radulesco and C. C. Atanassiu.

59 Prostatectomy. (1,000 opérations d'énucléation de la prostate.) de Valcourt.

60 *High Blood-Pressure of Functional or Organic Origin. (Les deux hypertensions.) A. Martinet.

57. **Paroxysmal Hemoglobinuria.**—Gilbert, Chabrol and Bénard report a case of recurring paroxysmal hemoglobinuria in which the renal element in the syndrome was emphasized by the occurrence of acute nephritis. The patient was a grocer of 25; for the last six years he had had occasional attacks of hemoglobinuria after exposure to cold. By avoiding exposure and meat, he succeeded the fifth year in keeping the tendency under control although the liver and spleen persisted enlarged and there was considerable cholemia. In another case reported the symptoms were those of simple jaundice outside of the paroxysmal hemoglobinuria. Albuminuria in both cases not only accompanied the hemoglobinuria but preceded it and persisted after it and sometimes took its place, with more or less tube-casts. There is evidently an excess of hemolysins generated in the spleen in these cases, and the reds damaged by them are still further destroyed in the parenchyma of the kidney, especially when the circulation in the kidneys is sluggish from the effect of cold. The affection may thus be regarded as a spleen-liver-kidney syndrome, allied to simple jaundice and like this, bearing the stamp of hyperhemolysis.

58. **Pain in the Cystic Duct in Diagnosis and Prognosis of Typhoid.**—Radulesco and Atanassiu have found tenderness in the cystic duct and occasionally stiffening of the muscles above as a very early sign of typhoid fever and a warning of a relapse. The tenderness subsides as the disease in general declines, and it is never apparent during convalescence. Its persistence or return is a sure sign of an impending relapse. In eighteen cases of typhoid with positive agglutination this sign was found in all the forty-seven entering the hospital

during the first week; in sixty-five of the sixty-nine in the second week; in twenty-three of the seventy-seven the third week and in six of the seventy-two convalescents, and each of these six had a relapse soon after. They emphasize the importance for diagnosis and prognosis of the early appearance, constancy and regular disappearance of the sign. In an equal number of patients with other affections the sign was never found in twenty-seven with scarlet fever; twelve with diphtheria, eighteen with erysipelas; twelve with catarrhal jaundice, and nineteen with malaria, but in the eight cases of pneumonia, five of pleurisy; and in fifteen with asystole the entire liver was found tender, without any strictly localized tenderness at the cystic point. To elicit the sign the patient reclines on his back and breathes deep. The physician at the patient's right works his left hand between the crest of the ilium and the lower edge of the ribs and lifts up the posterior wall of the abdomen, thus forcing up the liver. The fingers of the right hand are worked into the abdominal wall to reach the margin just at the junction of the cystic duct, applying gentle continuous deep pressure from below upward. When the sign is positive there is a more or less sharp pain as the "cystic point" is reached; if the patient is unconscious there is a marked stiffening of the muscles above and the face shows a grimace while nothing of the kind occurs when the same maneuver is done on the left side.

60. **Differential Diagnosis of Functional and Organic Abnormally High Blood-Pressure.**—Martinet emphasizes the importance of differentiation as the treatment for one may do harm in the other. The index to the functional form is obtained by comparing the diuresis with the range between the maximal and the minimal pressure; that is, the differential pressure; the index to the organic form is obtained by comparing the viscosity of the blood and the differential pressure. He has found that with normal kidneys the daily output of urine per c.c. of differential pressure is 0.25 liter or above. With sclerosis of the kidneys, the figure is below 0.20 liter. He gives some diagrams and tables to show the workings of this law and its explanation. A syringe filled with camphorated oil requires more force to empty it than if it were filled with water, and in the same way the viscosity of the blood influences the output of urine. On the other hand, if the syringe is fitted with a finer needle, still greater force is required to empty it even when it is filled with pure water. An organic lesion in the kidneys interferes in the same mechanical way with the output of urine. In a dozen patients with normal or merely functionally high blood-pressure the differential pressure ranged from 6 to 10, the viscosity from 4 to 6.2. The index is obtained by dividing the differential pressure by the viscosity. In health or without kidney disease the result is an index ranging from 1.2 to 1.8. In twelve patients with interstitial nephritis the differential pressure ranged from 10 to 22 while the viscosity was low, 3.2 to 4.7 at most, and the index ranged from 2.55 to 7.3. When findings such as the above are found on repeated examinations, light is thrown on the true condition, possibly in time to ward off irreparable damage.

Revue de Médecine, Paris

November, XXXII, No. 11, pp. 865-944

61 The Responsibility of Europe for Spreading Tuberculosis in the Polynesian Islands. (La part de l'Europe dans l'épidémie de tuberculose des Polynésiens.) M. Couteaud.
62 Tuberculous Nature of Ascitic Fluid with Cirrhosis. (De la nature tuberculeuse de l'ascite dans les cirrhoses.) G. Roque and V. Cordier. Commenced in No. 10.
63 *Study of Inheritance in 442 Tuberculous Families Among Workingmen. (Enquéte sur la descendance de 442 families ouvrières tuberculeuses.) C. Leroux and W. Grunberg.

63. **The Inherited Taint in 442 Tuberculous Wage-Earner Families.**—Leroux and Grunberg made a detailed study of 442 workingmen's families with a history of tuberculosis in regard to infantile mortality, morbidity, vitality, malnutrition and the hereditary predisposition to tuberculosis. They also examined 126 non-tuberculous families for comparison. Tables are given showing in detail their results. The infantile mortality in the non-tuberculous families was 17.75 per cent., in the tuberculous ones 40.6 per cent. They conclude that there is no real inheritance of tuberculosis itself, but that there is a general state of malnutrition and particularly a transmitted weakness of the lung tissue. The predominating factor, however, in developing tuberculosis in these children who are below par in their inheritance is to be found in the bad hygienic conditions under which they live.. The houses are damp, dark, unclean and so thoroughly infected that it is impossible to render them sanitary. They recommend no less radical measures than the burning of the worst houses and replacing them by model workingmen's houses to be built by the government or municipality. During 1911 the model tenements built by the Rothschild foundation with a population of 1,999 showed a mortality of 6 per 1,000, while the ordinary tenements in the same district showed 22.4 per 1,000. Parliament and the municipal council of Paris are now considering bills looking toward the provision of a municipal fund to buy land and build workingmen's houses.

Revue Pratique d'Obstétrique et de Gynécologie, Paris

November, XX, No. 11, pp. 321-348

64 *Inversion of Uterus. A. Béhague.
65 *Treatment of Vomiting in Infants. (Traitement des vomissements chez les nourrissons.) J. Sébilleau.

64. **Inversion of the Uterus.**—The inversion occurred in a girl of 16 during expulsion of a large polyp in the first of the two cases encountered by Béhague during his twenty-two year of practice; in the other case it occurred during delivery. The inversion occurred gradually in both cases. The uterus can sometimes be reduced by hand; if this proves impossible, incising the cervix may help. But if there is no prospect of success with this, colpohysterotomy is the next resort. Hysterectomy should not be done unless none of the other measures is practicable.

65. **Vomiting of Infants.**—Sébilleau describes the different causes for habitual vomiting in a nursling, stating that treatment can be only tentative at first until it is learned whether overfeeding or underfeeding is responsible for the vomiting or other causes are involved. He has found very valuable a tablespoonful of a 1.7 per cent. solution of sodium citrate added to each feeding or given the child before it is put to the breast. His experience with it confirms the assertions made by American and English writers in regard to its efficacy.

Semaine Médicale, Paris

December 11, XXXII, No. 50, pp. 589-600

66 *Pseudomyxoma of the Peritoneum. (La "maladie gélatineuse" du péritoine d'origine appendiculaire.) F. Lejars.

December 18, No. 51, pp. 601-611

67 Experiments on Transmission of Scarlet Fever to Animals. (La scarlatine expérimentale.) L. Cheinisse.

66. **Peritoneal Pseudomyxoma.**—Lejars reports a case in which a man of 45 had a fistula left from an operation in the appendix region four months before, and a translucent, jelly-like discharge was accompanied by a tumor in the region, a probe passing through the fistula into a cavity containing more of the jelly-like substance. Lejars evacuated this cavity, scraping out two handfuls of the jelly-like masses. The affection was supposed to be a colloid cancer but the man soon recovered completely and his continued good health at farm labor proves that the trouble was merely a pseudomyxoma of appendicular origin, such as Péan, Trotter, Eden and others have described. Lejars has encountered two similar cases which he describes and reviews the literature on the subject. The data all confirm the comparative harmlessness of the affection when the "jelly disease" is of appendicular origin, in direct contrast to that liable to follow cystic disease of the ovaries. The discovery of a myxoma, therefore, does not always mean a colloid cancer, and there is no need for excessive radical intervention. The patients in the cases on record all recovered after mere removal of the appendix and clearing out of the accumulations of jelly-like masses.

Beiträge zur Klinik der Tuberkulose, Würzburg

XXV, No. 2, pp. 185-354. Last indexed Dec. 7, 1912, p. 2100

68 *Direct Visual Inspection of Conditions Inside Abdomen and Thorax: Laparoscopy Findings in Fifty-Nine Cases; Thoracoscopy in Seventy-One. H. C. Jacobaeus.

68. **Direct Visual Inspection of Conditions Inside Abdomen and Chest.**—This number of the *Beiträge* is devoted entirely to a description of the findings when a cystoscope was introduced inside the abdomen or chest. A Nitze No. 12 seems to be the most useful size for the purpose. The findings and conclusion as compared with the clinical course of the cases and the necropsy findings are reported, with several colored plates. In the six cases of tuberculous peritonitis air was left behind in the abdominal cavity; all the patients soon showed a marked turn for the better, proving at least that the laparoscopy had certainly done no harm.

Berliner klinische Wochenschrift

December 9, XLIX, No. 50, pp. 2345-2392

69 Successful Operation for Cerebellar Tumor. (Fall operativ behandelter Kleinhirngeschwulst mit Heilerfolg.) H. Oppenheim.
70 Herpes Zoster and Varicella. P. Heim.
71 Influence of Hormones on Opsonic Index. (Pharmako-dynamische Probleme.) A. Strubell.
72 The Declining Birth-Rate. (Der Geburtenrückgang und seine Bekämpfung.) J. Wolf. Commenced in No. 49.
73 Bile Peritonitis Without Perforation of Biliary Passages; Three Cases. (Zur galligen Peritonitis ohne Perforation der Gallenwege.) F. Wolff.
74 Technic for Suturing Wounds. (Zur Frage der Wundnaht-Technik.) H. Oppenheim.
75 Effect on Eye of Puncture of the Corpus Callosum. (Ophthalmologische Betrachtungen zum "Balkenstich.") R. Hessberg.
76 Radiotherapy of Cancer. (Anwendung des Radiums und des Mesothoriums bei Geschwülsten.) A. Sticker.

Correspondenz-Blatt für Schweizer Aerzte, Basel

December 10, XLII, No. 35, pp. 1321-1352

77 Ethics and Psychotherapy. P. Dubois.

Deutsches Archiv für klinische Medizin, Leipsic

CVIII, Nos. 5-6, pp. 405-609. Last indexed December 7, p. 2101

78 Connection Between Eosinophilia and Anaphylaxis. H. Schlecht and G. Schwenker.
79 Palpation and Roentgenoscopic Control of Gastro-Intestinal Tract. (Die topographische Gleit- und Tiefenpalpation des Verdauungsschlauchs und ihre Ergebnisse.) T. Hausmann. (Radiologische Kontrolluntersuchungen.) T. Hanssmann and J. Meinertz.
80 Circulation in Collapsed Lung. (Blutzirkulation in der atelektatischen Lunge.) O. Bruns.
81 Mechanism of Heart Action in Case of Atrioventricular Paroxysmal Tachycardia. (Zum Studium der Pulsarhythmien. I.) R. Kaufmann and H. Popper.
82 Influence on Respiratory Interchanges of Exclusion of the Liver. (Einfluss der Leberausschaltung auf den respiratorischen Stoffwechsel.) F. Fischler and E. Grafe.
83 Rise of Pressure in Venous System During Physical Effort as Functional Test of the Heart. (Erhöhung des Druckes im venösen System bei Anstrengung als Mass für die Funktionsfahigkeit des menschlichen Herzens.) E. Schott.
84 Absorption of Potent Elements from Infusions and Preparations of Digitalis. S. Agawa.
85 Curable Acute Liver Disease. (Heilbare akute Hepatitis.) F. Schultze.
86 Nephrolysins. H. Lüdke and L. Schüller.

Deutsche medizinische Wochenschrift, Berlin

December 5, XXXVIII, No. 49, pp. 2297-2344

87 *Treatment of Enuresis. (Behandlung der Enuresis nocturna.) M. Klotz.
88 Technic for Serodiagnosis of Syphilis. (Weitere Erfahrungen über Verwendung von Azetonextrakten bei der Serumdiagnostik der Syphilis.) O. Stiner.
89 *Toxic Action of Urine in Peritoneum. (Urinintoxikation bei intraperitonealer Harnblasenruptur.) F. Oehlecker.
90 Sarcoma of the Knee. (Primäres, diffuses Sarkom der Kniegelenkkapsel unter dem Bilde der entzündlichen Fettgewebshyperplasie.) M. Blumenthal.
91 Thiersch Flap for Closing Gap in Urethra. (Deckung von Harnröhrendefekten mittels Thierschscher Transplantation.) A. Müller.
92 Roentgenotherapy in Gynecology. J. Wetterer.
93 *Pneumonic Plague in Brazil. (Eine Lungenpestepidemie in Südbrazilien.) Rau.

87. **Treatment of Enuresis.**—Klotz remarks that the progress of science has benefited the treatment of enuresis, especially the lesson learned from the reduction of diuresis in diabetics on a vegetable diet. Vegetables contain a large proportion of water, which tends to reduce thirst, while the stools on a vegetable diet are abundant and very soft, so that a large proportion of the fluid output occurs by way of the intestines instead of the kidneys. A vegetable diet is thus the ideal diet for children with enuresis nocturna. Coffee, beer and all alcoholic drinks are contra-indicated and milk should be restricted; fully 600 of 1,000 parts of milk pass out of the system in the form of urine. If there is much thirst, fruit should be given rather than fluids. A very important measure in treatment of enuresis, second only to restricting the intake of fluids after 4 p. m., is to raise the foot of the bed and make the child sleep on its side, possibly by tying a brush to its back which hurts if he rolls over on it, and systematic waking up of the child to have it urinate regularly. Most of the children addicted to enuresis are exceptionally hard sleepers and they are not aroused by the desire to urinate. This can be remedied by having the child take a nap for two hours, morning and afternoon. To promote evaporation of moisture from the children, he advises dressing the child lightly at night and promoting perspiration by out-of-door play during the day. The latter alone has frequently cured a tendency to pollakiuria and incontinence of urine during the day. Klotz has had no experience with Pfaundler's electric alarm; a bell is rung by the closing of the circuit between two wires in a cloth wound around the loins, as it becomes wet. As a rule, however, the children with enuresis are of a neuropathic disposition, of which it often is the only manifestation. It is a common finding that every third or fourth child with enuresis has some near relative with the same tendency; the little patient in most cases is an only child. In this class of cases the benefit from any measure is due to suggestion, and the measure invoked should be made as impressive for the child as possible, and all disturbing counterinfluences eliminated, the physician putting on a white robe, gloves, etc., and placing the child on the operating table. A frequently important point is to call some specialist in consultation, as the child may feel too much at home with the family physician: outside authority may be needed for the suggestive effect. The most effectual measure is application of the faradic current, seeking to impress the child. The electrode had best be applied to the genital region, and it must not be forgotten that certain nervous psychopathic children are not sensitive to the faradic current. Still another point to be borne in mind is not to announce the measures beforehand, for fear that some third party may deride them and the anticipated results. If the induced current fails, subcutaneous injections can be tried and, in rebellious cases, a local cold douche; the child sits unsuspectingly on a chair with the seat cut out and a jet of cold water is turned on the genitals suddenly from below. Klotz has never used hypnosis, having accomplished the desired results without it. When all else fails, he advises a change of scene, separating the child from its home environment for several months.

89. **Intoxication from Urine Escaping into the Peritoneum.**—Oehlecker reports two cases in which the rupture of the bladder and the escape of urine into the peritoneal cavity were ascertained only by testing the freezing point of the blood. In both cases the clinical picture was that of uremia; in one case, the patient a robust man of 39, the urine had been flowing into the abdominal cavity for a week; in the other for five days. These cases teach the necessity for suspecting a rupture of the bladder as the cause of peritonitis of obscure origin. Opening the abdomen and clearing out the accumulations may have a most wonderful effect; such a prompt and striking change for the better after the laparotomy is never witnessed in peritonitis from any other cause. As the urine was sterile in these two cases, the abdomen was sutured after it had been cleaned out, and a retention catheter was not needed.

93. **Pneumonic Plague in Brazil.**—Rau states that bubonic plague first appeared in South America twelve years ago, and cases have been known at Santa Maria, a town of 18,000 inhabitants, for four years. At first there were one or two cases in a house, then weeks and months would pass before another case would develop in another house far from the first. There never was any epidemic prevalence until last July, when a boy in a bakery died of pneumonic plague and seventeen other persons who had been more or less in contact with the patient also developed the disease and all died; no case from indirect contact. Over 200 dead rats were found under the floor of the house with the first case. The ordinary form of the disease had evidently become transformed into the pneumonic form. The first case probably was infected from the rats, but infection then proceeded by sputum droplets. The

attending physicians wore overgarments and tied cotton in gauze over their mouths and noses; none contracted the disease and the epidemic was stamped out by the middle of August. This small epidemic teaches that the different forms of plague may blend into each other. No mortality was known at the time in any other animal except the rats.

Monatsschrift für Kinderheilkunde, Leipsic

XI, No. 6, pp. 233-280

94 The Amount of Milk Sugar in Breast Milk. (Ueber den Milchzucker der Frauenmilch.) F. Lust.
95 Infantile Mortality in Germany During the Summer Months. (Verbreitung der Sommersäuglingssterblichkeit in Deutschland.) H. Risel.
96 *Tuberculin Treatment. Klotz.
97 The Significance of Eosinophilia with the Exudative Diathesis. E. Aschenheim.

96. **Tuberculin Treatment in Children.**—Klotz concludes from his extensive experience that the best method for administration of tuberculin, especially in children, is through the skin, as by the technic for the Pirquet test. The skin is inoculated at three, four or five different places, and the inoculations are repeated at intervals. The results were particularly favorable in gland and bone tuberculosis. In pulmonary tuberculosis it delays the process in even extreme cases, and is a valuable aid to other therapeutic measures. It never does any harm, he affirms, and when this form of administration is used before subcutaneous injection, it prevents the ill effects of the latter. He accounts for its effectual action on the ground that it stimulates the skin to the formation of receptors which neutralize the toxin produced by the bacilli.

Münchener medizinische Wochenschrift

December 3, LIX, No. 49, pp. 2657-2712

98 *Direct Transfusion of Blood; Five Cases. H. Flörcken.
99 *Diagnosis of Enlarged Bronchial Lymph-Nodes. (Bronchialdrüsendiagnostik.) B. Zabel.
100 *Intestinal Symptoms with Exophthalmic Goiter. (Intestinalerscheinungen bei Basedowscher Krankheit und Schwierigkeiten der Diagnose.) K. Kolb.
101 Spontaneous Healing of Appendicitis. (Zur Selbstheilung der Blinddarmentzündung.) L. Deppe.
102 Moving Pictures of the Heart Action. (Bewegungsaufnahmen des Herzens mit Röntgenstrahlen.) F. Dessauer and L. Kupferle.
103 Simplified Technic for Roentgenography. (Direkte Röntgenaufnahmen ohne Verwendung von Platten.) Hufnagel.
104 *Intermittent Limping. (Kasuistischer Beitrag zur Aetiologie, Pathogenese und Therapie der Dysbasia angiosclerotica.) J. Pick.
105 Scientific Dietetics. (Diätbehandlung und diätetische Küche.) W. Sternberg.
106 General Remarks on Suits for Malpractice. (Aerztliche Haftpflicht. Weshalb haftet der Arzt dem Patienten gegenüber regelmässig nicht auf Schmerzensgeld?) P. Fromherz.
107 Operative Treatment of Epilepsy. O. Tilmann.

98. **Transfusion of Blood.**—Flörcken reviews the experiences in this line that have been reported in German literature and describes five cases from his own experience. He ascribes the benefit to stimulation of the bone-marrow, and regards the prospects of the measure as very promising. There was no tendency to embolism in his or Hotz' cases, and except for a single slight rise of temperature in one instance there was no fever at any time, but there were signs of hemolysis in two of his five cases and in future he would be forewarned against this. The Carrel technic is preferable, perhaps, but the general practitioner would find it simpler and easier to connect the two vessels with an artery taken from a calf or dog and prepared with formaldehyd and paraffin. His patients were four women between 21 and 40, and one man of 26. The latter had pernicious anemia and the immediate effect of the transfusion was most striking, the pallor yielding to a rosy tint. The hemoglobin had been 20 per cent. before but was 40 per cent. the next day and the patient has been better since. The anemia in the other patients was secondary to hemorrhage or chlorosis and all were promptly restored to health.

99. **Diagnosis of Enlarged Bronchial Lymph-Nodes.**—Zabel has found in his extensive dispensary practice that auscultation over the spine of the whispering voice gives by far the most instructive information in regard to the condition of the bronchial glands. This is d'Espine's sign (it was described in full in The Journal, March 9, 1907, p. 909), and Zabel has found it positive when all other signs failed. It consists in having the patient say the French words *trois cent trente-trois* while the examiner auscults the cervical vertebral processes one after the other. The spoken words are accompanied by the characteristic tracheal resonance but in normal children this resonance stops abruptly at the seventh cervical vertebra, where the lung begins. If there are any enlarged bronchial lymph-nodes, the tracheal resonance extends farther down, possibly as far as the fifth thoracic vertebra. At this point is the main accumulation of the enlarged glands. They encircle the trachea and the bifurcation, extending around to the spine, and thus forming a sound-propagating connection between them. The unassisted ear perceives the bronchophony more distinctly than with the stethoscope, but the latter permits more exact localization. The findings are still more instructive if the patient whispers instead of speaks the words. If the glands are enlarged, an acoustic phenomenon is observed then which has been called "aphonious pectoriloquy" or *chuchotement*. Barot calls d'Espine's sign "trachysigophony" and has reported positive findings in hundreds of cases. Leroux also ranks it above all other measures for diagnosis of enlarged bronchial lymph-nodes, and Krantz and Roch have also extolled its reliability. The bifurcation in children is on a level with the third thoracic vertebra but in the aged it is as low as the fifth or sixth. Consequently allowance must be made for this in examining adults. The bronchial resonance changes abruptly from one vertebra to the other, and this is a special advantage of this method for diagnosis as mistakes are scarcely possible when the ear has once seized the bronchial timbre of the voice. One must not be misled by an unusually forcible transmission of the ordinary voice, without bronchial resonance, nor by a tumor in front, displacing the trachea. He has had five such cases in the last few months. In case of a process in the apex, it is scarcely possible to distinguish the enlarged lymph-nodes, but the diagnosis is of no practical importance in this case. A coincident pleural effusion might prove misleading; Roch has described a case of this kind in which there were two zones of bronchophony, the lower at the upper edge of the pleural effusion and the other corresponding to the enlarged lymph-nodes. Zabel found the course of the cases or the necropsy findings corroborate in every instance the findings of the sign. In many cases nothing else hinted that the lymph-nodes were not entirely normal. Even roentgenoscopy failed in five-sixths of these cases. The value of the sign was especially evident in young people with chronic catarrh of the air passages, tendency to eczema where the skin and mucosa meet, and to dyspepsia, rapid pulse and fluctuations in temperature, particularly after exercise, the lymph-nodes in the neck swollen and a tendency to general asthenia. Zabel believes that young persons presenting one or more of these general symptoms have some tuberculous process in the bronchial lymph-nodes when auscultation over each vertebra separately shows bronchophony of the whispering voice below a certain vertebra. In young children this is above the seventh cervical; at the age of 8, the first thoracic vertebra; at 12, the second; at 15, the third. When other symptoms and signs indicated lesions in the bronchial lymph-nodes the d'Espine sign was invariably positive. In three cases of cancer in the esophagus and one in the cardia, the d'Espine sign was also positive, probably from metastasis in the lymph-nodes.

100. **Intestinal Derangement with Exophthalmic Goiter.**—Kolb refers to a case reported recently by Schmieden in which a workingman had a chronic rebellious intestinal disorder but no signs of tuberculosis or cancer could be discovered or any other organic cause for the trouble except signs of mild exophthalmic goiter. An operation on the thyroid cured the intestinal trouble at once and permanently. Kolb has recently encountered a similar case. His patient was a man of 45 with a goiter since his eighteenth year, fluctuating in size but growing larger during the last six years. There were occasional headaches and palpitations. Inquiry elicited the fact that he had had diarrhea for fifteen years, rebellious to all treatment. On the diagnosis of symptom-poor, secondary exophthalmic goiter, the substernal goiter was removed and the tendency to diarrhea disappeared from the hour of the operation. Diarrhea in obscure cases of exophthalmic goiter may prove the clue to the diagnosis. Kolb even goes so far as to assert that

all cases of diarrhea not amenable to therapeutic measures and for which no clinical objective explanation can be found, should always suggest the possibility of a masked incipient exophthalmic goiter.

104. **Intermittent Limping.**—Pick has recently given a month's course of treatment to thirteen patients with angiosclerotic dysbasia or intermittent claudication, much improving their condition. He describes the cases in detail and emphasizes that treatment must aim to improve conditions in the circulation, and for this he has found the negative-pressure breathing apparatus a powerful aid, pumping more blood through the arteries and at a more rapid rate, thus nourishing the muscles more effectually. He gives iodin preparations in the form of a spray to be inhaled; this spares the stomach and causes no symptoms of iodin poisoning. He commends the negative-pressure apparatus as a valuable adjuvant in treatment of arteriosclerosis in general and especially for the coronary arteries. He has his patients keep up moderate negative-pressure breathing exercises after their return home. With a more active circulation through the limbs, the danger of gangrene is rendered more remote. In conclusion he reports two additional cases in which with incipient coronary sclerosis the pulse in the right dorsalis pedis artery is much weaker than in the left, or the left is imperceptible, while the right is still evident, but the posticus on neither side shows any pulse. The history suggests lead or nicotine poison, but no syphilis.

Virchows Archiv, Berlin

November, CCX, No. 2, pp. 161-320

108 Adrenals with Anencephaly. (Nebennieren bei Anenzephalie.) R. Meyer. Commenced in No. 1.
109 Hemorrhage in the Adrenals in the New-Born. (Ueber Nebennierenblutungen bei Neugeborenen.) C. Landsgaard.
110 Routes of Infection in Tuberculosis. H. Beitzke.
111 Histogenesis of Lymph-Node Tuberculosis. (Ueber die Histogenese des Lymphdrüsentuberkels und die Frühstadien der Lymphdrüsentuberkulose.) E. Joest and E. Emshoff.
112 Tubercle in the Heart. (Fall von endokardialem Abklatschtuberkel.) H. Reinhard.
113 The Elements of the Thymus. II. (Thymusstudien.) C. Hart.
114 Classification of Kidney Diseases. (Können wir die Nierenerkrankungen nach ätiologischen Gesichtspunkten einteilen?) T. Fahr.

Zeitschrift für Kinderheilkunde, Berlin

November, V, No. 4, pp. 255-348

115 Intradermal Diphtheria Toxin Reaction. (Die Intracutanreaktion des Menschen auf Diphtherietoxinjektion als Ausdruck des Schutzkörpergehaltes seines Serums.) J. Michiels and B. Schick.
116 Tendency to Rachitis and Spasmophilia in Twins. L. Langstein.
117 Heat Regulation in Infants. (Das Wärmerregulationsvermögen des Säuglings.) A. Mendelssohn.
118 Vegetable Digesting Ferment and Its Application in Infant-Feeding. (Ueber ein pflanzliches Labferment und seine Anwendung in der Diätetik des Säuglingsalters.) M. Castex.
119 *Primary Focus in Pulmonary Tuberculosis. M. Zarfl.
120 Jaundice of the Newly Born. (Icterus Neonatorum.) L. Unger.

119. **Primary Tuberculous Foci in the Lungs of Infants.**—Kuss, Albrecht and others have decided from post-mortem examinations of a large number of cases that pulmonary tuberculosis is of vastly greater frequence in infants than any other form, and that the primary focus in almost all cases is in the lung from inhalation, and that the degenerative changes in the bronchial glands are secondary. Parrat found this primary lung focus in every one of 145 cases, often only after very long and painstaking search. To demonstrate this claim histologically it is necessary to examine cases in the very early stages. In most infants dying from tuberculosis the degenerative changes are so far advanced that it is impossible to determine the primary focus. Zarfl describes in detail a case of an infant dying at 25 days of age, born of a tuberculous mother and cared for by the patients in a tuberculosis hospital. The cause of death was lobular pneumonia with capillary bronchitis. There was a small focus the size of a hemp seed projecting from the anterior surface of the left upper lobe, entirely solidified. On microscopic examination it was shown to contain many tubercle bacilli. The glands were not affected. Zarfl concludes that the bacilli were inhaled and led to the formation of an exudate and pneumonia, instead of to tubercle formation.

Brazil Medico, Rio de Janeiro

November 22, XXVI, No. 44, pp. 459-468

121 *Indications for Electric Enemas. (Occlusão intestinal e gravidez. Cura pelo clyster electrico. Indicação clyster electrico em geral.) C. Peixoto.

121. **Electricity in Enemas.**—Peixoto applies Boudet's method of sending the faradic current through the body from an electrode in the back to one on the abdomen after a saline enema has been given, to be retained during the sitting. He has found this method useful in cases of intestinal obstruction when it can be applied early, but if the obstruction has lasted long enough to do serious damage the electric enema is directly contra-indicated as it may bring on a catastrophe. He reports the successful application of the measure to a woman in the ninth month of her fifth pregnancy with symptoms of ileus.

Revista de Medicina y Cirugia, Havana

December 25, XVII, No. 24, pp. 687-702

122 *Treatment of Nephritis with Serum from Renal Vein of the Goat. M. M. Dominguez.

122. **Serotherapy in Nephritis.**—The form of serotherapy to which Dominguez refers is that introduced by J. Teissier of Lyons in 1908, which he says has passed out of the tentative stage into practical and successful use. He states that the method has been applied in Cuba by various clinicians who have thus warded off severe uremia, but he gives no clinical details. The method was described in these columns Nov. 14, 1908, p. 1738. It is the subcutaneous injection of serum from the renal vein of the goat. The blood in this vein must contain the internal secretion of the kidney, if such exists, and clinical experience confirms this theoretical assumption. The principle involved is different from that of organotherapy; the organ is not removed but continues functioning and passing out its vital secretion, and this internal secretion then acts on the other glands and on the emunctories. Teissier selected the goat, regarding its serum as less toxic and less inclined to induce serum sickness and similar phenomena than horse serum. No instance is known, Dominguez says, of symptoms of anaphylaxis following injection of goat serum. To ward off any possible danger from this source, Teissier gives calcium lactate during the serotherapy, 0.5 gm. morning and evening. Dominguez commences the serotherapy with 10 or 20 c.c. of the goat renal vein serum, repeating the subcutaneous injection every fifth day with the same or a larger dose. In urgent cases the injections can be made every day; he cites one clinician who thus administered up to 350 c.c. in the course of two months.

Semana Medica, Buenos Aires

November 14, XIX, No. 46, pp. 981-1040

123 Treatment of Anemias. P. J. Garcia.

November 21, No. 47, pp. 1041-1100

124 Hygiene of the Eyes. (Hygiene visual.) R. Argañaraz.
125 Experimental Research on Influence of Sodium Bicarbonate on Acetonuria. R. Novoa.

Wiener klinische Wochenschrift, Vienna

December 5, XXV, No. 49, pp. 1933-1964

126 Campaign Against Uterine Cancer. (In welcher Weise lässt sich die Frühoperation des Gebärmutterkrebses fordern?) J. Schottlaender.
127 Improved Technic for the Meiostagmin Reaction. (Ueber Antigene für die Meiostagminreaktion.) G. Izar.
128 *Benzol in Treatment of Leukemia. B. Stein.
129 Nucleinic Acid in Treatment of Progressive Paralysis. C. Tsiminakis.

128. **Benzol in Treatment of Leukemia.**—Stein reports that a six weeks' course of benzol treatment had such a favorable influence in a case of myeloid leukemia that the leukocytes dropped from 225,000 to normal and the blood-picture approximated normal while all subjective symptoms disappeared and the patient gained in weight. She was a woman of 67 and only slight and transient benefit had been derived from a systematic course of roentgenotherapy. The benzol was given according to Koranyi's technic (described in THE JOURNAL, Oct. 5, 1912, p. 1333) except that it was given in a capsule which did not dissolve until it had passed out of the stomach. The spleen was no longer palpable when the patient was last seen; when the benzol treatment was commenced it extended below the level of the umbilicus and to the median line. When the benzol was suspended, arsenic was given for a time longer.

Zentralblatt für Chirurgie, Leipsic

December 14, XXXIX, No. 50, pp. 1697-1728

130 Formation of Bladder Out of Cecum. (Ersatz der exstirpierten Harnblase durch das Coecum.) P. Lengemann.

131 Exclusion of the Appendix. (Ausschaltung des Wurmfortsatzes.) S. Kofmann.

Zentralblatt für Gynäkologie, Leipsic

December 14, XXXVI, No. 50, pp. 1681-1720

132 Puerperal Colon-Bacillus Invasion of Blood. (Colibakteriämie puerperalen Ursprungs.) R. Köhler.

133 "Hands Off the Uterus." ("Hand von der Gebärmutter.") W. Nacke.

134 Campaign Against Criminal Abortion. (Nochmals zum Kampf gegen die kriminelle Fruchtabtreibung.) M. Hirsch.

Gazzetta degli Ospedali e delle Cliniche, Milan

December 5, XXXIII, No. 146, pp. 1529-1536

135 Roentgenotherapy of Uterine Fibromas. (Fibromi uterini e raggi X. Indicazioni e controindicazioni del trattamento radioterapico.) H. Bordier.

December 8, No. 147, pp. 1537-1552

136 Case of Spontaneous Rupture of Mitral Valve in Chronic Myocarditis. (Rottura spontanea dell apparecchio valvolare mitralico.) G. Cappello.

Policlinico, Rome

December 8, XIX, No. 50, pp. 1819-1856

137 Toxic Nephritis from Helminths in Boy of 5. (Nefrite tossica da parassiti intestinali.) E. Giovannini.

December, Medical Section No. 12, pp. 527-570

138 Ferment-Arresting Action of Thiocyanic Acid in Respect to Pepsin. (Di un azione antifermentativa dell'acido solfocianico verso la pepsina.) E. Cavazzani and G. Avite.

139 Unreliability of the Tryptophan Test for Gastric Cancer. (Sul valore della prova del glycyltriptofano nella diagnosi di carcinoma gastrico.) E. Giani.

140 Enhancing of Action of Fluorescent Drugs by Roentgen Rays. (Azione biologica e curativa delle sostanze fluorescenti associate ai raggi X.) F. Ghilarducci and E. Milani. Commenced in No. 11.

Riforma Medica, Naples

December 7, XXVIII, No. 49, pp. 1345-1372

141 Behavior of the Opsonins and Agglutinins in Animals After Castration or Injection of Extract of Testicles. (Comportamento delle opsonine e delle agglutinine negli animali castrati o iniettati di estratti testicolari.) D. De Sandro and Q. Torelli.

142 *Reeducation of the Motor Functions. (Sulla rieducazione fisica.) G. Boeri.

143 Influence of the Pancreas on Digestion and Absorption of Fats. P. F. Zuccola.

144 *Development of Parasites of Infantile Kala-Azar in Mosquitoes. (Leishmanie e zanzare. Ulteriori esperienze con zanzare o parassiti splenici.) G. Franchini.

142. **Reeducation of the Muscles.**—Boeri thinks that this name for Frenkel's method of training tabetics to walk anew is by no means comprehensive enough as the motor functioning is such a complex mechanism of physical and psychic factors, stimulations and inhibitions. He insists that this system of reeducation should not be confined to treatment of tabes alone but should be regarded as a general principle in treatment of various affections, as it is based on physiology and on the intimate relations between the movements of the muscles and the psychic functioning. The principle should not be restricted to the humble task of reeducating the peripheral tools of locomotion but should be applied to the highest spheres of psychic activity in the brain cortex; here it blends with psychotherapy, which may be called the reeducation of the ideas. Considering that some muscular contraction corresponds to every idea, that the mental image of the movement precedes the movement and that the translation of the mental image into the effective movement is prevented by inhibiting forces, we can readily see the importance of paying special attention to these inhibiting forces in the process of reeducation. The principle of reeducation is being applied now not only to the gait but to speech, hearing and thought, and even to the vegetative processes, alimentation, digestion, micturition, respiration and the heart action, to the extent that the latter processes can be influenced by the action of the muscles above them which are under the control of the will, the abdominal muscles acting on the bladder, the heart influenced by respiration, massage, etc. Lagrance has called attention particularly to the possibility of reeducating the heart. Boeri urges bringing under the influence of the will power in this way numerous vital processes which are generally left entirely to themselves from birth to death, such as the functioning of the liver, the heart, the respiration, which we all now leave in their primitive untrained, natural state throughout life. He regards it as within our power to enhance the functional dignity of the vegetative processes and gradually improve these functions and transmit them on a higher plane to posterity. The tendency of physiologic education is to train our movements until they become automatic and thus we spare will power and force in them, while reeducation, on the other hand, seeks to revive the volitional and conscious mechanism of the movements.

144. **Leishmania and Mosquitoes.**—Franchini has previously reported the presence of this genus of parasites in the *Anopheles maculipennis* and here describes further research in this line, with illustrations of the findings. He states that in anopheles which had sucked an extract of spleen tissue, containing numerous parasites, from children with kala-azar he was able to trace the development through different stages both of the flagellated and the non-flagellated forms of the parasites.

Hospitalstidende, Copenhagen

December 4, LV, No. 49, pp. 1469-1500

145 *Atrophy of the Testicles After Mumps. (Testisatrofi efter Parotitis epidemica.) H. C. Hall.

146 *Positive Wassermann Reaction with Sarcoma. O. Lassen.

December 11, No. 50, pp. 1501-1524

147 Glycosuria with Cirrhosis of the Liver. (Om alimentær og spontan Glykoseudskillelse ved Levercirrhose og dette Symptoms Forhold til Pankreas.) K. A. Heiberg.

145. **Atrophy of the Testicles after Mumps.**—Hall found pronounced fibrous atrophy of the parenchyma of one testicle in a young man who had succumbed to a chronic gastro-intestinal trouble a year after an attack of mumps. The mumps had been localized almost exclusively in this testicle; the parotid glands did not swell. In another case the atrophied testicle became the seat of a tuberculous process, the latter being of more recent development than the atrophy left from mumps nearly fifteen years before the first symptoms of the tuberculous affection.

146. **The Wassermann Reaction with Cancer.**—Lassen states that there could be no question of syphilis in the case reported but yet the Wassermann reaction was strongly positive. Necropsy revealed a sarcoma in the anterior mediastinum of the young man. He cites the few cases on record of a positive reaction with cancer in the absence of syphilis, remarking that with improved technic the number is growing constantly smaller.

Ugeskrift for Læger, Copenhagen

November 28, LXXIV, No. 48, pp. 1777-1838

148 Treatment of Internal Tuberculosis with Stored Light Rays. (Behandling af intern Tuberkulose med absorberet Lysenergi.) T. Brinch. See abstr. 227, 1912, lix, 1586.

149 *Acetyl-Salicylic Acid. (Nogle Acetylsalicylsyre-Erfaringer.) W. Thulstrup.

December 5, No. 49, pp. 1839-1888

150 Precipitation Reactions in Syphilis. (Kvantitative Fældningsreaktioner ved Syfilis.) V. Ellermann.

151 Dosage in Roentgenotherapy. (Bemærkninger om Dosering af Røntgenterapi.) H. Smidt.

152 Phenol in Urine After Use of Phenolized Gauze. (Fenolkamfergaze—Karbolurin.) E. Toft.

149. **Personal Experiences with Acetyl-Salicylic Acid.**—Thulstrup states that he has been taking acetyl-salicylic acid uninterruptedly for nine years to relieve extensive syphilitic periostitis. His dosage is 3 or 4 gm. a day and every attempt to suspend the drug or substitute another is always followed by aggravation of the pains in the course of a few days. He has thus taken 3.3 pounds of the drug per kilogram during each year, a total of over 26 pounds. There were no by-effects from the drug as long as the bowels moved freely, but if there was constipation, even for a day, it sounded as if thousands of electric bells were ringing in his ears. The by-effects all ceased as soon as the bowels moved. Sweating had no effect on the roaring in the ears or aggravated it, from the reduced diuresis. On an empty stomach, there was often pain after ingestion of the drug, probably from the enhancing of the acidity. To counteract this he generally took an alkaline drink with the tablet. He does not think his organs suffered from the prolonged use of the drug, even when it was combined with other drugs, mercury, salvarsan, potassium iodid or sarsaparilla.

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A NEW PROCEDURE (PUNCH OPERATION) FOR SMALL PROSTATIC BARS AND CONTRACTURE OF THE PROSTATIC ORIFICE *

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BALTIMORE

In 1836, Mercier first vigorously called attention to the occasional occurrence of obstructions at the prostatic orifice in cases other than prostatic hypertrophy, and gave them the name of *valvules du col de la vessie.* He described quite accurately the elevation of the median portion of the prostate in the form of a bar, which he said in some cases was due to muscular hypertrophy, and in others to a glandular enlargement in this region.

Mercier devised an instrument somewhat like a lithotrite by means of which he operated in a number of cases with fair success, but his operation was never adopted and soon fell into disuse.

Later French writers, particularly those of the Guyon school, departing from Mercier's teachings, have attributed the condition to lack of bladder tonicity, and the term *prostatisme sans prostate* has been quite generally used to describe this condition, which they believed to be due to an atrophy or paralysis of the vesical musculature, rather than to the obstruction at the prostate.

In America, Keyes, Fuller and Chetwood have recognized the obstructive character of these cases which they have described as contracture at the neck of the bladder or stricture of the posterior urethra. For this condition Fuller devised a deep division of the median portion of the prostate and vesical sphincter, either through a suprapubic or a perineal incision, and Chetwood and Keyes have recommended highly the use of a modified Bottini operation done through the perineum to divide the obstruction at the orifice by means of an electrocautery blade.

By the surgical world, as a whole, however, this condition has been sadly neglected.

In my own work, this condition has been attacked in various ways: at first, through the urethra by means of a Bottini operation; subsequently by means of a perineal prostatectomy, after removal of the lateral lobes of the prostate, and later, through the suprapubic route. The results obtained by means of the Bottini operation were not entirely satisfactory. There were a few cases in which incontinence of urine persisted for quite a protracted period and the mortality was not negligible. The perineal route was also unsatisfactory because the lateral lobes were sacrificed, frequently when not at all enlarged, and, the patients often being young men, one naturally disliked to do more than was necessary.

January 27, 1909, I saw a patient in whom rectal examination showed a prostate no larger than normal, yet a catheter withdrew 500 c.c. residual urine, and the cystoscope showed a small but definite transverse median bar. There was no intravesical enlargement of the lateral lobes. The patient objected to a prostatectomy and I finally consented to remove the median portion of the prostate through a suprapubic incision. The prostatic orifice was found to be surrounded by an inelastic ring, difficult to dilate, and in the median portion there was a small bar only slightly elevated above the trigon. With forceps and scissors this was excised. The vesical orifice dilated widely, and apparently all obstruction had been removed. The patient convalesced slowly; he remained in the hospital eight weeks before the suprapubic fistula healed, and a month later showed evidences of recurrence of the obstruction. In the course of three months the suprapubic wound had reopened, obstruction of the prostatic orifice being almost complete, and in a short time the patient died of uremia.

A study of this case brought forcibly to my attention the fact that it should be possible to treat such cases by means of excision of the median portion of the prostate through the urethra, and I therefore set about to construct an instrument by means of which this could be done. Figure 1 shows the final outcome of my experimentation. It consists of an outer tube about 18 cm. long with a coudé curve at its inner end, and a urethroscopic disk at the other, containing a post on which an external urethroscopic light can be attached. Near the inner end on the under surface a large deep fenestra is provided (Fig. 1). Within the instrument is a second tube which has a sharp-cutting inner end made of steel, which when pushed home can excise anything appearing inside of the outer tube. The object of this instrument is, when pushed through the urethra into the bladder, to engage the median bar in the fenestra and then to excise it by means of the inner cutting tube while observing the operation through the inner tube illumined with the external urethroscopic lamp.

The first operation was performed with this instrument on Feb. 1, 1909, in my office, under local cocain anesthesia. A piece of tissue about 7 mm. in diameter and 1.3 cm. long was excised almost without pain, with little subsequent hemorrhage, and splendid functional result in a case of small median-bar obstruction of long duration. Since then I have operated on numerous cases, and am now able to report 100 cases of obstruction to urination of the median-bar type, and others with peculiar small enlargements of the lateral or anterior portions of the prostate, which have been operated on with this instrument.

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* Because of lack of space this article is abbreviated in THE JOURNAL. The complete article appears in the Transactions of the Section and in the author's reprints. A copy of the latter will be sent by the author on receipt of a stamped addressed envelope.

* Read in the Symposium on Obstacles to Evacuation of the Bladder in the Section on Genito-Urinary Diseases of the American Medical Association, at the Sixty-Third Annual Session, held at Atlantic City, June, 1912.

Before detailing these cases it may be well to speak more definitely in regard to the technic of the operation as now performed.

The instrument is usually inserted with the cutting obturator pushed home until the end of the instrument is felt to enter the vesical orifice. The inner tube is then withdrawn about 2 cm., the electric light attached externally and an inspection made. As a rule, the verumontanum will be seen bulging into the fenestra. The instrument is then pushed slowly inward, the verumontanum is seen to disappear, and the median portion of the prostate gradually enters and finally fills the fenestra completely. If the instrument is pushed a little farther inward, urine escapes, showing that the instrument is in the bladder. When it is drawn outward the flow of urine ceases, showing that the inner edge of the fenestra is caught against the median bar, a good view of which is easily obtained after aspirating the fluid from the interior and drying with swabs. The inner cutting tube is then rapidly pushed home, and excises in one piece the tissues caught in the fenestra (Fig. 2). With alligator or rongeur forceps, inserted into the instrument, this piece of tissue is removed and is usually 1.2 to 1.5 cm. long, one-third of its circumference being covered with mucous membrane, partly vesical and partly urethral. Experience has shown that one cut is usually not sufficient, and that it is wise next to turn the instrument first to the right and then to the left in order to remove more of the median bar on each side. The lateral cuts never excise as much as the posterior median, generally about one-third as much. The cutting inner tube is then removed; the bladder is washed out through the outer tube, and when apparently clear of clots the obturator is introduced and the instrument withdrawn. Immediately afterward a two-way urethral rubber or gum catheter (Fig. 3) is inserted into the bladder (by means of a stilet if a gum catheter is used), and continuous irrigation at once begun. If clots are present they are evacuated by means of a large hand-syringe, but generally this is not necessary. After the double catheter has been fastened in place by means of adhesive strips around the penis, the patient is returned to the ward, where continuous irrigation is at once resumed. A large porcelain tank, containing about 10 liters of sterile water at a temperature of 115 F., which is allowed to flow through a small tube into the bladder and out through the large tube with sufficient rapidity to remove the blood and prevent clotting, is employed. This irrigation is kept up for twenty-four or forty-eight hours. Sometimes the tubes become plugged, and the large hand-syringe has to be used to evacuate the clots. As a rule, the two-way catheter can be removed in from twenty-four to forty-eight hours. Only rarely is further catheterization necessary. Many of the patients have left the hospital in two or three days, several have not even gone to the hospital. As a rule, the patient is able to void urine with much greater freedom at once, and the convalescence is generally rapid and satisfactory, no treatment other than hexamethylenamin (urotropin) and water in abundance being required. The use of sounds and dilators has been found unnecessary.

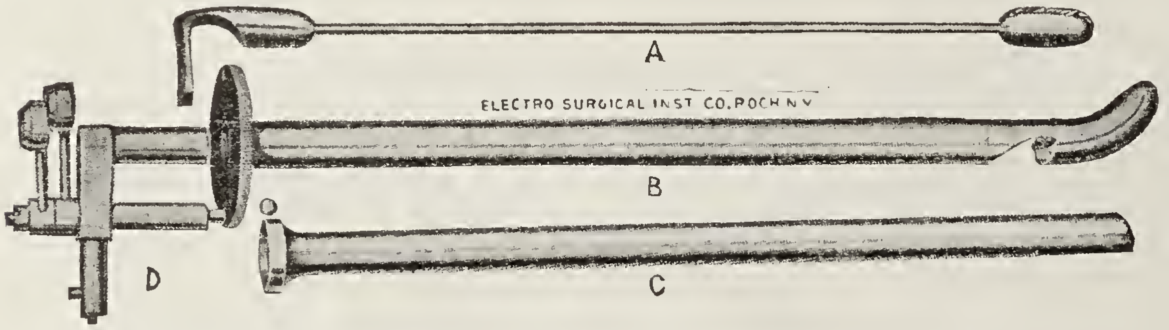

Fig. 1.—The urethroscope median bar excisor, showing the outer tube with fenestra B and external light-carrier D, obturator A and inner cutting-tube C.

STUDY OF CASES

This punch operation has now been performed in over 100 cases which may be divided as follows:

Simple bars or contracture of the prostatic orifice, fifty-one cases; median bar with diverticula, four cases; bar with vesical calculus, eleven cases; bar or small lobe obstruction after prostatectomy, twenty cases; bar or small lobe with trigonal obstruction, three cases; small bar associated with spinal disease, four cases, and obstruction associated with cancer of the bladder and prostate, etc., nine cases.

CLASS A.—SIMPLE BARS OR CONTRACTURE OF THE VESICAL ORIFICE

There are fifty-one cases in this group. The diagnosis was invariably made by the cystoscope which showed a definite elevation of the median portion of the prostate in the shape of a small bar, either flat or rounded, above the anterior portion of the trigon. With the finger in the rectum and the cystoscope in the urethra this portion of the prostate was felt to be increased in thickness and in most cases considerably harder than normal. Not infrequently the prostate formed a hard ring around the cystoscope, the lateral lobes of the prostate being of a chronic inflammatory character. A contracture of the orifice was not usually to be made out, and, in fact, in almost all cases no difficulty was experienced in passing an ordinary No. 21 cystoscope with the usual coudé curve. In almost all instances the bladder showed the effect of obstruction and increased muscular effort in emptying the bladder, viz., more or less pronounced trabeculation, occasionally cellules or even diverticula, and not infrequently a pouch behind a hypertrophied trigon. Complications, such as cystitis, vesical calculus, infection of the kidneys, etc., were occasionally present, but are not included in this group of cases. The ages of the patients in Class A were as follows:

Age	Cases	Age	Cases
Under 30	2	From 50-59	16
From 30-39	4	" 60-69	14
" 40-49	11	" 70-79	5

A further analysis shows that fifteen patients, or 30 per cent., were under 50; the youngest patient in this class was 25. Examination of the records shows that in twenty-two cases the prostate was said to be slightly enlarged, but all but one of these patients were over 50; the single exception was a man aged 40, in whom the prostate was a little larger than normal, but not definitely hypertrophied; nor were any of the other twenty-one cases considered to be definite hypertrophies. The residual urine was as follows:

C.c.	Cases	C.c.	Cases
None	8	From 100-149	7
Under 30	14	" 100-175	1
From 30-49	11	" 100-460	1
" 50-79	3	Amount not stated	2
" 80-99	4		

In the majority of cases gonorrhea did not play an important rôle, and even in the cases in which it had been present there was often no evidence that it had been responsible for the later symptoms of obstruction, although the irritability which was present in many cases had not infrequently followed soon after gonorrheal infection. It cannot be denied, however, that not a few cases occurred in which a gonorrheal prostatitis had led to a gradual obstruction to the outflow of urine.

Among the seventeen patients who were under 50, the residual urine was as follows:

None	3 cases
Under 30 c.c.	6 cases
Between 30 and 49 c.c.	2 cases
Between 50 and 79 c.c.	1 case
Between 80 and 99 c.c.	2 cases
Between 100 and 149 c.c.	3 cases

Some of the most striking instances of large amounts of residual urine in young men are, however, not included in this class, because they were associated with complicating conditions, such as vesical diverticula, calculus, or had been operated on by prostatectomy. Several of these patients had from 400 to 500 c.c. of residual urine and led catheter lives, although quite young men. The bladder capacity was as follows:

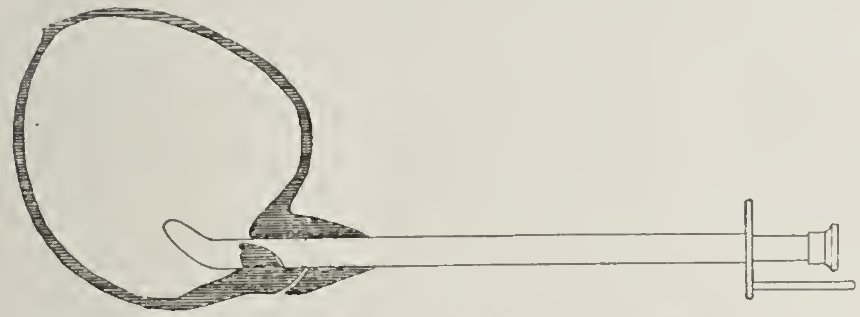
Fig. 2.—Urethroscopic median bar excisor in place, having enucleated the median bar.

Under 50 c.c.	1 case
Between 200 and 249 c.c.	5 cases
Between 250 and 299 c.c.	8 cases
Between 300 and 399 c.c.	12 cases
Between 400 and 499 c.c.	7 cases
Over 500 c.c.	14 cases
Not stated	4 cases

An analysis of the above shows that in fourteen cases, or 28 per cent., the bladder capacity was under 300 c.c., and that therefore the bladder was markedly contracted; in only fourteen cases, or 28 per cent., was the bladder as large as normal (500 c.c. capacity).

In those patients in whom there was little or no residual urine, there was generally contracture of the bladder, so that often the frequency of urination in these cases was greater than in some of those with much more residual urine.

The disease may therefore be said to differ from prostatic hypertrophy in that the obstruction to urination is less complete and usually associated with hypertrophy and subsequent contracture of the bladder, and in that for a time there is only a small amount of residual urine; in some instances, however, the amount of residual urine becomes very large or even complete retention may supervene. Pain, local and referred, burning and irritability, often very distressing, are among the most prominent symptoms in about 60 per cent. of the cases.

Pathology.—The specimens obtained by means of the urethroscopic median bar excisor or punch give a splendid opportunity to study the lesion in the median portion of the prostate in these cases, and this, I believe, is the first time that an extensive and comprehensive material of this sort has ever been assembled for study.

In this article, which is necessarily much abbreviated, it is impossible to go into the varied and complex pathology very thoroughly; suffice it to say, that several very distinct types of lesions were discovered.

One of the most common was that of a dense layer of new-formed connective tissue immediately beneath the mucous membrane, evidently forming a firm fibrous ring associated with elevation of the median portion of the prostate. Ten cases of this character were discovered, most of them in men past middle age, the youngest being 44. In these cases the sections showed no prostatitis and no connective-tissue infiltration in the muscle or gland tissue, the lesion consisting essentially of a submucous fibrosis.

The second type of lesions, which occurred with about the same frequency as the fibroid type just described, was one in which, in addition to a submucous connective-tissue layer, there was found a chronic inflammatory condition of the gland tissue, often with marked periacinous fibrous infiltration occasionally extending into the muscle.

The third type of lesion was one in which there was a definite hypertrophy of the submucous gland tissue, involving either the suburethral or subtrigonal groups of glands, or both. One patient, aged 38, showed a very marked hypertrophy of these glands, the lesion being absolutely typical of prostatic hypertrophy, large dilated acini with extensive intra-acinous outgrowths, budding, etc., being seen. Several other cases were found in men under 50. In most cases there was seen an inflammatory infiltration in and around the acini, sometimes well organized, so as to form a well-marked fibrosis. In one case, which was entirely unlike any of the others, there was no inflammatory infiltration, no fibrosis, no prostatitis and no hypertrophy, but the lobule removed showed simply a superabundance or overgrowth of the subcervical group of glands which had been sufficient to cause obstruction and irritation.

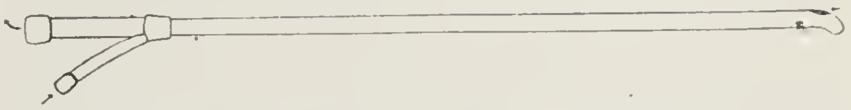
Fig. 3.—Two-way coudé gum catheter for continuous irrigation; size 29 French.

A summary of my results shows that inflammatory infiltration, leading to fibrous tissue formation, either in the submucosa or in the glandular layer beneath it, and occasionally in the musculosa, forms a most characteristic lesion; that Mercier was right in saying that the obstruction in many of these cases was glandular in character, but wrong in his assertion that in many of the cases the lesion was due to a muscular hypertrophy, which I have found to be extremely rare.

Results.—The immediate results in all cases were satisfactory. There were no fatalities, no serious complications, and in all cases the patient left the hospital improved. In a few instances trouble was experienced on account of plugging of the catheter with a blood-clot, and it was necessary to use vigorous suction by means of a strong syringe or in some cases to remove the clots with an evacuating catheter. In no case, however, was the hemorrhage alarming or impossible to handle through the urethral catheter.

The ultimate results have been excellent. I have sent out sets of questions every six months, and have received replies within the past six months from all but six patients. In reply to the question as to whether they are entirely cured of all obstruction to urination, twenty-three have replied that they are entirely cured and eleven that they are almost cured. In several of the latter cases there is only a slight irritation, pain or discomfort which prevents the patient from saying that he is entirely cured. Seven patients report that they are much improved, that is, between 50 and 75 per cent. of the obstruction has been removed. One patient says that he is slightly improved, about 25 per cent. of the obstruction having been removed, and three patients that they are unimproved. In these three cases severe pain was the principal symptom; there was no residual urine present and no apparent obstruction to urination, although a definite bar was seen with the cystoscope. The operation had been done with the hope of curing the pain, and while it has been quite successful in several other similar cases, it has not been successful in these three. All three of these patients have been vigorously treated by myself and others with various means, local and systemic, without relief; they belong to that interesting but distressing class of patients who complain of severe irritation, burning or pain in the deep urethra, for which it is often impossible to do anything really curative.

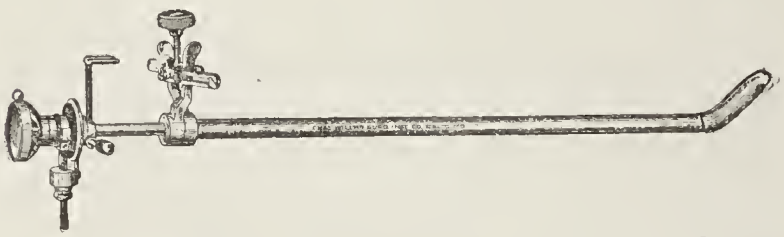

Fig. 4.—Cystoscopic rongeur, closed, in position for introduction.

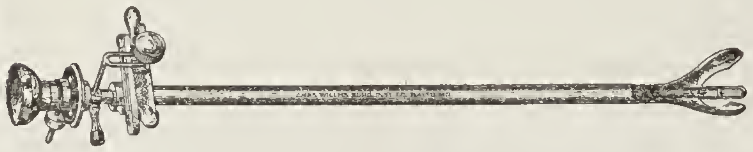

Fig. 5.—Rongeur, open, showing cystoscope pushed out for inspection.

Four patients operated on during the past six months are known to have done well and are not included in the list. Two patients alone have not been heard from.

Among the thirty patients who complained of local pain (in many of whom this formed the most distressing symptom), the answers received indicate that seven have been entirely cured of the pain and irritation, twelve have been almost cured, four are improved, three are unimproved and four have not been heard from.

The results, therefore, may be said to have been extremely satisfactory, both in cure of obstruction and in the relief of pain. Some of the results have indeed been brilliant, effecting cure in cases of very long standing.

CLASS B.—PROSTATIC BAR OR CONTRACTURE WITH DIVERTICULA

There are five cases in this group which are given at length in the Transactions of the Section. The results obtained were excellent.

In reviewing these and other cases of vesical diverticula which I have seen, I am struck with the fact that only occasionally is it necessary or advisable to operate for the diverticula themselves. The simple removal of the obstruction, either by prostatectomy or by the punch operation, is usually sufficient to relieve the patients completely. In some cases in which the diverticulum is pressing on a ureter or has drawn it into its cavity, it is advisable to excise the diverticulum and to bring the ureter into the bladder by plastic procedure, if necessary.

CLASS C.—PROSTATIC BAR OR CONTRACTURE WITH VESICAL CALCULUS

There are eleven cases in this group. One of these patients, aged 22, had had difficulty of urination for many years. Examination revealed a calculus which was easily crushed and the bar was excised with the punch. The patient has been entirely well for almost three years. Two patients, aged 43 and 44, had calculus associated with the bar and were similarly treated with excellent results.

The other eight patients were men over 50, the oldest being 81, in whom an oxalate stone 1½ inches in diameter was crushed and the punch operation subsequently performed. The patient writes that he is now entirely well.

The results in all these cases have been peculiarly gratifying, the symptoms of frequency and difficulty of urination having been often very pronounced and associated with residual urine and vesical contracture. There has been no recurrence of calculus in any case which, I believe, is due to the fact that all obstruction has been removed by the punch operation. One of the most valuable fields for the punch is, I believe, after litholapaxy, for in these cases one often finds an inflammatory bar or contracture of the vesical orifice which has been either the cause or the effect of the calculus.

CLASS D.—PROSTATECTOMY CASES WITH INCOMPLETE RESULTS

There are twenty cases in this group. This has been a very interesting group, representing various operations by various operators. In many cases the obstruction was in the form of a transverse median bar; in other cases a rounded lobule, sometimes in the posterior portion, often in the lateral or anterior portions of the prostatic margin. All of the patients complained of obstruction to urination associated with either pronounced difficulty or frequency of urination, sometimes requiring the use of a catheter. In most cases the punch was used alone, several bites being taken to remove the obstruction completely. In a few cases the cystoscopic rongeur was also used to remove pedunculated or rounded lobules (Figs. 4, 5 and 6), the punch being used subsequently to remove the base of such lobules. These intra-urethral procedures have in nearly all cases been entirely successful in removing the obstruction to urination and in obtaining excellent functional results. These cases are described fully in the transactions.

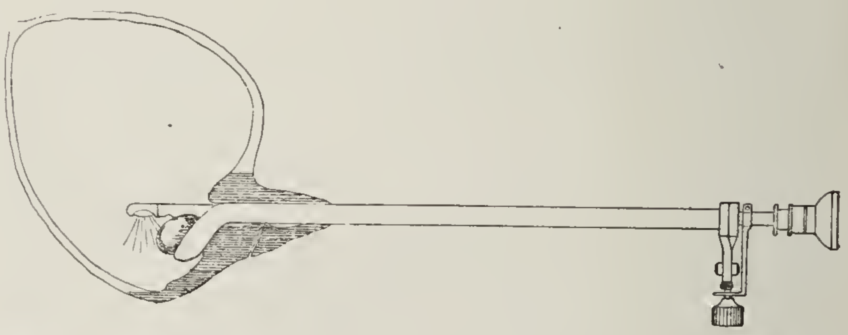

Fig. 6.—Showing removal of pedunculated median lobe with cystoscopic rongeur.

CLASS E.—MEDIAN BAR WITH TRIGONAL ELEVATION AND OBSTRUCTION

There are three cases in this group which are given in full in the transactions.

From these results it may be deduced that not infrequently does the trigon play an important rôle in urinary obstruction which has hitherto been lost sight of.

CLASS F.—SPINAL CASES

Three cases of definite tabes dorsalis have been subjected to the punch operation on account of large amounts of residual urine associated with obstruction in the median portion of the prostate which was removed by means of the punch. There was absolutely no result in two cases; the patients continue to lead a catheter life. In the third case the result has been exceptionally good, and now two years after the operation the patient reports that he voids urine only once at night and four times during the day with perfect freedom, and that he has been cured of incontinence in the daytime.

A very interesting case is that of a man aged 65, suffering with extensive carcinoma of the prostate and seminal vesicles. The cystoscope showed a transverse median bar with 100 c.c. of residual urine and also a rounded anterior prostatic bar. The patient was following a catheter life. A punch operation was performed, excising both the anterior and posterior bars. A report thirteen months later says that the patient is entirely cured of obstruction; that he voids urine, 8 ounces at a time, four times during the day and twice at night. There has been no hematuria, and the result obtained in this case would seem to indicate that the punch operation might occasionally be used very effectively in cases of carcinoma of the prostate not associated with pronounced lateral enlargement in which the obstruction seemed to be entirely at the prostatic orifice.

Mention has already been made of the use of the cystoscopic rongeur in association with the punch, which has been done in nine cases. In these the rongeur has been very effectively employed to remove pedunculated lobules, the punch being used to remove their bases or bars in other portions. For the removal of very small sessile or rounded lobules, especially those located at or within the urethral orifice, the punch is often more effective than the rongeur, which is more applicable for intravesical objects, and is particularly valuable in the removal of foreign bodies, calculi, stitches, portions of vesical tumor for microscopic study, or even the radical cure of pedunculated intravesically projecting prostatic lobes of small size (up to 2 cm. in diameter) which can be drawn out through the urethra with ease.

CONCLUSIONS

Including some recent cases which have not been tabulated, the punch operation has now been used in over 100 cases without a death. A great majority of these operations have been performed under local urethral anesthesia, 4 per cent. novocain being employed; the operation usually causes very little more pain than the previous cystoscopy and generally consumes much less time. After evacuation of the blood through the punch instrument, a large two-way urethral catheter usually takes care of the hemorrhage very effectively if immediately connected with a continuous irrigation. Often, however, it is necessary to use a large syringe to dislodge or aspirate an obstructing clot, so that for the first twenty-four hours the convalescence is occasionally interrupted by painful periods due to plugging of the catheter. On this account the operation is only to be advised when all the proper apparatus and very careful attention from nurses and hospital assistants is at hand. The fact that one physician who had essayed to use this operation in two cases without the proper two-way catheters and evacuating apparatus, found it necessary to perform suprapubic cystotomy for drainage may serve as a note of warning, although my experience of 100 cases in which the urethral catheter was entirely satisfactory shows that such complications may be considered entirely avoidable.

In conclusion, I may say that the results obtained, even in cases of complete retention of urine and catheter life, are entirely satisfactory for the cases in which I have employed it, viz., small bars; contractures or lobules at the prostatic orifice and not associated with lateral hypertrophy; that for such cases the operation, when properly done, is thoroughly radical, does not have to be repeated, does not require subsequent urethral dilatation and gives lasting cures.

As time goes on we may occasionally find cases in which the procedure will have to be repeated, but it is so simple that this should not be considered a great drawback. In those cases associated with marked irritability or pain, complete relief is often afforded, but sometimes the painful symptoms persist despite complete relief of the obstruction. For simple prostatic bars, contracture of the vesical orifice and those cases associated with vesical calculus or diverticula, especially in young or middle-aged men, the operation furnishes, in my opinion, the safest, surest and most radical curative procedure which has yet been offered.

330 North Charles Street.

CONTRACTURE OF THE NECK OF THE BLADDER *

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The subject of atony of the bladder, its causation and symptoms, has demanded more than an ordinary amount of discussion in recent years, and this fact alone would suggest the existence of some doubtful and unsettled question that has aroused special interest.

The kindred subject of contracture of the neck of the bladder is brought equally to mind because, on the one hand, many cases of atony are dependent on mechanical obstruction of the bladder outlet (under which category "contracture" properly belongs), while, on the other hand, in some cases of bladder retention which have been attributed to a mechanical cause, such cause has been disputed and the explanation thereof ascribed to more vague and indefinite conditions, difficult to explain but certainly not mechanical.

It is not within the scope of this communication to take issue here with those who have investigated and described at length the various etiologic factors in question, lest it might weaken the only stand I care to assume at present on this subject, which is that whatever other cause may exist for the condition of vesical retention outside of prostatic enlargement and lesions of the central nervous system, there certainly does exist one in the nature of circular, sphincteric and prostatic stenosis, causing incomplete and complete retention of urine. This appears in the young as well as in the old, may occur independent of prostatic enlargement or be combined with it, is sometimes a fibroid stenosis, being mostly inflammatory, may be confined entirely to the internal sphincter or encroach on the prostatic orifice and include a large portion of this section of the urethra, and is amenable to surgical relief by complete incision, preferably galvanocaustic or by complete extirpation.

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* Read in the Symposium on Obstacles to Evacuation of the Bladder in the Section on Genito-Urinary Diseases of the American Medical Association, at the Sixty-Third Annual Session, held at Atlantic City, June, 1912.

I called attention to this subject in 1901 before the American Association of Genito-Urinary Surgeons, having received the knowledge of this condition as a part of my early education under the senior Keyes, and on other occasions since that time I have attempted to stimulate more general interest on the subject by reporting cases before and after operation. There has seemed to be a doubt in the minds of some as to the existence of such a condition because of the discovery of cases of apparent bladder atony without any recognizable, mechanical obstruction from cystoscopic or other observation. There are in the literature reports of numerous cases of vesical atony, assigned to such causes as arteriosclerosis, disturbance in the circulation of the vesicoprostatic plexus, atrophy of the bladder due to senile changes, degeneration of the bladder muscle or disease of its nerves or ganglion centers and finally to an infectious origin. But what cause is behind these various agencies as a primary factor is not stated, and yet it may be that prolonged inflammation or chronic congestion would suggest a predisposing influence and may have acted as a forerunner to many of the aforementioned conditions. It has happened during the past winter that a patient of mine, the first that has afforded the opportunity to obtain this data, succumbed and as a result of the post-mortem examination, I was enabled to obtain a pathologic specimen of the morbid lesion in the bladder.

REPORT OF CASE

Patient.—A man, 30 years old, presented none of the symptoms of arteriosclerosis or other changes of senility or presenility to any degree. His local condition embraced the sole extent of the malady for which he sought treatment, which, to be summed up in brief, was: complete retention of the urine as evidenced by his inability to void urine normally, which had developed in an increasing degree for several years; a secondary vesical atony, as evidenced by the lack of tone of the urinary stream when projected from the catheter; some chronic inflammation of the bladder, as shown by examination of the urine; a total absence of prostatic enlargement as found by rectal palpation and no intravesical prostatic growth, as determined by cystoscopic investigation. The patient had been afforded a suprapubic drainage only and died without any attempt being made to relieve the vesical obstruction. This constriction, as found at the time of opening the bladder suprapubically, was complete and impassable to the examining finger.

Necropsy.—The entire sphincteric orifice and prostatic urethra were removed for examination. It was found at the time of removal that the vesical side of the urethral outlet was contracted to the size of a No. 18 French and was exceedingly rigid, instead of having normal elasticity and permitting with dilatation the introduction of the tip of the finger; it was possible, however, to force entrance of an instrument to the size of an ordinary cystoscope. It was not difficult to understand complete occlusion of this orifice by the added swelling of the mucosa and adjacent tissues, attendant on congestion and inflammation. The report of the histologic examination was as follows:

Microscopic Examination.—A very pronounced inflammatory process is evident, present for the most part around the periurethral and intrasphincteric glands. This inflammatory process is of two types: (1) an acute mild, suppurative process with exudation of polynuclear leukocytes into the lumen of the gland and into the surrounding stroma; and (2) a chronic, round-celled and productive inflammation. In places, the infiltration extends for considerable distance into the tissues away from the glands, invading even the sphincter muscles. The mucous membrane (urethral aspect) of the strictured vesical neck shows absence of ulceration, being intact, hypertrophied and polypoid in places. Under this, there is inflammatory infiltration of the fibrous and muscular tissue and marked perifollicular and intrafollicular inflammation of the extra-urethral glands. Deeper, there are many prostate glands and some ducts, some of which show a milder degree of inflammatory change. In some of the prostate glands dilatation has taken place and old corpora amylacea have formed. The infiltration of the stroma of the prostate gland is also very evident, although less marked than in the zone near the urethra.

Diagnosis.—Chronic and acute perifollicular inflammation (periglandular).

On account of the reported observations from other sources, such manifest testimony with regard to the existence of this class of cases of urinary obstruction would not seem at all necessary except as a comparison with the class of cases which, as a result of examination and prolonged observation come neither under the head of mechanical obstruction of the bladder orifice nor yet under the head of any discoverable lesion of the central nervous system; a knowledge of such cases; moreover, has led to some doubt of the existence of this very definite lesion.

In a complete and studied investigation of the subject of atony of the bladder without obstruction or signs of organic nervous disease by J. W. Thompson-Walker of London, certain facts are brought out. Nine cases in all are reported, none of which, the author states, comes under the two categories into which atonic bladders are ordinarily divided, viz., the mechanical or neurologic. No local abnormality was discovered by the cystoscope or urethroscope and the presence of spinal disease was excluded. Yet, in four of the cases, or almost 50 per cent., gonorrhea had occurred and in two there was a history of syphilis. There was a varying amount of residual urine, from 4 ounces to complete retention. The onset of symptoms was gradual and progressive. The most constant feature peculiar to all of the cases was the marked trabeculation of the bladder as seen through the cystoscope, giving evidence of a futile effort on the part of the detrusor muscle to overcome the resistance offered to it.

A case in point but of explained etiology is as follows: About four years ago, I was consulted by a patient on account of undue frequency of urination and dysuria. The urine was high-colored and free from the elements of inflammation. Palpation of the prostate was negative; the soft rubber catheter was introduced without obstruction and obtained nearly a pint of residual urine. A full-sized sound was introduced without difficulty and nothing was revealed at the neck of the bladder to account for the vesical insufficiency. There were no ocular symptoms or other locomotor signs. In fact, the vesical impairment seemed to represent the entire situation so far as the clinical history was concerned. In the absence of any confirmatory sign or mechanical evidence of vesical obstruction, it was decided to give the patient a diagnostic course of potassium iodid and mercury. This was done with pronounced increasing doses and in a week's time the change in the local condition showed most radical improvement. The residual urine had diminished from 16 to 4 ounces, and the dysuria almost totally disappeared. The patient continued specific remedies and his symptoms were entirely removed. No one doubts, however, the occurrence of vesical symptoms as the sole manifestation of central nervous lesions. I cite this case simply as a striking example of the class of cases which are inflammatory and not degenerative and which show a marked response to constitutional treatment.

As stated at the beginning of this communication, the positive means are not at hand to dispute the claim that non-obstructive vesical retention does exist, although explanation of the cause of this trouble thus far given is not to my mind convincing. The mystery surrounding the condition in some of the cases, I venture to suspect, might be cleared up, were it possible to have a more exact knowledge of the functional mechanism of the vesicoprostatic outlet than it is possible to acquire by cystoscopic observation. A slight, valvular abnormality might be found to account for the condition in some instances, while a proportion of the other cases may belong to the category of diseases of the central nervous system, notwithstanding the lack of signs to support such diagnosis.

Those cases that are unmistakably outside of either of these divisions are not yet fully explained.

TECHNIC OF TREATMENT

For the treatment of that class of cases which is spoken of as mechanical, surgical measures are the only means that can be expected to afford relief. I still cling to the technic to which it has been my wont to resort from time to time, the end-results of which give weight to the force of its claims. It is now twelve years since the first operation was performed and the reasons advanced in favor of this special method then are still held to at present; on account of improvement in technic they have become all the stronger and may be appreciated by the following brief description:

Local, instead of general, anesthesia may be employed. A small perineal cut is made, which brings the operator close to the site of trouble and allows the introduction of the index-finger to investigate the condition at the neck of the bladder and the degree of existing contraction. The galvanocautery knife is then introduced and, under electrical cauterization, the vesical constriction is excised, on one or both sides, to such an extent as may be deemed advisable; this is accomplished without hemorrhage during or after the operation. The finger may be then reintroduced to ascertain the completeness of the incision or defect thereof; in the latter instance, it may be supplemented by another or longer incision. Finally, rest of the bladder, avoidance of straining, insured by the absence of the necessity to urinate after the operation, the short period of confinement and radical removal of the cause, are all advantages to be counted. By way of comparison, it has been my experience to come in contact in the hospital with a number of patients who have been operated on intravesically without the establishment of perineal drainage. The great distress and complicated condition that ensued in these cases, necessitating the emergent operation of immediate suprapubic drainage to relieve the bladder of distention and infected blood-clots, have further strengthened my conviction in favor of this operative technic.

25 Park Avenue.

Pain and Cancer.—The earliest and often for a long time the only symptom of intrinsic laryngeal cancer is hoarseness or some well-marked alteration of the ordinary voice. I implore you to rid your minds of the idea that "pain in the throat," or "pain shooting toward the ear," or "pain or difficulty in swallowing" are signs of early cancer. One wishes that no mention of them was made in surgical text-books, for they are late symptoms, so terribly late that when they make their appearance the patient's chance of cure has probably gone, for the disease has then become extrinsic as well as intrinsic, secondary deposits have probably taken place in the glands of the neck, and life can only be saved or prolonged by the mutilating operation of laryngectomy.—Herbert Tilley in *Clin Jour.*

PROSTATOTOMY BY THE METHOD OF GOLDSCHMIDT *

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A large prostate may cause little trouble, while a small gland may cause complete and continuous retention. Contraction of the bladder neck at times causes annoying conditions and is often overlooked by practitioners, who advise against any operative procedure because a large gland is not found on examination by rectum. In cases of contraction of the bladder neck, without enlargement of the gland, it is of no avail to remove the prostate. A slit of the median bar, when present, through the urethra, is simple, and, in cases in which drainage is not essential, is to my mind best accomplished by the method under discussion.

I shall relate briefly some of my experiences with the Goldschmidt instruments.

One patient, a man aged 67, had had a perineal prostatectomy performed and was unable to void urine without the use of a catheter. At the Toledo Hospital I incised the obstructing band with the Goldschmidt cautery, and the patient was able to void at once, and has been able to void over a period of about eighteen months.

Another patient had had a portion of the utricle removed by a perineal operation. He suffered from constant burning in the deep urethra and pain on urination. At times considerable pus was passed by urethra, and also some blood; this condition continued for several years. On examination with the Goldschmidt urethroscope, about twelve months ago, I found a large soft mass growing from the utricle. This mass I removed with the cautery knife; relief was rapid and has been permanent up to this time.

Another patient, aged 74, who was operated on at the Toledo Hospital, had suffered from retention at times. The prostate was somewhat enlarged, and a distinct and firm band, with contraction of the bladder neck, was found. An incision was made with good results.

In a number of cases of beginning enlargement with urinary disturbances incisions have been made with much improvement of the condition.

I have treated a number of cases of median obstruction and two cases of papillomas of the deep urethra in a similar manner.

Not to go into greater detail, in the cases which I have selected for this procedure the results have been uniformly good. In one case a violent urethral chill came on after instrumentation, and I have been unable to complete this operation, as the patient refuses further treatment. Goldschmidt has used the procedure repeatedly on the same patient and numerous incisions have been made at different times. The delicate construction of the instrument is one of the most serious drawbacks, as the cautery and light are easily burned out; also occasionally bleeding occurs and obscures the field of vision, although if considerable care is used and strong pressure of the irrigating fluid secured this can be avoided. I have never seen any alarming hemorrhage take place from its use. I watched carefully the work of Goldschmidt, Wossidlo and others for a number of months and in their experience bleeding does not occur often. A large residuum can be reduced several hundred cubic centimeters after the first cauterization, as a rule.

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The statements oftenest made by those opposed to the method, that it is unsurgical and that the repeated cauterizations leave the prostatic portion scarred and battered, are not true of the procedure in the hands of careful operators. If used in all cases of prostatic obstruction the method, on the whole, is bound to be a failure. The contention that in those cases in which cauterization has been performed prostatectomy afterward becomes a necessity, because of infection and replacement of the cauterized tissue by new growth or the obliteration of the new channel by the enlargement itself, is well founded, if this operation is used in cases which are not adapted to it.

In a recent article Dr. Young says:

> During recent years I have appreciated more and more that there existed a group of prostatic obstructions which could not be very satisfactorily tested by either perineal or suprapubic prostatectomy; the cases of inflammatory median bar formation or contracture of the neck of the bladder.
>
> I have developed an entire new procedure—the urethroscopic median bar excision by means of a special "punch"—which I have used since April 20, 1911, on about seventy patients with no deaths and with excellent results. This method makes it possible to perfect the result obtained either by perineal or by suprapubic prostatectomy in cases in which, by the contracture of the tissues after operation, slight obstruction is produced.

The instrument of Buerger is valuable for examination, and I wish it were possible to have the cautery feature attached.

A great instrument was brought into use when Nitze perfected his cystoscope. Obstacles which had seemed unconquerable surrendered, one by one, to his energetic and persevering will until a result was attained which is so simple that the original problem appears to have been an easy one. Without relying on the achievements of others, Nitze worked independently and set up in place of unsafe and uncertain methods which could be carried out only by masters in our profession, an easy, positive and definite method of examination which has proved a blessing to sufferers. At first the use of the Nitze instrument was intended only for the connecting urinary organs, but it was soon applied to the examination of the bladder and ureters.

ADVANCE IN ENDOSCOPIC METHODS

Endoscopy of the stomach, according to the method of Nitze, was later taken up by von Mikulicz, who also developed the exploration of the urethra with an instrument which made it possible to throw light into this canal. Oberlaender likewise advanced and improved this method, but in spite of his efforts he was unsuccessful in reaching a result which can be compared with that of illuminating the bladder. Goldschmidt says: "We are now able to know the exact normal or pathologic conditions of the bladder, and the same can be obtainable for the urethra."

The old endoscopic experiments on the bladder and urethra by Desormeaux, which were carried on still further by Grünfeld, consisted in nothing more than the insertion of the largest possible tube; over the inserted end of this tube, one portion of the mucous membrane of the bladder after another was viewed as the tube was withdrawn, by the reflection of light through the tube from the outside. At the best, only such portions of the wall of either the bladder or the urethra could be viewed at one time as could be surfaced over the end of this small tube. This condition of affairs was changed, as far as examination of the bladder was concerned, when Nitze invented and applied a finely developed lens-system, by the aid of which he could view a portion of the bladder many times larger than the inserted end of the instrument. Not all improvements in the last ten years were essential to the principles of the shape of the instruments, but have been usually applied to the electric technicalities of the lighting features of the different cystoscopes and urethroscopes. Excellent photographs of the interior of the bladder and urethra, attesting to the diligence and ingenuity of the photographer, Kollman, have been made by the use of different appliances.

Goldschmidt started his experiments some years ago along the line of Nitze's lens-system, and by hard work and close observation to detail he was able to solve the problem. By the use of cystoscopic optic and convex lenses of smaller diameter than the object to be seen he produces a wide field of vision. When such collective lenses are inserted into a lighted tube, the rays coming from the inner surface and end of the tube will be gathered by the lenses, affording a view of the interior, at the end of the optic. This picture can be enlarged through a convenient ocular, just as is done with pictures of relative objects in endoscopy.

Many trials were necessary before Goldschmidt was able to construct a practicable and simple instrument. In the progress of his work Goldschmidt used only living subjects and constantly adhered to practical methods. He used water as a dilating medium, instead of air or any of the various gases. While trying to produce the largest possible expansion by strong pressure of the dilating medium, he found, much to his astonishment, that only a little dilatation was necessary to produce a uniform tube of the urethra which could be accurately viewed with his optical appliances.

It would seem that such a procedure would be difficult for the anterior as well as the posterior urethra, when it is considered that they are separated from each other by a strong muscular compressor. Goldschmidt, however, has been led by numerous trials, under different and various circumstances, to a method whereby he can now with a simple instrument view the posterior urethra, especially the verumontanum and prostate, with great clearness.

Urination depends on the normal formation and normal condition of the prostatic urethra, bladder, etc., which are frequently impaired or changed by pathologic conditions of the prostate gland. An extraordinarily complicated system of tissues is located in the prostatic urethra. Infiltrations from old strictural processes, shallow ulcerations, diverticular changes, etc., can be readily seen.

The orifices of the ejaculatory ducts, pathologic forms of the colliculus seminalis, changes in the posterior urethra, changes in the prostatic labia, irregular passages to the bladder, a complete picture of the prostatic urethra, and, finally, a picture that shows the action of the sphincters brought out by the intravesical passage of the urine, can be seen.

THE GOLDSCHMIDT INSTRUMENT AND ITS USE

The instrument is so constructed that a stream of water can flow through the space between the endoscope and optic into the urethra and douche it out. The instrument ends vesically with either a rounded point or a bill-shaped point, and is inserted with a well-fitting obturator into the urethra, permitting cold or hot boric acid solution to run from an irrigator into the water-chamber. To douche out the anterior urethra only a slight pressure is necessary, but to douche out the posterior urethra it is necessary to raise the irrigator to about 2 meters above the pelvis of the patient. When the obturator is withdrawn, the optic is inserted, the water-chamber closed and the electric cables are connected.

The form of the instruments is such that their insertion and handling for ordinary cases cause no pain, and all operations can be done with local anesthesia. Bleeding does not often occur. Infection is reduced to a minimum by the continuous irrigation with boric acid solution. The normal anterior urethra by physiologic dilatation is like a uniform tube, much like the inner walls of the arteries; complete and incomplete rings can be seen, and the uniformity of the mucous membrane is interrupted only by shallow papillae and indentures, which are sharp-cut, round openings, and when infected become enlarged and deeper and often appear diverticular. The mucous fibers are often firmly attached to the mucous membrane and cannot be dislodged by a strong stream of water in chronically infected urethras.

It is interesting to observe how man is able to open voluntarily the mouth of the bladder as soon as he chooses to empty the bladder. This method no doubt will be much used to diagnose causes of nocturnal enuresis, as direct observation of the act of urination can be secured.

By changes in the prostate many disturbances of urination take place, especially in cases of enlargement or distortion of the middle lobe. Goldschmidt says: "We often find that the sphincter does not close, but irregularly cleaves." Whether the posterior urethra acts as a reservoir in the act of urination was much discussed some years ago. If the mouth of the bladder closes completely, which as a rule can readily be seen by the aid of the instrument, it becomes easy to decide whether the sphincter is properly functionating. Many and varied causes of disturbances of urination and difficulties in the prostatic urethra can be analyzed by direct observation of urination.

In cases of enlargement of the so-called middle lobe, and the lengthening of that portion of the urethra between the colliculus seminalis and the entrance to the bladder one can see, when the patient urinates, how this middle lobe is pushed forward and the lower wall of the prostatic urethra is pressed against the upper wall and, instead of a relaxation, a contraction of the urethra takes place. The lateral walls of the urethra become changed from old infectious processes, and in comparison with a normal urethra appear granulated, hard and inelastic. In the prostatic urethra are found many mucous accessories and polypoid tufts.

One of the greatest points of interest is the observation of the colliculus seminalis. Secretion from the ejaculatory ducts and prostatic ducts can be observed whether it is spontaneously evolved or artificially produced through massage by rectum. All the irregularities of the mucous membrane are clearly presented; small polypoid tumors are seen plainly, not unlike the tumors of the bladder as seen with the cystoscope.

Goldschmidt says: "After some time and many experiments I felt the need of modifying my instruments so that they could also be used at the same time for different operations within the urethra." With his instruments designed for operating, pathologic growths, polypoid tumors, granulations, etc., can be removed from the urethra. The greatest advantages are the distinctness with which the hypertrophied lobes of the prostate are seen, and the heretofore unknown precision with which they may be attacked. When the instrument is rotated round its axis the lateral walls, as well as the superior wall, can be seen. If the instrument is introduced deep into the posterior urethra the urethra can be seen more clearly.

If the light is just passed into the bladder the internal sphincter can be seen, and by moving the instrument one can appreciate the thickness of the lips of this orifice; any irregularity or thickening of the edge can also be observed very distinctly. The difference is particularly remarkable in cases of hypertrophy of the middle lobe of the prostate. The larger the lobe the more one is obliged to push the instrument inward until the protuberance of the sloping part of the bladder is reached. As the window of the urethroscope is divided into half centimeters, one can ascertain the size of the sphincter's edge, which normally does not exceed 0.25 cm.

In hypertrophy of the prostate we find that the shape of the urethra is completely modified; the vertical diameter and length are considerably increased. We find often with the endoscope in cases of hypertrophy that a transverse fold which Goldschmidt has designated the "prostatic fold," presents before the lateral lobes. Beyond this fold lies a cavity, similar in shape to the bulb, at the bottom of which is the verumontanum; in prostatic hypertrophy it is usually atrophied.

According to the degree of hypertrophy, the lateral lobes appear like tonsils in the visual field. They are generally moderately developed at the external os, and gradually increase in size as the center of the prostatic region is approached. Often the lateral lobes meet and press against each other. They generally recede toward the bladder at the extreme end of the urethra, and instead of the normal soft and regular ridge, a thick and hard fold forms the inferior edge of the bladder neck; instead of being slightly concave, as is normal, the os is generally rectilineal or oblique, indicating a thickening of either the mouth of the bladder or the extremity of the middle lobe.

The neck of the bladder having lost all elasticity, every effort at evacuation of the urine is followed by convulsive movements of the prostatic and posterior urethra. These movements also accompany the passage of the contents of the bladder into the posterior urethra. The clear water used for irrigation becomes turbid, being mixed with the contents of the bladder by these movements of the urethra.

If slight bleeding occurs the hemorrhage is washed away by the water which constantly flows through the visual field. The prostate presents in the field, and not only the anterior portion, but also the prostate is seen in its entirety, as the tonsils are seen in the throat.

When the nipple-like protuberances which obstruct the evacuation of urine are seen, they can be incised directly where they oppose micturition.

Some time ago a method was devised of introducing an electrolytic or galvanocautery needle through the rectum into the hypertrophied prostate; the size of the prostate was sometimes reduced by this means. The dangers of this method and the fact that the portion obstructing urination could not be located definitely must be apparent to all.

Selhorst attempted electrolysis of the hypertrophied lobes of the prostate with Oberlaender's endoscope, but was not very successful.

Electrolysis through the Goldschmidt urethroscope can be practiced if desired. Goldschmidt states that the decrease of the congestion of the mucous membrane after this slight operation is marked; sometimes after the first treatment the number of nocturnal evacuations is notably decreased, and catheterization and micturition become much easier; after a few treatments more vigorous measures with the galvanocautery can be undertaken. By ignipuncture greater shrinkage can be obtained than by electrolysis, often with complete or almost complete retention; besides the enlargement of the lateral lobes, there often exists a rigidity of the vesical neck, produced by a true "middle lobe" or by a slight infiltration, which prevents the functionating of the sphincter.

The operation of Bottini and Freudenberg's modification thereof were performed in complete darkness, and are not to be compared with the Goldschmidt method, by which a full view can be obtained. The diagnosis, even by cystoscopy, shows only the prostatic prominences in the bladder, while most of the protuberances which prevent the evacuation of urine are caused by projections of the prostatic gland into the prostatic urethra.

It is unnecessary for me to say that the Goldschmidt method is not intended to replace prostatectomy in any way, but I trust that prostatotomy may decrease the number of cases which are now in the field of prostatectomy. Goldschmidt has used the method extensively in cases of beginning enlargement of the gland.

If one out of every five cases is malignant, possibly because of the increased irritation of the urine on a hypertrophied gland and the increased tension and pressure, the hypertrophy in the beginning may have been benign; may not this method in the beginning of the disease offer some hope by relieving the increased tension and pressure on the middle part of the gland and by decreasing the amount of the residual urine? In any event, the dangers of delay are reduced to a minimum in those cases in which cancerous development is inevitable, and, in the hands of those familiar with the urethroscopic (Goldschmidt) aspects of the enlargements, are not to be considered a serious drawback to prostatotomy. The prostatic urethra is sometimes thickened, according to Goldschmidt, in beginning cancerous enlargement of the gland. If this procedure might prevent cancerous development in only a very small number of cases, its use would be a valuable adjunct to urologists.

It seems almost superfluous for me again to call attention to the fact that this procedure must be used only in selected cases under the most rigid and careful asepsis; in cases in which tolerance to instrumentation has not been established the same painstaking methods must be used as are used in cystoscopy or any other bladder or urethral instrumentation. Disappointments will be less frequent and better results will be obtained by vigorous attention to these details and by thorough mastery of the technic and use of the instruments under discussion.

Tandler and Zuckerkandl agree that hypertrophy of the prostate always begins in the middle lobe, and that the mechanism of the bladder closure and the emptying of the urine may be ascribed to the sphincters of the prostate. Wilson and McGrath also agree in these findings.

Louis E. Schmidt, before the Chicago Medical Society in March, 1910, said:

> Occasionally it is desirable to examine the posterior urethra, and this can be easily done with the Belfield or Swinburne instruments. The Goldschmidt instrument, which is a water-dilating instrument, can be used for both examination and instrumentation of the anterior and posterior urethra, and is a unique instrument. I have had occasion to use it in the past few years and I can recommend it, as no other instrument gives the same information regarding the posterior urethra and the internal urethral orifice. The retrograde cystoscope gives only the image of the internal urethral orifice from the bladder side, while the Goldschmidt instrument gives it from the urethral side.

Pilcher in his excellent work says:

> The great objection to removing a section of a prostate by the galvanocautery knife has been the uncertainty of the procedure, the relatively high mortality and the fact that the benefit was only temporary. The cystoscope has removed the first of these objections, for the prostatic bar may be attacked under direct vision. The safest method is that devised by Young of Baltimore, who removes a prostatic bar by means of an endoscopic punch of his own design.

With all these different points taken into account, I now leave for serious consideration the Goldschmidt technic.

701 Madison Avenue.

IMPERMEABLE STRICTURE OF THE BULBOMEMBRANOUS URETHRA

(IMPERMEABLE TO THE PASSAGE OF INSTRUMENTS) *

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Impermeable stricture of the urethra is a condition so distressing and so dangerous to the afflicted patient that it well merits our interest and our best efforts.

The bulbomembranous urethra, as its name implies, is that portion of the urethra included within the bulb proper and extending backward through the triangular ligament and compressor urethræ muscle as far as the apex of the prostate gland. Anteriorly it is, of course, continuous with the penile urethra. In this short stretch, on the average 1½ or 2 inches in length, are found the great majority of strictures which in their different stages and various complications yield problems of treatment that demand the nicest judgment on the part of the surgeon in order to secure the best result for the individual patient.

Twenty years ago I had the privilege of addressing the American Medical Association on a similar subject, and I can now say that my opinions have changed but little, except that the lines have been drawn a little finer, so that the various operations are made to fit the case in hand. Moreover, we have now a larger number of treated cases from which to draw conclusions, and it seems to me that our patients come to us in a better condition than they used to; one seldom sees to-day a picture such as that depicted by Cock, which I shall quote later, and which in my early days of surgery was not unusual. That this is somewhat due to improved methods of treating acute inflammatory urethritis I have no doubt; but I like to give greater recognition to the general practitioner, who is willing to recognize the time when his abilities are insufficient and to advise surgical intervention early, so that we receive our patients in a better condition, both for the operation and for the attainment of satisfactory results.

Gradual dilatation, I will grant, has its benefits; but after organization has taken place it is my opinion that the knife is the safest and surest resource, as well as the

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* Read in the Symposium on Obstacles to Evacuation of the Bladder in the Section on Genito-Urinary Diseases of the American Medical Association, at the Sixty-Third Annual Session, held at Atlantic City, June, 1912.

most prompt, doing away with the long period of treatment and the ever-present danger of infection.

By the knife I mean the instrument under the guidance of the eye by external approach, not the blind internal cutting by means of a slot instrument—this should be reserved for the pendulous urethra only. When it was possible to pass the strictured area with a filiform and the patient was strongly opposed to a cutting operation, it used to be my custom to advise divulsion. In this I have never had that remarkable little instrument of Thompson's fail me, always following such treatment with subsequent dilatation with sounds; but if there is any one who still believes that this means of treating stricture of the urethra is preferable, safer and more surgical, to convince him that he is wrong I would ask him to make a urethroscopic examination of the portion of the urethra operated on; I am confident that this alone will forever disabuse his mind of the fallacy under which he has been laboring.

I would also like to mention again the value of the urethroscope in this field of work for the exclusion of false passages, and the ease with which a filiform guide can sometimes be passed when the strictured area can be examined and sounded with a filiform under guidance of the eye.

CAUSES OF IMPERMEABLE STRICTURE

Impermeable stricture of the urethra is due to one of three causes: (1) congenital malformations, (2) traumatisms, (3) inflammations.

That congenital strictures do take place cannot be doubted from the reported cases of Guibe, Cunningham, Hock, Posner and others. The most frequent location, as would be expected, is at the junction of the bulbous and membranous portions, where developmental and physiologic changes occur during embryonic life, though cases have been reported in which there have been several points in the course of the urethra which have been obliterated, and one must not forget the relative frequency of hypospadia; but I do not believe that the active operating surgeon sees many such cases of impermeable stricture of the deep urethra or of its complete occlusion, and I cannot recall having been consulted on such a question. Its treatment, though somewhat similar to that later to be outlined, would more naturally fall into the field of plastic surgery.

Traumatic stricture is often one of the hardest problems that a surgeon has to face. It is practically never possible to see these cases before there has been extravasation of blood and urine. The topography is distorted, the operating field soon becomes one of discouraging decomposition, and dissection has to be carried through structures in which all recognizable anatomy has almost invariably been destroyed, while in addition the patient's condition is often critical. Later the landmarks are changed, the urethra is elusive and often not even lined with the easily recognized mucous membrane.

In traumatic stricture the location is most often in the deep urethra, owing to the patient's having fallen astride some hard object; the rupture and subsequent obstruction may be behind, before or within the triangular ligament.

Inflammatory stricture of the deep urethra is undoubtedly the most frequent variety of stricture affecting this portion of the urethra. Ordinarily it is the bulbous urethra that is involved, but I have several times proved to my own satisfaction that the membranous urethra, contrary to the teaching of Fenger, has been the seat of inflammatory stricture. Moreover, inflammatory strictures show a tendency to be multiple, and in dealing with a tight one in the bulbomembranous region, the surgeon should take care not to overlook others of larger caliber in the penile urethra.

OPERATIVE TREATMENT

The methods of attacking an impermeable stricture of the deep urethra are in all five. I will consider each one briefly before outlining to you what I consider the best way to proceed.

1. Perineal Section: Incision down on the stricture, exposing it, without any guide. The patient being in the usual lithotomy position, incision is made in the midline and dissection is carried down, exposing the bulb; search is continued, the operator being careful to keep in the midline, until the thickened area of infiltration is reached and through it the urethral lumen has been found. Then the incision is continued anteriorly and posteriorly until the normal urethra is opened. A catheter is passed to the bladder and allowed to remain from three to five days.

This method is blind and time-consuming, and a strictured urethra may be too elusive for even the most experienced dissector. This method has been advocated lately by Stout, who says that it is easy to excise all connective tissue without injuring the mucous membrane at all, or entering the urethral canal. Still it would hardly be applicable to cases of impermeable obstruction.

2. Incision down on and exposing the urethra anteriorly to the stricture, generally aided by a sound lying in the anterior urethra. After the urethra is opened, which should be from a quarter to half an inch in front of the anterior face of the stricture, the urethral walls are retracted, and the face of the stricture examined in a good light, when it may be found possible to pass a probe or a filiform through it to act as a guide to the channel, the floor of the urethra being immediately incised along this, throughout the strictured area.

This method is certainly the most used and is in the average case easy. Its disadvantage lies in the fact that often we are unable to pass any instrument through the strictured area after the anterior face has been exposed, and we have to throw aside all this work and begin a perineal dissection, or else do as the late Prof. John Ashhurst advised: "If the opening in the structure cannot be found, the surgeon must cautiously dissect backward, with very light touches of the knife, and keeping strictly in the midline, until the dilated portion of the urethra behind the stricture is laid open." This, again, is poor advice for any but the experienced, for too often, as pointed out by Edward Cock, "although all the structures of the perineum had been most unnecessarily incised and damaged above, below, before, behind and round about the stricture, it was the stricture alone which escaped untouched without mutilation, while the catheter had been carried out of the canal above the stricture and reinserted below."

Another drawback to this method and one for which we must always be on the outlook is that our guide-sound may be lying in a false passage of some length and lying between the perineum and the true urethra, while the stricture may be in the urethra some inches anterior to the perineal incision. In such a case much time is lost looking for a passage that never existed, and if Ashhurst's advice is followed and dissection is carried backward, we would certainly be led astray into a deep dissection into the hemorrhagic structures of the bulb

3. The method advised by the late Edward Cock of Guy's Hospital; since this operation has been greatly misunderstood and misinterpreted, I shall quote freely from Mr. Cock's original article of 1866. He starts by saying:

> "The purport of this paper is not to show how a strictured urethra may be treated, but how the bladder may be got at when the canal has become positively and absolutely impermeable to instruments of every description." After speaking of acute retention cases in which he has aspirated the bladder suprapubically and through the rectum, he then takes up chronic cases "where the urethra has become permanently obstructed, or destroyed by constant pressure of urine from behind, and by reiterated attempts, generally fruitless, to introduce an instrument; where extravasation into the perineum has again and again taken place, causing repeated abscesses and their consequences, the formation of urinary sinuses and fistulas, until the normal texture of the perineum becomes obliterated, and is replaced by an indurated gristly structure; where the bladder has become thickened and constricted by constant action of its muscular coat until little or no cavity is left; and where the urine is constantly distilling by drops, either through the urethra or through one or several fistulous openings which dot the surface of the perineum, penetrate through the indurated scrotum, and even find their way to the nates below, and the region of the pubis above." This is the picture that Mr. Cock draws of the patient who is ready for his operation, and after again summarizing the pitiful condition he adds: "To give the patient a chance of life or restoration it is necessary to establish a free communication between the bladder and the exterior."

Mr. Cock did not believe in touching the stricture itself, as I shall show later. It was Guthrie who advocated that the operation should be completed by dividing the stricture, and when one stops to consider the time when Mr. Cock was writing, I think we must grant that his views were correct for the surgery of his day. Mr. Cock describes his operation in the following words:

> "The patient is to be placed in the usual position for lithotomy, and it is of the utmost importance that the body and pelvis should be straight, so that the median line may be accurately preserved. The left forefinger of the operator is then introduced into the rectum, the bearings of the prostate are carefully examined and ascertained, and the tip of the finger is lodged at the tip of the gland. The double-edged knife is then plunged steadily and boldly into the median line of the perineum, and carried on in a direction toward the tip of the left forefinger, which lies in the rectum. At the same time by an upward and downward movement the vertical incision may be carried in the midline to any extent that is desirable. The lower extremity of the wound should come to within about half an inch of the anus.
>
> "The knife should never be withdrawn in its progress toward the apex of the prostate, but its onward course must be steadily maintained, until its point can be felt in close proximity to the tip of the left forefinger. When the operator has fully assured himself as to the relative positions of his finger, the apex of the prostate and the point of the knife, the latter is to be advanced with a motion somewhat obliquely either to the right or the left, and it can hardly fail to pierce the urethra." He then follows the same channel with a probe and the latter with a cannula or female catheter and says: "The operation is now complete and it only remains to secure the cannula in its place with four pieces of tape." As to the stricture, he says: "If the previous destruction has not been very great, and if the case progresses favorably, the swelling of the perineum and scrotum gradually subsides, the induration disappears and the urinary sinuses become obliterated. The urethra may then be examined in the ordinary way to test its permeability, and one may be agreeably surprised to find that the sound or catheter readily passes through the former stricture, until it strikes against the cannula."

4. The fourth method I like to call "Young's operation," in deference to this master surgeon of the perineum. Young advocates exposing the apex of the prostate as one would start a perineal prostatectomy, and after a good exposure has been obtained of one-third of this gland and the membranous urethra by carefully dividing the central tendon of the perineum and the recto-urethralis muscle, the incision into the urethra is made through the tissue of the apex of the prostate where the urethral walls are more rigid. A sound is passed outward to the posterior face of the strictured area and a free communication between the anterior and posterior urethra established.

This method has undoubted advantages; it is carried out along definite anatomic lines, and except in large men with fatty perineums or others in whom the ischial tuberosities are close together and the perineum deep, one with any surgical experience in this region should have no trouble in locating such an anatomic landmark as the apex of the prostate gland.

5. The fifth method calls for either a primary or secondary suprapubic incision into the bladder, as a preliminary to urethrotomy behind the stricture. This has been advocated and the assertion made that it "will shorten the time required for operation, diminish shock and tend to minimize the amount of anesthetic required, besides lessening the danger of suppression of urine, of uremia or septic pneumonia."

With all this I cannot agree; I do not believe that time will be saved by doing two operations on two different parts of the patient requiring a change of position, and in fact two changes if the suprapubic wound is subsequently closed; it is difficult to keep the technic aseptic; and in cases with a contracted bladder which cannot be distended before suprapubic incision, this part alone carries with it dangers of injury of the peritoneum, subsequent persistent and infected suprapubic sinuses and the possibility of ventral hernia, all of which must be considered of major importance; and if the surgeon is familiar with the landmarks of the anatomy of the region operated on (and this I maintain every surgeon should be), to expose the apex of the prostate as advocated by Young, I consider the simplest procedure of all. That a preliminary suprapubic incision will have any effect at all on the subsequent development of suppression of urine or uremia I can see no reason to accept.

These I consider to be the five cardinal methods of approaching an impermeable stricture of the deep urethra, though I fully realize other methods have been advocated from time to time, such as that of Ruggi, who exposes the urethra by transverse incision, and the ideas of Arnott, Jameson, Guthrie and others, who present minor variations which any skilled operator would initiate if the necessity arose.

TREATMENT OF STRICTURED AREA WHEN ONCE EXPOSED

The older teaching was to incise the area of coarctation, drain and subsequently dilate the area. Subsequently the operation of urethrectomy was advocated by Roncet, Heusner, Koenig, Molliere and others, who taught that when the strictured area did not exceed 25 mm. or 1 inch in extent, the entire area could be removed and the edges of the severed urethra united over a catheter.

Wolfier reports three cases in which the arc was excised and covered with Thiersch grafts, and Meusel and Keys transplanted a flap from the prepuce to form a roof for the excised urethra. As the former, or older method, of incision only was inadequate for surgical methods of to-day, so I believe the latter too advanced and certainly too time-consuming to be used in many of the cases in which the condition demands celerity. But I can see no reason to do otherwise than remove as much as possible of this dense, organized, gristled scar tissue, under the same principles which apply to contracting scars elsewhere on the body. This is one point where urethral surgery has shown an unjustifiable lack of progress in keeping pace with surgery of other parts of the body, and too many are following the teaching of the older writers to incise the stricture only.

Guyon excises only the floor of the urethra, which he asserts is usually the site of the stricture, and closes over the catheter in the urethra with three layers of tissue, and I must lend my approval to leaving the roof of the urethra, or its mucous membrane, if possible, as a source for a rapid proliferation of epithelium and covering of the new urethra with a mucous membrane.

The complete removal of all this old connective tissue is certainly a help to Nature's repairing powers, and it is my belief that there is much less tendency for new contracture after complete removal than after mere incision and drainage.

Another point that I wish to emphasize is that a perineal drain should be left after a perineal operation. To close a perineal wound up tight I consider a surgical fallacy. It is my habit after having established a passageway through the area of coarctation, having excised all the dense scar tissue, having placed a catheter with its tip within the vesical orifice, having closed over the catheter with what tissue I can find, in layers, to be sure to bring the catheter out of the urethra anterior to the point of stricture and fasten it to the anterior angle of the skin incision in the perineum. Whether a catheter is to be placed in the anterior penile urethra and also brought out through the perineal wound, I leave to the choice of the operator, as I have obtained good results both with and without such a drain. It is evident, however, that two tubes make a larger fistulous tract in the perineum than one, for subsequent closure, but if the operator is careful to bring the posterior tube out of the urethra as far anteriorly as possible, through normal healthy urethral wall, subsequent rapid and complete closure of the fistula is practically assured.

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ABSTRACT OF DISCUSSION

ON PAPERS OF DRS. CHETWOOD, YOUNG, HARPSTER AND DEAVER

Dr. Gordon F. McKim, Cincinnati: My experience with Dr. Young's operation has been limited to ten cases, in eight of which the result was satisfactory. Patient 1 complained of frequency both day and night. He had a well-marked prostatitis, 1 ounce of residual urine and a definite bar. Routine treatment of prostate for six months gave no relief. Excision of bar with the punch gave relief. Patient 2 complained of frequency at night. He had a low-grade prostatitis and a definite bar. The punch operation gave no relief. Cystoscopy two weeks after operation showed that I had made him an artificial median lobe. The result was unsatisfactory. Patient 3 complained of partial incontinence during the day. He had a small bar. Excision of the bar with the punch gave relief. Patient 4 complained of frequency both day and night with straining. He had intermittent hemorrhages and several attacks of retention. Excision of a definite bar with the punch gave relief. Patient 5 complained of great frequency both day and night. He had no residual urine but a very thick bar, which was removed in two operations, because of hemorrhage. Relief was complete. Patient 6 complained of frequency during the night with straining. Urine showed colon infection. Cystoscopy revealed a very thick bar and 2 ounces of residual urine. Excision of the bar with the punch gave relief. Patient 7 had had a suprapubic prostatectomy six months before I saw him. He complained of retention and severe straining; had a dense bar with absence of lateral lobes. Punch operation gave relief. Patient 8 complained of frequency at night with straining. He had definite prostatitis and a small bar. Excision of bar gave complete relief. Patient 9 complained of frequency and inability to empty bladder, requiring catheterization. Bilateral hypertrophy of prostate with median bar. Prostatectomy was refused. Punch operation was done with partial relief. Prostatectomy gave complete relief. Patient 10 complained of frequency at night with straining. He entered hospital with retention. Excision of small bar gave relief.

Case 2 was a failure because I neglected to palpate the instrument through the rectum after removing what I thought was all of the tissue. Had I made this examination I would have detected the thickening. Case 8 was a typical hypertrophy, and it was due to the patient's pleading and my own curiosity that I removed the bar with the punch. At the time of removing the gland there was no evidence of a bar. Young has produced an instrument that can be used in these selected cases of median bar formation with satisfactory results. The technic is simple, the danger of hemorrhage can almost be eliminated by removing all clots from the bladder before the patient leaves the table and by competent postoperative attention, and the convalescence is only a matter of a few days.

Dr. Eugene Fuller, New York: I am thoroughly in accord with Dr. Young's method and the conservative methods of prostatectomy for some minor grades of prostatic obstruction. They are worthy of trial in these cases. But I do not think that Dr. Young or any one else has tried them in the majority of cases of prostatic obstruction. I have given up treating the severe complicated grades of such strictures in the manner just advocated. In such cases not only the stricture, but also many pathologic changes in the perineum require to be dealt with. There may have been retention for a long time; instruments may have been tried by various operators and a great deal of trauma caused, the result being the existence of not only a chronic inflammatory condition of the tissues, but also a urinary infiltration. If one operates by attacking the perineum immediately in such conditions, what results are obtained? How many of Dr. Deaver's patients are able to get along without a great deal of dilatation and trouble after operation? Suppose you do try to resect; a tremendous amount of urethra must be removed in such disorganized conditions, and the chance is that a great deal more is resected than is necessary. My method in these cases is, first, to divert the urine from the urethra and perineum through the establishment of a suprapubic urinary fistula and, second, to do a plastic repair operation on the perineum after a few weeks. After the bladder has been drained and the urine diverted from the perineum for a month, the stricture is not impermeable, the chronic infiltration has disappeared and there is nothing left but soft tissue; then you can do the perineal operation, resecting whatever is necessary, and very likely no resection will be necessary in repairing the urethra. A number of years ago I operated on a patient who was thought to have had a cancer of the perineum because of a great fungous mass of perineal fistulas. An instrument could not be passed. I started a perineal operation, but found the tissues so hard and infiltrated that I could accomplish nothing. The man was in a condition of overflow, and I did a suprapubic cystotomy. I sent him out wearing a suprapubic tube. He came back at the end of six months and said that he could pass as good a stream as he ever did. He had grown tired of wearing the tube and after three months had pulled it out. I passed a No. 30 French sound into the bladder. The sinuses had healed everywhere. I have used that information ever since. I do not expect that result in every case, but one can thereby prepare for a perineal operation with little disturbance, whereas if one tries to resect infiltrated urethras he cuts away more structure than necessary and does not get good results.

Dr. E. O. Smith, Cincinnati: In a case in which there is a great deal of inflammation and infection of the bladder, is there infection in this denuded area?

DR. MARTIN KROTOSZYNER, San Francisco: I would like to ask Dr. Young how long the average time of convalescence is after the punch operation; or rather, how long the hospital treatment lasts.

DR. A. J. CROWELL, Charlotte, N. C.: My experience with the operation that Dr. Young has just described is limited to eight or ten cases, one of which is of sufficient interest, I think, to report. The patient had had a perineal prostatectomy done by a competent surgeon in a neighboring town. Previous to that operation he had had complete retention of urine for about four years. The patient was 45 when he first suffered with this complete retention. Previous to that he had had symptoms, of course, and he had used a catheter for four years. Then a perineal prostatectomy was done. When I saw the patient the bar was still present. The patient said that the doctor told him that the gland that he removed was very small. Three years after the perineal prostatectomy I used the punch; following the operation the patient urinated. After the catheter was removed the patient urinated regularly, and has had no trouble up to the present. I washed his bladder out thoroughly until the water returned clear, and after that I trusted to luck. He had hemorrhage, of course, for a day or two, but it was not profuse, and I have not had to catheterize him since the operation.

DR. ALEXANDER RANDALL, Philadelphia: I would like to report a case showing the use of this instrument in other conditions than those described by Dr. Young. A boy, aged 9, was kicked by a horse, producing a traumatic rupture of the urethra, apparently in the membranous region. He had had in all twelve operations for reconstruction of the urethra. Three of the operations were emergency suprapubic cystotomies, done on account of complete retention. The twelfth operation was done by Dr. Young, who attempted to reconstruct the urethra. A suprapubic opening was made, retrograde catheterization performed, and then with a perineal section the catheter was brought out through the posterior urethra to the perineum. It was tied and left in place for fourteen days, and then removed from the suprapubic incision, but kept in the perineum. The suprapubic opening was allowed to close. After the suprapubic wound closed the patient had a urethra of 14 French and perfectly patent. The catheter was removed, I think, about the twenty-third or twenty-fourth day, but the patient could not void. The catheter could be passed easily, and the boy was kept in the ward for some time, so that he got used to catheterizing himself through the perineum. The question was, what was the condition that caused obstruction? We dilated with the Kollman dilator up to 28 F. Then cystoscopy was performed through the perineal opening and contracture of the neck of the bladder observed. It was practically a cicatricial scar encircling the vesical orifice. It was dilated up to 32 French, but still the patient was unable to void. It then occurred to me that we might use this instrument. It was easily inserted. Only one bite was taken out of the posterior edge of the vesical orifice. This bite was about the size of one's little finger-nail in all dimensions, after which the boy voided freely. The fistula then closed up completely, and the patient was seen four months after the operation, and his subsequent history and cure have been entirely satisfactory and uneventful.

DR. CHARLES H. CHETWOOD, New York: There is not much to add to the phase of the subject in which I have taken part, because we seem to have practically agreed on the most important aspect of this malady, namely, the existence of a condition which stimulates prostatic hypertrophy mechanically whether we call it bar contraction of the prostatic orifices, or contracture of the neck of the bladder. One type fuses into the other, and they are all more or less alike from a mechanical point of view in not being suited to the technical operation of enucleation. When we get down to cases, then I believe that there is some reason to vary the treatment and the method of applying it. I have performed over a hundred operations by the galvanocautery technic and have naturally become prejudiced in favor of it. That it is the choice in all cases, I would not state. I realize that there are a great many cases in which the eye can appreciate the condition through the endoscope, which would be better treated by the technic advocated by Dr. Young and by the Goldschmidt urethroscope. On the other hand, there are other cases in which the ability to see what you are doing is more theoretical than real and the difference would be greater in the hands of operators who are not so experienced as Dr. Young and others. Many of my patients were operated on because the method employed was considered conservative; in other words, these were cases with well-advanced renal complications, cases of pyelonephritis which demanded the minimum interference; success depended on time but also demanded the most favorable conditions following the operation—and it is not necessary for me to lay stress here on what drainage means to the bladder and the kidneys.

One of my early patients, a man aged 60, had complete retention, was in dire straits and was going down hill fast. The cystoscope revealed a stream of pus coming down from the kidneys. I do not believe that such a case would have stood the punch operation, because the patient needed the kind of drainage that is best afforded by the perineum only. In cases in which the urine is clear, the endoscopic operation would appeal most to the skilful operator. It comes down to the same question in litholapaxy and lithotomy. There are some cases better suited to the intravesical operation, and on the other hand, in some cases the added advantage of perineal drainage cannot be overestimated.

DR. H. H. YOUNG, Baltimore: A great many of these patients have had infection when operated on. While any irritation present may have been increased afterward, yet there was nothing in the way of sloughing. There is a perfectly clean wound and no reason for infiltration. The punch does not cut deeply enough to enter tissue that would become infiltrated. The time varies in different cases, averaging five days. The patients should be watched for a week, or sometimes longer, because in one case there was a secondary hemorrhage that came on about a week after the operation, and it was necessary to pass a big evacuating catheter to evacuate the clots. I do not think that it is a safe operation for general use. Unless a man is prepared to follow up his case, to see it soon, and preferably has a good hospital intern to look after it, he ought not to attempt it. An open operation is distinctly better. I have been using the instrument to evacuate blood-clots for quite a while; and it is a valuable help. You get them out at the time of the operation, and after that the sphincter closes down and no trouble is experienced. The use of continuous irrigation for from twenty-four to forty-eight hours is the best part about it, because it keeps the blood moving and the bladder clean and combats infection.

The punch has a very restricted use. We must be careful not to use it in cases of prostatic hypertrophy. I experimented with three, and had to do a prostatectomy afterward. The patients were very fat, and I did not realize how large the lateral lobes were. But for a restricted line of cases, such as small contractures, small bars and small muscular hypertrophies, in younger men, I think it has quite a field, particularly as an operation to put on the finishing touches after a prostatectomy which has not quite given the results it should. We all know that sometimes capsules do not contract quite right; sometimes there is a valvular condition, sometimes a fibrous condition; sometimes you leave a little glandular tissue that causes obstruction. In those cases, by means of either the rongeur for pedunculated lobes, or the punch for a fibrous condition in the median portion—and we have had two patients who had an obstruction anteriorly—we could remove the obstruction. I do not use the endoscopic light as a routine. It is not needed. The punch is introduced until the fenestra is in the bladder, the cutting knife is pulled back, and immediately there is an escape of urine; then you draw it out until the obturator comes beyond the bar, which drops into it; if it does not come any farther after you turn 90 degrees you know that it is the prostatic bar. If it does, you know you have entrapped the trigon. I do not use the endoscopic knife except for the first cut, and often not for that.

DR. C. M. HARPSTER, Toledo, Ohio: I think we are all pretty generally agreed here, that there is such a condition as contraction of the bladder neck. Among the older practitioners and in some of the older works, the extensive dissections that had been made in Glasgow and Edinburgh, appeared to prove that contraction of the bladder neck did not exist. I am certain that all of us that see these cases are thoroughly convinced that contracture of the bladder neck does exist. In cases of pathologic conditions of the neck of the bladder I am convinced that my method is of great use.

THE RELIEF OF INTRACTABLE AND PERSISTENT PAIN DUE TO METASTASES PRESSING ON NERVE PLEXUSES

BY SECTION OF THE OPPOSITE ANTEROLATERAL COLUMN OF THE SPINAL CORD, ABOVE THE ENTRANCE OF THE INVOLVED NERVES *

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Dr. W. G. Spiller has suggested[1] the operation of cutting the anterolateral column of the cord for the relief of persistent pain of organic origin, and published a report of the first case illustrating this procedure, the operation being performed by Dr. E. Martin. The importance of obtaining relief for these cases is self-evident and, as I have seen a number of these patients dragging out their sufferings over months, more or less chronically poisoned with morphin, the suggestion of Dr. Spiller appealed to me. Compared with cutting of a large number of posterior roots to effect a similar result, it seemed a much simpler and safer procedure. Moreover, if our physiology was correct, patients so operated on would lose only pain and temperature sense in the affected parts, whereas section of posterior roots (even two consecutive ones[2]) produces loss of all three sensibilities.

The patient of Drs. Spiller and Martin, a man of 47 years (1909), suffered from an inoperable growth involving the lower part of the spinal cord.

> The man suffered greatly from pain in the lower limbs and required morphin every night for relief. In January, 1910, . . . the man had very slight movement at each hip and in the left knee, and no movement elsewhere in the lower limbs. These limbs were greatly wasted. Sensations of touch, pain, heat and cold were lost in the back of each thigh and in all parts of the legs below the knees, although deep pin-pricks seemed to be felt in the left calf and left foot. . . .

Jan. 19, 1911, Dr. Martin divided the anterolateral columns on both sides of the cord. January 22 there was great relief from pain in both lower limbs.

> Pain was felt occasionally in the lower limbs during the three weeks following the operation, but the man was positive that it was less than before the operation. . . . In March, 1912, . . . his countenance expressed no pain and he never complained unless he was asked concerning his condition, when he would reply that he sometimes had pain. As he is a foreigner and not very intelligent, and his condition is pitiable, it is hard to judge whether he really has any pain from the tumor. The operation seemed to have been successful in the diminution of pain.

In the patient whose case I wish to report in this paper, the persistent right-sided pains stopped at once after section of the left anterolateral column at the level of the tenth dorsal lamina. The relief obtained was most striking, and as the patient was walking about eleven days after the operation, a more satisfactory outcome could not have been desired.

History.—The patient, Carrie F.,[3] aged 43, was a kitchen helper. Family history was of no importance. In June, 1910, the patient had a hysterectomy for carcinoma of cervix. She was well till September, 1911, when she was seized with sharp and shooting pains in the right lower extremity. The present trouble had been progressive in character; beginning with severe pain in September, 1911, the pain had become worse and was referred to the right lumbosacral region as well as the right lower extremity.

First Examination.—The patient was small and thin and evidently suffering from pain. Her gait was limping, which she explained by saying pain prevented her from straightening out. She showed at times slightest hypesthesia of all three sensibilities on the right side from spine to midaxillary line from the level of the upper lumbar vertebra over the right buttock. The knee-jerks were normal, and there was no motor paralysis. The *x*-ray of the spine was negative. The lumbar spine, though tender (irregularly so), was not in the least fixed. The general physical examination was negative except for a tender flat mass in the right pelvis felt high up through the rectum, first detected in June, 1912.

On May 29, 1912, a test injection of stovain[4] into the spinal canal was made with complete temporary relief of all pain. This result, plus the subsequent finding of the tender mass in the pelvis, made the diagnosis clear and suggested the possibility of obtaining relief by section of posterior roots, lumbar first to sacral fifth, or by section of the opposite anterolateral tract.[5]

June 29, 1912, patient continued to have severe attacks of pain in back and sacral region. Sensory examination revealed no area of anesthesia.

Second Examination (July 1, 1912).—Cranial nerves 1, 2, 3, 4, 5, 6, 7, 11, 12 appeared normal; the eighth hears watch at only 6 inches with each ear. There was no disturbance in the field of vision as grossly tested. There was slight diminution in corneal sensibility.

Upper Extremities: Good power; sensation and reflexes normal.

Lower Extremities: Negative, except for slight exaggeration of the knee-jerks. No Babinski, no Oppenheim and no clonus.

Trunk: Abdominal reflexes normal. Third and fourth lumbar spines tender but spine freely movable. No disturbance of sensibility. Sphincters intact.

Rectal Examination: Flat, very tender, hard mass in right pelvis high up.

Operation.—July 2, 1912. Dorsal laminectomy (dorsal ninth and tenth) and section of left anterolateral column were performed by Dr. E. Beer. Time of operation, twenty-five minutes. Patient stood operation very well. The cord was exposed after removal of two laminae and incising of the dura. Nothing abnormal was noted. A strabismus hook was passed about a posterior root (left side) and the cord then rotated on its long axis by traction, thus exposing the lateral columns. Another strabismus hook was passed in front of the cord to steady the latter while incision with a small sharp knife was made. The incision began approximately 2.5 mm. from the exit of the posterior root, the blunt side of the knife being directed toward the crossed pyramidal tract (which is very important, lest this be cut accidentally[6]). The incision was carried forward about 2.5 mm., and to the same depth. There was very slight bleeding from the section thus made. The dura was closed with silk. The muscles and fascia were closed with catgut, and skin closed over these. In the accompanying sketch the shaded tract indicates the area cut (Fig. 1).

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* From the Fourth Surgical Division, Bellevue Hospital.

[1] Spiller, William G., and Martin, E.: The Journal A. M. A., May 18, 1912, p. 1489.

[2] Seen in one case of posterior root section in 1910, in which the fifth lumbar and first sacral were cut.

[3] For the transfer of this patient to the surgical service I wish to thank Dr. C. Strong.

[4] The importance of such a test cannot be overestimated. If stovain or novocain, etc., produce relief, the operation promises relief. If they fail the operation is contra-indicated, for self-evident reasons.

[5] For reasons mentioned above, the latter method was chosen.

[6] Compare Dr. Martin's technic with double-edged knife.

Postoperative History.—July 3, 1912: Patient feels remarkably well and states that she has none of her old pains. There is almost complete motor paralysis of the left lower extremity, there being only slight flexion and extension in the toes, ankle and knee. The left knee-jerk is absent; the right is active.

July 4, 1912: There is slight improvement in motor paralysis. The patellar jerk is returning. The distal part of the left extremity shows more motor improvement than more proximal part. There is absolute loss of pain sensibility (tested with pin) in right lower extremity.

July 5, 1912: The complete sensory status is indicated in the accompanying diagrams (Fig. 2). As will be seen, there is complete loss of pain sense over the whole right lower extremity down from the mesial aspect of the groin anteriorly and posteriorly all the way down from the middle of the buttock. In the same area there is absolute loss of cold perception, cold being interpreted as heat. In this area heat is perceived slightly, and always as much less hot than in normal parts. Sensation of touch appears practically normal. In other words, the area affected involves all the sacral nerve fibers and all the lumbar nerve fibers up to the first lumbar, which is affected only in the lower half.

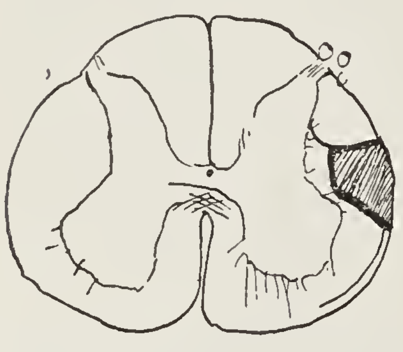

Fig. 1.—Anteriolateral tract (midlumbar).

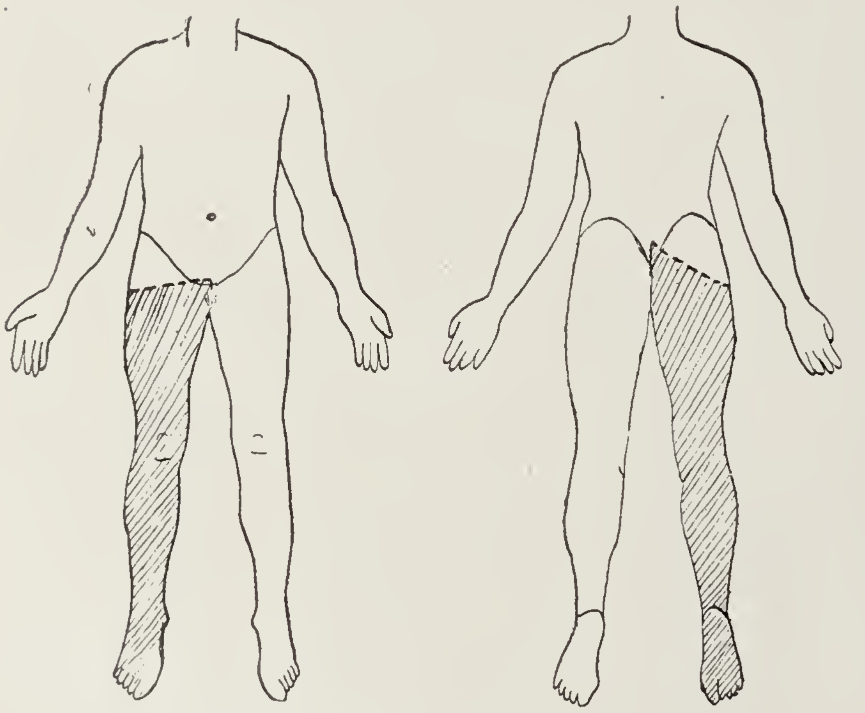

Fig. 2.—Diagrams of extent of pain anesthesia.

July 8, 1912: Sense of position in all joints is very accurate. Perception of pressure, as in squeezing the muscles of the right lower extremity, is slightly impaired, pressure being less distinctly perceived than in the left lower extremity. The knee-jerk in the left leg is much stronger. Motion is much improved.

July 10, 1912: Dressing. Sutures removed. Good union. Motion in left leg improving steadily. Sense of position in both legs normal. No further change in loss of pain sense in right lower extremity. Palpation of pelvic mass, which caused severe pain before operation, not painful now.

July 14, 1912: Examination shows loss of pain sense as on diagrams. Disturbance in thermal sense as before, except that area has contracted about 1 or 1.5 cm. downward. Pressure sense less acute than in normal extremity. Sense of position of joints is normal in both lower extremities. Both knee-jerks are active. There are no trophic disturbances, no bladder or rectal symptoms and no motor weakness in right lower extremity. Patient is able to walk; motor power in left lower extremity has returned almost completely. All pain in right lower extremity is gone and no vestige of it felt since operation.

July 16, 1912: More careful study of quantitative changes in touch sensibility in right lower extremity suggests a very slight diminution in perception of touch as compared with the other normal extremity.

July 18, 1912: During the past four days there has developed an edema of the right lower extremity, probably due to pressure of the growth on pelvic vessels. This makes locomotion more difficult. Deep pressure over the tibia may produce some pain. While the patient is lying in bed the heel-to-knee test of the lower extremity brings out an ataxia which, however, is almost entirely absent when the same test is made sitting in a chair. How much of this is due to a real ataxia and how much to the marked edema and consequent heaviness of the extremity cannot be decided at the time. There is no disturbance of this kind in left lower extremity.

July 21, 1912: Repeated attempts to produce pain (deep) by firmest pressure on tibia were unsuccessful (pressure producing subcutaneous bleeding). The ataxia in the right lower extremity has disappeared with the disappearance of most of the edema under firm bandaging. Patient walks about ward; occasionally complains of pains on the left side; never has the least pain on the right side or in the right lower extremity.

July 26, 1912: Condition continues the same. Patient fell in trying to step over window-sill and bruised herself, causing some pain in her back.

NOTE BY DR. RICHMOND

Aug. 1, 1912: Patient complains of pains in the back and says that she cannot sleep. It is relieved by ½ grain of codein by mouth. Walks about the ward, but appears weak, especially in the right leg.

Aug. 3, 1912: Patient complains of general weakness and pains, and has pain in the back when lying flat. On percussion of lumbar spine tenderness is elicited. Patient is emotional and despondent. There is increased frequency of urination and burning in the urethra.

Aug. 6, 1912: Condition about the same. Patient is very restless at night, but sleeps after administration of codein or salt water. Examination of right leg shows absence of sense of pain, just as after the operation.

Aug. 12, 1912: For the past days the patient has been very comfortable, sleeping well and having no pains. She is up every day, either walking with a crutch or resting in chairs.

Aug. 20, 1912: For the past eight days the patient has been for most part very comfortable, but is emaciating steadily, while the tumor is growing.

Sept. 5, 1912: Weakness and emaciation are progressing rapidly. Patient is in bed most of the time and has pain in her back. Marked edema of the right leg and of the labia has developed. The recurrence in the pelvis is much larger, extending up to the umbilicus, and is not tender. Sensations in the right lower extremity are unchanged. The pain in the back is constant with slight remissions.

Sept. 15, 1912: The pain is less. Patient is in bed all the time, with steady progression of all pressure symptoms on vessels, bladder, etc.

Sept. 22, 1912: Patient appears somewhat stronger to-day, and during past week. Pains in the back recurred to-day.

Sept. 29, 1912: Patient has been up in a chair for the past six days, and though the pains in the back have again become less, there is distinct progression of the cachexia.

Oct. 1, 1912: Condition is unchanged. Patient sits up in chair most of the time.

Oct. 24, 1912: Pain in the back has returned; there is none in the region of analgesia. Patient cannot walk without assistance and is getting weaker.

Nov. 15, 1912: Patient gradually has become more and more weak, and several days before her death she passed into a comatose state.

CONCLUSIONS

1. Surgically considered, the operation of cutting the anterolateral column without doing serious damage to the rest of the spinal cord is perfectly feasible and not difficult.

2. Therapeutically considered, the almost complete freedom from pain[7] produced by this surgical intervention met the indications presented in the case here reported, and in many other sufferers a similar intervention, I feel sure, will give similar relief.

3. Physiologically considered, section (complete?) of the anterolateral column produces (a) loss of pain sense on the opposite side of the body; (b) a disturbance in thermal sense which suggests that the fibers for heat and cold are disassociated in the cord; (c) slight disturbance of deep pressure sense and slightest disturbance in touch sense, both being impaired without producing any disturbance of sense of position.

48 West Seventy-Fourth Street.

SPASTIC PARAPLEGIA WITH THE CUTANEOUS REFLEX OF DEFENSE OCCURRING IN POTT'S DISEASE

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Spastic paraplegia is resultant on any impairment of conductivity of the chief motor tracts in the spinal cord. This impairment of conductivity may be due either to intramedullary changes, as, for example, primary degeneration of the pyramidal tracts, or to extramedullary causes, such as a tumor pressing on the spinal cord. These conditions and their treatment are so different that an early diagnosis is essential for effective treatment and prognosis.

In 1899, Babinski[1] described a form of spastic paraplegia due to an organic lesion but without degeneration of the pyramidal tract. The chief characteristic of this form of spastic paraplegia was a contracture of the limbs in flexion, the tendon reflexes being usually not exaggerated and often diminished, while the cutaneous reflexes, on the other hand, were so markedly increased that irritation of the skin on the paralyzed side would cause defensive movements of rapid withdrawal in flexion of the limb. Again, in 1911, Babinski[2] called attention to the difference between this condition of spastic paraplegia, with contraction in flexion and continuous exaggeration of the cutaneous reflex of defense, and the usual type, with contraction of the limb in extension and continuous exaggeration of the tendon reflexes.

A case with these clinical symptoms was reported by Claude[3] which, at necropsy, proved to be a case of sarcomatous meningitis. Another case, reported by Souques,[4] was diagnosed multiple sclerosis; there was no necropsy. Gelma[5] reports a similar case of contracture in flexion and exaggerated cutaneous reflex of defense. The occurrence of this cutaneous reflex of defense in Friedreich's ataxia was noted by Babinski, Vincent and Jarkowski.[6] Lian and Rolland[7] reported a case of spastic paraplegia of "the cutaneous reflex type of Babinski" occurring in Pott's disease. Sicard and Gutmann[8] described such a case, with operation and cure. One must not overlook the fact that paralysis in Pott's disease is not always accompanied by demonstrable changes in the vertebrae, for not infrequently there is a paraplegia in Pott's disease without deformity of the spine caused by the pressure on the cord of an extradural exudate. According to Cadwalader,[9] this occurs in 73 per cent. of cases.

I have to thank Dr. Carl D. Camp for permission to report the following two cases seen in his service in the hospital of the University of Michigan.

Case 1.—*History.*—W. S., a farmer, aged 28, entered the hospital complaining of great difficulty in walking and of pain, tremor and stiffness in the lower limbs. His family history and previous medical history were negative. The patient had had the usual children's diseases. He denied venereal disease. In January, 1911, the patient was struck by a log and thrown to the ground; the log rolled completely over the right side and pinched his head quite badly. Except for a few severe bruises he had no ensuing symptoms at the time of his injury. In February, 1912, the patient fell on the ice, striking his side and back. During the month of March he had occasional sudden, sharp pains in his side and back. In May, the patient first noticed a "lump on his spine" and about the second week in July his legs began to feel weak and numb and the muscles twitched. His limbs gradually became weaker and stiff until at the time of his admission he could barely walk and complained that his limbs felt numb and cold.

Examination.—The physical examination of the patient was negative except for a marked deformity about the third, fourth and fifth thoracic vertebrae. The urine and blood examinations were negative. The neural examination of the head and upper extremities was negative. There was no atrophy or deformity of either lower limb. Sense of pain, touch, temperature, motion and position was normal in both limbs. The umbilical reflex was not obtained and the cremasteric reflex was absent on the left side. The knee-jerk was slightly increased on the left side and very markedly so on the right. The Achilles reflex was increased on the left side; there was ankle-clonus on the right side. Plantar irritation caused extension of the great toe on the right side and flexion on the left. The cutaneous reflex of defense activated by a pin-prick was very forceful on the right side; there was none obtained on the left side. There was no paralysis of the limbs. All movements were possible but were weak and slow, more especially on the right side. There was pain on jarring the spine and on pressure over the deformity. The spinal fluid showed a slightly increased albumin content but was otherwise negative.

Treatment.—August 25, the patient was put to bed and a Buck's extension was applied to both limbs. August 27, the knee-jerk on the left side was about normal; that on the right side was still increased. The Achilles jerk on the right side was still exaggerated but there was no ankle-clonus. The Babinski reflex was still present on plantar irritation of the right foot. There was no cutaneous reflex of defense obtained.

Case 2.—*History.*—J. L., an iron-molder, aged 38, was brought to the University Hospital, Aug. 20, 1912, because of paralysis of both lower limbs. His family history was negative. He had had the usual children's diseases and had malarial fever in 1902. In 1907, his left kidney was removed; the cause for its removal was unknown. He gave no history of trauma and denied venereal disease. The present trouble began in August, 1911, when the patient was taken with severe pains across the lower part of his back. Shortly after that he noticed that his right leg was becoming weak and there was a feeling of numbness down the front side. In

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[7] All pains in extremity had ceased. Whether a higher section would have abolished the pains that developed at a higher level along the spine, further experience must demonstrate.

[1] Babinski: Bull. et mém. Soc. méd. d. hôp. de Paris, 1899, p. 342.

[2] Babinski: Rev. neurol., Jan. 12, 1911.

[3] Claude: Rev. neurol., Feb. 2, 1911, p. 249.

[4] Souques: Rev. neurol., March 2, 1911, p. 376.

[5] Gelma: Rev. franç. de mém. et de chir., 1912, No. 5.

[6] Babinski, Vincent and Jarkowski: Rev. neurol., 1912, xi, 463.

[7] Lian and Rolland: Rev. neurol., June 30, 1912, p. 843.

[8] Sicard and Gutmann: Rev. neurol., 1912, lii, 833.

[9] Cadwalader: Am. Jour. Med. Sc., April, 1911.

September, he noticed the same condition in the left leg. This feeling of weakness and stiffness, more marked in the right leg, gradually increased until the patient could walk only with the aid of a crutch and cane. All during this time he had sharp pains down both limbs. In February, 1912, the right leg gave out entirely and he could barely use his left leg because of its weakness and the severity of the pain in it. Since February, 1912, he has been confined to his bed. He had retention of urine and now has to be catheterized. He is constipated.

Examination.—The patient was greatly emaciated. The examination of the thorax revealed nothing abnormal. There was a slight deformity of the spine at about the fourth lumbar vertebra and in the sacral region. He had large bedsores over the tuberosity of both ischii. Examination of the urine showed a few white cells and a few granular casts but was otherwise negative. Blood examination showed 3,580,000 red blood-corpuscles, 8,000 white blood-corpuscles and 65 per cent. hemoglobin. Blood-pressure was 190.

The following observations were made by Dr. Camp: "Neural examination of the head and upper extremities is negative. Both lower limbs are greatly atrophied, the right thigh measuring 11 and the left 11½ inches in circumference. The calves of both legs measure 8 inches. Both limbs are slightly flexed at the thigh and at the knee. Except for a slight flexion and adduction of the thigh, the limbs are completely paralyzed. There is complete loss of sensation in the left leg and on the left side of the abdomen extending up to about 2 inches below the umbilicus and on the back to about the level of the fourth lumbar vertebra (see illustration). Both sides of the scrotum are anesthetic to all forms of stimuli. The line of anesthesia does not exactly correspond to the upper limit of analgesia or thermasthesia. The umbilical reflex is not obtained. The cremasteric reflex is present on the right side, absent on the left. The cutaneous reflex of defense is obtained in both limbs but it is more intense in the left. The right knee-jerk is greatly diminished and the left is absent. The Achilles jerk is not obtained on either side. Plantar irritation causes no movement in either foot. To the left of the coccyx there is an area of preserved sensation to all forms of stimuli. The anal reflex is present. The patient complains of severe pain in the left limb and of slight pain in the right. He has retention of urine and his bowels are constipated." The spinal fluid had a slightly yellow color and coagulated spontaneously. There was no increase in the cell content.

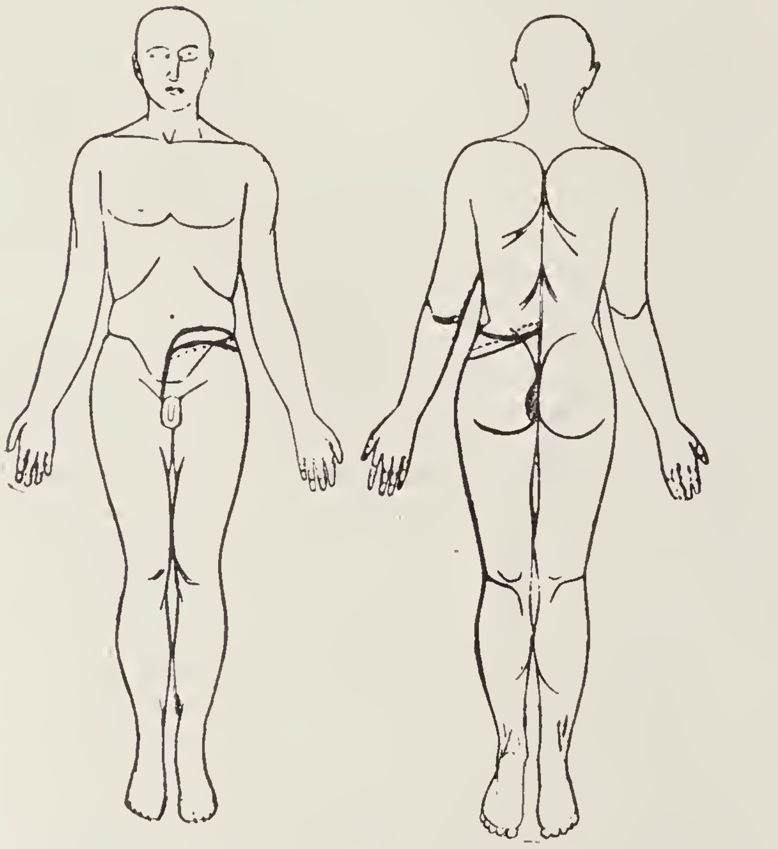

Diagram showing areas of anesthesia. Upper heavy line, upper limit of anesthesia to heat; lower heavy line, upper limit of anesthesia to cold; dotted line, upper limit of analgesia.

Treatment and Course.—Operation was advised and a laminectomy was performed August 29. The skin incision, made in the median line, extended from 1 inch below to 3 inches above the line of anesthesia. The laminae of the third fourth and fifth lumbar vertebrae were removed. Between the fourth and fifth vertebrae there was, slightly to the left side, a mass of hard, yellowish tissue about one-half inch in diameter which, on microscopic examination, proved to be a dense mass of fibrous connective tissue, either fibroma or granulation tissue, probably the latter. This was removed and the canal was found apparently free above and below. The dura was opened and the spinal fluid appeared clear. The cauda equina was seen and seemed small but presented nothing abnormal. The wound was closed without drainage.

August 30: Examination shows practically the same findings as before the operation but no cutaneous reflex of defense reaction is obtained in the left leg.

September 2: The patient can contract the left calf muscles and the left posterior thigh muscles and adduct the thigh. He complains of pain shooting down the left leg. He can slightly extend the left leg but has no other movements in that leg. Tapping the left patellar tendon causes contraction of the left calf muscles and adductors of the thigh on the left side but no extension of the knee. The right knee-jerk is normal or perhaps slightly diminished. The left and right Achilles jerks are normal. Plantar irritation on the right side causes no movement; on the left side there is no movement of the toes but a drawing up of the left leg. Sensation to pain is absent in the left leg but the upper limit of the analgesia is lowered to the groin, and the scrotum on both sides is sensitive to pinpoint.

September 10: The patient has pains in the left leg which are nearly as bad as before the operation. There is a catheter in the bladder. He has incontinence of feces and thinks he can move his legs a little better than before the operation. The abdomen being bandaged, the umbilical reflex cannot be taken. There is considerable wasting of both legs above and below the knee, a bilateral foot-drop and some swelling of the feet. Tapping the left knee gives rise to contraction of the flexors of the left knee and the left calf muscles. Tapping the right knee causes a normal knee-jerk. The Achilles reflex is present, equal and normal on both sides. Plantar irritation on the right side causes no movement of the toes, but the patient has a painful sensation; there is no pain on the left side. Deep pressure on the calf muscles on both sides is painful. There is complete loss of pain and tactile sensibility over the left leg except that deep pin-prick on the inner side of the left calf is sometimes felt, though delayed. The patient says that he feels touch and pin-point normally in the right leg. He has normal sense of motion and position of the right foot; this is lost in the left. The upper limit of anesthesia does not extend quite as high as before. The genital organs have normal sensation to pinpoint.

The patient left the hospital September 10.

These two cases and those reported by other observers show that the spastic paraplegia accompanied by the cutaneous reflex of defense is often due to a gradually progressing compression myelitis. This phenomenon also occurs in Friedreich's ataxia and in multiple sclerosis; in these diseases we find areas of sclerosis which may involve the pyramidal tract, but the axis cylinder of the nerve fiber may escape destruction and the secondary degeneration be comparatively slight.

In Pott's disease there is an extradural pressure on the spinal cord which may or may not cause a secondary degeneration of the pyramidal tract. If it does not, then the results of relief of the pressure should be a restoration of function.

It is therefore highly important to be able to distinguish clinically between a paraplegia due to degenerative changes in the pyramidal tract and one caused by pressure not producing marked secondary degenerative changes. In the former case treatment is of little value; in the latter the prompt removal of the compression by surgical or other measures may be followed by a great improvement. If this differentiation of the two types of spastic paraplegia assists us in recognizing the case in which an operation may be attended with good results, it is of great value. Not only is the cutaneous reflex of defense occurring in spastic paraplegia with contraction in flexion one of the earliest signs found, but it may also be present with complete loss of sensation to touch, pain and temperature, abolished reflexes and paralysis of the affected parts. A definite proof that it is produced by pressure is the fact that it disappears on removal of this pressure, either by palliative or by operative means.

In conclusion, I wish to say that this differentiation of the spastic paraplegias can not fail to be of great value in the early recognition of a condition in which early treatment offers gratifying results and in which the usually delayed diagnosis produces such disastrous effects.

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ONE OF THE POSSIBLE FACTORS IN THE CAUSATION OF PELLAGRA *

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Among the various phases of the problem presented by pellagra, of its symptomatology alone can we be said to have even moderately full knowledge. Its epidemiologic features and geographic distribution are as yet but imperfectly known, while in spite of the labors of many investigators whose researches have been directed toward the discovery of its etiology, the knowledge thus far gained leaves that important factor still largely within the realm of theory.

Many hypotheses of causation, based on certain aspects of the disease or its environment, have been advanced, but none of these, perhaps, quite accounts for all the phenomena involved.

It is not our purpose to discuss these theories in detail or to attempt to show the truth of any one of them, far less to propound a new one, but rather to point to facts which may have a bearing on the question.

If it be admitted that pellagra is a distinct morbid entity and not a mere symptom-complex, it is evident that the essential factors in its causation and spread must be uniformly active wherever the disease is endemic. In spite of this self-evident fact, the phenomena of the disease present many puzzling and apparently contradictory facts, under the varying conditions of environment and habit of its victims. Yet somewhere among these confusing phenomena must lie the constant element which is the cause of the manifestations of pellagra.

That the disease is due to an infection is an opinion held by a considerable body of investigators, and the arguments in favor of this hypothesis seem to warrant its serious consideration. On this hypothesis and the epidemiology of the disease are based the theory that pellagra is an insect-borne disease. This theory, first formulated by Sambon, has been given prominence during recent years and has received the concurrence of able students of the disease.

If the disease is due to an insect-borne infection, a consideration of some entomologic facts which appear to have significance in this connection may be worth while.

As pointed out by Knab,[1] for an insect to be a potential transmitter of human disease, it is necessary that four factors should be active. These factors are the habit of biting man regularly, a more or less close association with him, a certain degree of longevity and, finally, abundance. These biologic characteristics assure the opportunity to bite man, the practical certainty that numerous members of the species will bite him, not once only, but that they will secure successive blood meals and that a considerable number will survive beyond the developmental period of the hypothetic organism involved and again inflict bites.

The qualifications mentioned may vary in their relation to each other, as when great abundance and the persistence of the parasite in the blood of the vertebrate host compensate for a less close association with man, which occurs among the mosquito transmitters of malaria.

Apparent exceptions occur in some of the ticks, which are not usually domestic in any sense, yet convey certain diseases of man. But the power of this group to transmit the germs of disease through their progeny, together with their longevity and the duration of the life-cycle, extend the possible period of infectivity to at least several years, in the case of some species.

The phenomena of pellagrous incidence, as exhibited in America, differ in some important respects from those seen in some parts of Europe, according to authoritative reports.

Sex incidence in the Western hemisphere shows a marked preponderance of female cases.[2] In some localities these cases bear a relation apparently of more than three females to one male, but always in marked preponderance. This seems not to be true of Europe, where the cases among females, although somewhat more numerous than those of males, are in much smaller preponderance than in America.[3] There may be several reasons for this difference in the proportion of the two classes of cases in these countries, but the most obvious is that of habit and occupation. The peasant woman of Europe shares the work of the men of her family in much greater degree than is the case among the women of any class in this country. Whether at work in the fields or about her home, the peasant woman is exposed in much more nearly equal degree to the same conditions and liability to infection, whatever be its source. How this may influence the occurrence of the disease in the two sexes will be referred to later.

According to published statements, the class of the population affected with pellagra is much more sharply defined in Europe than in America. If we may believe these statements, the disease is confined almost exclusively to the strictly rural population and to those in the most abject circumstances in life. Its occurrence among the well-to-do is the exception.[4] In the United States

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* From the Bureau of Entomology, U. S. Department of Agriculture.

* Paper read at the second triennial meeting of the National Association for the Study of Pellagra, Columbia, S. C., Oct. 3 and 4, 1912.

[1] Knab, Frederick: Unconsidered Factors in Disease Transmission by Blood-Sucking Insects, Jour. Econ. Ent., 1912, v, No. 2.

[2] Roberts, S. A.: Pellagra, St. Louis, 1912. Beall, K. H.: Bull. Tex. State Board Health, 1911, v, No. 9. Tenn. State Board Health, Report on 316 Cases of Pellagra, 1911. Lavinder, C. H.: Reprint from P. H. Rep. 65, 1911. Grimm, R. M.: P. H. Rep., 1911, xxvi, No. 38.

[3] Roberts, S. A.: Pellagra, St. Louis, 1912. Babes and Sion: Die Hanlersschien der Pell., Innsbruck, 1909.

[4] Marie, A.: Pellagra, Transl. by Lavinder and Babcock, The State Co., Columbia, S. C., 1910.

no such sharp line can be drawn and no class of the community is free from its attack. That city and town dwellers are exempt is an assertion so frequently made as to have become practically axiomatic. If true of the towns and villages of Italy, as asserted by Sambon,[5] it is not applicable to urban communities in America, except possibly those of the largest size, although it is undeniable that those persons whose occupation or residence is in an essentially or truly rural environment are more subject to the disease. But as we shall show, from the point of view of possible insect transmission, many American towns of a size deserving the designation of cities are essentially rural communities.

Assuming the possibility that pellagra is an insect-borne disease whose causative organism is present in the peripheral circulation, a review of the biting insects which might be involved in its transmission centers the attention on the body parasites, fleas, lice and bedbugs and the winged suctorial insects, such as mosquitoes, stable-flies and the members of the genus *Simulium* or buffalo gnats.

Beall[6] has pointed out that the infection of pellagra seems to be incurred "in the home, or around the home," basing his conclusion on two facts: the marked preponderance of female over male cases, and the age of males affected, a large percentage of whom are of the age at which the time spent in the home is greatest. Beall believes that the preponderance of female over male cases is due to the greater exposure to infection and not to greater susceptibility or lower resistance, which is, as he says, contrary to medical experience. The higher rate of infection in very young and elderly or old males, he says, is also due to greater exposure.

In this connection it is noteworthy that in malaria, an insect-borne protozoal disease, there is no difference in the susceptibility of the sexes to the disease.[7] Observations by others appear to bear out Beall's conclusions, and from this point of view a consideration of the classes of insects mentioned above brings out certain facts.

The mosquitoes of the principal regions in which pellagra is endemic are either crepuscular or nocturnal in their biting habits, and men, in their hours of leisure or during sleep, would be exposed to mosquito-borne infection equally with women. There are also facts of distribution in connection with this group which seem to exclude them from grave suspicion of pellagra transmission. As an instance, the distribution and abundance of mosquitoes in certain parts of the Southeastern states is in inverse ratio to the occurrence of the disease.

With the exception of the facts of distribution, those just cited as probably excluding the night-biting mosquitoes as potential carriers of pellagra apply with equal force to the bedbug. The spread of the disease, the occurrence of isolated sporadic cases, the by no means rare infection of persons whose habits and condition in life go far to protect them from attack, and the large number of families in which but one or two members are affected in spite of habits conducive to indiscriminate attacks seem to argue against the bedbug as a possible carrier. The long life of these insects and their resistance to starvation with their persistence in infesting a building when once they have gained lodgment are undeniable. These habits might be regarded as indicating them as the source of the so-called "place infection" of pellagra; but this phenomenon has by no means been shown actually to exist, and it is doubtful if the habits just mentioned outweigh those which seem opposed to its incrimination.

The head-louse and body-louse must be considered, especially in view of the comparative abundance of the former species in some localities where pellagra is prevalent; but here too it is difficult to reconcile the habits of the parasites with the sex incidence of the disease; while in view of the frequence of its occurrence in individuals of unimpeachable personal habits and associations, the agency of these insects is inconceivable.

Fleas are usually considered among the most ubiquitous of insects, yet it is rarely that the dwelling of a country home is more heavily infested by these insects than the barns and other outbuildings with their animal tenants. Yet if this is not the case, how can the infection of the female members of the household in greater proportion than the males be accounted for if the flea is to be incriminated? It is difficult to see how, under the circumstances, women could be more exposed to attack than men.

Under such conditions as exist in the mill villages of South Carolina, the family dog or cat which is not infrequently kept might be blamed, and the infection "in or around the house" explained. But the histories of many cases taken in these villages show a rather small number of instances in which reports of the attacks of fleas can be obtained. Such as are obtained usually refer to their presence during the summer months, a fact which seems incompatible with the vernal outbreak of pellagra.

Furthermore, it must be borne in mind that most fleas are highly selective in their choice of host. In this locality the most common species which normally attack domestic animals are the cat-, dog- and chicken-fleas. When from expedience these fleas resort to man, they usually remain on him but a short time and frequently leave him without inflicting bites. The transference from man to man of such fleas probably happens but seldom under ordinary circumstances. We have been unable to obtain the human flea, *Pulex irritans,* in South Carolina, and although probably to be found in the state, it can scarcely be a serious pest.

It is asserted that endemic pellagra always occurs in close proximity to the haunts of *Simuliidae* and that therefore these insects are the transmitters of the disease.

In the regions in which pellagra is endemic the genus *Simulium* is represented by many species, none of which has a range as wide as the distribution of the disease. The biting habits of these species with regard to man are imperfectly known, but from recorded observations it appears that, of the American species, some attack man readily, while others seem never to do so. Some bite human beings with great infrequency, while still other species will bite in one locality but not in another.[8]

The great abundance of *Simulium*-infested streams in many localities in which pellagra is prevalent is unquestionably highly suggestive, but until the identity of the species present and the biting habits of these species *in that locality* are determined, the significance of the condition is greatly lessened. While knowledge of the biting habits of the group remains in its present incomplete state, the proximity of a *Simulium*-breeding stream to the point of origin of a case of pellagra does not warrant a definite conclusion of attacks by the adult flies or their connection with the infection.

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[5] Sambon, L. W.: Prog. Rep. Invest. Pell., Jour. Trop. Med. and Hyg., Oct. 1, 1910.

[6] Beall, K. H.: Bull. Tex. State Board Health, 1911, v, No. 9.

[7] Castellani, A., and Chalmers, A. J.: Man. Trop. Med., New York, 1910.

[8] A revision of the American *Simuliidae,* north of the southern boundary of Mexico, which is now being made, indicates in certain instances that what have heretofore been regarded as single species are in reality composed of several distinct forms. It is highly probable that the apparently contradictory reports of the biting habits of certain species actually refer to two or more forms, and if this is shown to be the case it will serve to clear up one important point in the biologies of the American species of the group. Such a conclusion would tend to weaken the position which investigators have assigned to these flies in connection with disease transmission. There is every reason to believe that what is true of the American species is true of the European also, and that more exact study will show more numerous forms to exist there, each with special habits.

There are pellagra-infested localities in South Carolina, the numerous streams of which contain *Simulium* larvae in numbers sufficient to justify the belief that if the adult flies were in the habit of attacking man with regularity, some impression would be made on the memories of residents of the neighborhood. Yet in these localities systematic and diligently pursued inquiries have failed to elicit more than an occasional report of the attacks or noticeable presence of such flies, even when dwellings have stood within a few feet of *Simulium*-infested water. In places infested by mosquitoes, to even a moderate degree, their presence is always well known, as is likewise the case in localities where sand-flies (*Phlebotomus* and *Ceratopogon*) are found. With due regard for the generally unreliable character of popular observations and reports on such matters, it is inconceivable to us that flies of the appearance and habits of the *Simuliidae* could be present and attack man in sufficient numbers to account for the prevalence of the disease, and yet fail to attract attention and to remain in the memories of their victims.

It is said on good authority that the *Simuliidae* are short-lived, as the short duration of individual outbreaks seems to indicate. This would lessen the probability of the transmission of the virus of pellagra through their agency unless, as is possible, the developmental period within the insect is of short duration. Should this be the case, the short life of the insect would greatly reduce the chance of a second human being receiving an attack after the infection of the fly.

None of the species of *Simulium* is closely associated with man, while as has been pointed out, with certain exceptions, all of the insects known to be carriers of human diseases are more or less closely associated with him, the transmission in the case of the exceptions being effected by means of factors which do not exist in connection with the flies under consideration. Less close association is always compensated for by great abundance and persistent attack, two attributes which cannot be said to be generally manifested by *Simulium* species in South Carolina.

Representatives of the genus appear to be totally absent from some arid and semi-arid regions in which pellagra is known to occur.[9] If it can be definitely shown that cases occurring in these arid regions originated there, that fact would in itself eliminate *Simulium* from consideration in connection with the disease. It is known to us that pellagra is endemic in a locality of large area in which *Simulium*, though present, occurs in such exceedingly small numbers as strongly to indicate that transmission by them would be impossible.[10]

Large towns are not frequented by these flies, although it should be pointed out that *Simulium* larvae have been taken by us in small streams in South Carolina within the built-up sections of towns of several thousand inhabitants. At the same time no satisfactory reports of attacks by the adult flies could be obtained.

Conforming much better to the requirements pointed out is another blood-sucking insect, *Stomoxys calcitrans*, the biting stable-fly. It is of cosmopolitan distribution and has practically uniform habits throughout its range. In most places it is abundant, even excessively numerous, and is closely associated with man and his domestic animals, breeding about his outbuildings, frequenting the vicinity of his dwellings and even entering them, sometimes in considerable numbers. Although it prefers to attack domestic animals, it readily bites man with frequency but some slight irregularity, depending apparently on meteorologic conditions and the immediate availability of its normal prey.

How long the stable-fly lives is not known with certainty. Its length of life is probably considerable and it breeds throughout the summer season, appearing in early spring and persisting until late fall. In these characteristics of association with man, blood-sucking habits and a reasonable degree of longevity, it conforms to our ideas of the potential disease-carrier, and if connected with the transmission of pellagra it may explain certain epidemiologic phenomena of the disease.

As we have before stated, the majority of the cities and towns of this region are, from the point of view of *Stomoxys* propagation and distribution, rural communities in that they offer facilities for both of these functions, which are not inferior to those existing in country districts. The densely built-up business sections are of small area when compared with the spaciously planned residential districts in which houses are surrounded by lawns and grounds of greater or less extent, and the keeping of domestic animals, principally horses and cows, is almost universal. Breeding of these flies takes place not only about the private stables referred to but in and about the public stables and wagon-yards in the business sections. As a result, the stable-fly is to be found in all parts of such towns and in the smaller ones is numerous everywhere.

In such towns in this region, pellagra occurs endemically.

The common habit of *Stomoxys* of frequenting and entering dwellings under prevalent conditions would explain, were the fly incriminated, the high percentage of cases among those who spend most of their time at home. In the mill villages of South Carolina, where many cows are kept, they are in the majority of cases milked by the women of the family, as is usually the practice on the small farms also. Many reports are received of the attacks of these flies on the milkers, and a large percentage of persons interviewed in these places gave accounts of having been bitten.

The number of individuals of this species not infrequently found in living-rooms of houses of a certain class would go far to explain the occurrence of several cases in a single family as the close association would favor the communication of the disease. This probability is heightened by the fact that *Stomoxys* does not usually take a full meal at one time, as do mosquitoes, but passes from one man or animal to another.[11]

Domestic animals are frequently followed for long distances by these flies, and they are readily transported by railroad cars and steamships, as we ourselves have observed. It can be seen that droves of cattle or, under modern conditions, cars in which live stock is being carried, might offer to infected flies means of migration to distant places, and cause isolated infections, thus accounting for sporadic cases, the histories of which show no apparent exposure to the disease.

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[9] Beall, K. H.: Bull. Tex. State Board Health, 1911, v, No. 9.

[10] Endemic pellagra occurs in Barbados, West Indies, yet no species of *Simulium* has been found to inhabit that island in spite of the systematic work of government and other entomologists. The existence of any species whose habits conform to those uniformly prevalent in the known representatives of the genus is practically precluded by the geologic and topographic features of the island.

[11] Osborn, Herbert: Bull. 5, N. S., Bu. Ent., U. S. Dept. Agric., 1896. Brues, C. T., and Sheppard, P. A. E.: Jour. Econ. Ent., 1912, v, No. 4. Maxwell-Lefroy, H.: Biting Flies of India, 1907.

CONCLUSIONS

If pellagra is caused by an infection, especially if of protozoal origin, and is transmitted by an insect, the present state of our knowledge leads us to the provisional belief that the following deductions may be tenable.

Under conditions existing in the region of pellagrous endemicity in South Carolina, the lice, fleas, mosquitoes and bedbugs show characteristics of habit, distribution and abundance which appear to exclude them from serious consideration in this connection.

The biting habits and, to a certain extent, the distribution of the flies of the genus *Simulium*, together with their lack of habits which bring them into close association with man, seem to present weighty arguments against the incrimination of these gnats as the active agent in the transmission of pellagra.

The cosmopolitan biting stable-fly, *Stomoxys calcitrans*, from its distributional and biting habits, its close association with man, its conformation to the obvious requirements of the disease-transmitting insect and the agreement of its special characteristics with the phenomena incident to the occurrence of pellagra, offers strong reasons for its consideration under the premises.

It is hoped that attention may be directed to this fly and observations bearing on its possible relation to the disease be generally made.

We would add that, should a causative organism be shown to exist which is a bacterium rather than a protozoon, and should this organism invade the body through either the mouth or the skin, the house or typhoid fly, *Musca domestica*, and the flies whose habits at all resemble it, would lie under strong suspicion. It is needless to say that the house-fly is excessively abundant and of universal distribution in the region studied.

We are also aware that the communication of pellagra in a purely mechanical manner by biting insects is a possibility and, if shown to exist, would radically change our ideas as to the insects which may be involved.

Finally, we wish to repeat that essential uniformity of causation must be assumed to exist universally and that the demonstrated failure of a supposed etiologic factor to account for the phenomena of pellagra in one locality must serve to exclude it from consideration as a factor in another.

Cause of Beriberi.—Gouzien has been studying the records in regard to beriberi in the penitentiary at Hanoi in French China from 1906 to 1910. He concludes that rice undoubtedly plays a very important part in the pathogenesis of the disease, but that the superiority of the unhulled to the polished rice does not lie in any antitoxic effect of the hulls but in the fact that they protect the grain against degeneration from heat and moisture. He considers the disease an intoxication, not an infection, and cites in support of this theory the fact that a very severe epidemic of beriberi was followed by an epidemic of scurvy, the latter disease attacking only those who had been affected by the former. The two diseases seem to be in a sense interchangeable. Moreover, even when polished rice of the same quality is used, marked decrease is noted in the epidemic when the diet is varied by a free use of fresh vegetables, fruits and meat. In addition to the dietetic factors, overcrowding and dampness seem to play an important part in the course and severity of the disease. Gouzien is at the head of the medical department of the French army in Tonquin, and his article is published in the *Annales d'Hygiène et de Médécine Coloniales*, 1912, xv, 3.

CLINICAL DATA ON MALIGNANT RENAL TUMORS

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The surgical records of St. Mary's Hospital, Mayo Clinic, show that eighty-three malignant tumors of the kidney were operated on up to July 1, 1912. The tumors are classified according to their histologic structures as hypernephroma (mesothelioma), sarcoma, carcinoma and embryoma. Clinical differentiation, according to the above histologic classification, usually cannot be made prior to exploration. From a clinical point of view, therefore, the various forms of tumor will be considered together.

As has been repeatedly noted by various observers, the cardinal symptoms of malignant renal tumor are hemorrhagic urine, tumor and pain. Given a clinical picture of a palpable tumor in the region of the kidney, hemorrhagic urine, persistent pain referred to the region of the tumor and the general symptoms of malignancy, the diagnosis of malignant renal tumor will usually be found correct. These complete data, however, were found present in but thirty-two of the eighty-three cases under consideration. Two of the three symptoms were present in thirty-seven cases, and but one symptom in fourteen cases. It is evident, therefore, that the clinical diagnosis must more often be made with but one or two of the cardinal symptoms.

SYMPTOMS

Hematuria.—Probably the most important symptom in malignant renal tumors is hematuria. It was given as a symptom observed by the patient in fifty-three, or 64 per cent., of the cases, as a primary symptom in thirty-nine, or 36 per cent., and as the only symptom in ten, or 12 per cent., of the cases. In forty-one, or 77 per cent., hematuria was noted more than a year before the patients presented themselves for operation. Gross blood in the urine was found at the time of examination in thirty-three, or 40 per cent., of the cases. As a symptom observed by the patient only, hematuria may be of doubtful value. An occasional hematuria may be disregarded or forgotten, particularly in the female, who may believe it to be of menstrual origin, and in the less intelligent individual. Again, patients frequently give a history of slight hematuria which may originate from some passing condition in the bladder or urethra. Thus in fifty cases of tumor in the surrounding organs which did not involve the kidney but resembled tumor of the kidney on palpation, a history of possible hematuria was obtained in four, or 8 per cent., of the cases. A positive history of repeated hematuria was obtainable in but forty-one, or 50 per cent., of the cases. Gross blood in the urine at the time of examination is of the greatest value. Of what value is the finding of microscopic blood? In twenty-one cases of renal tumor blood was found only on microscopic examination. In the last fifty cases of abdominal tumor which, on palpation, simulated renal tumor, but which, on exploration, were found not to involve the kidney, six cases showed microscopic blood in the urine. The possible causes for the existence of a few blood-cells in the urine are so many that their discovery microscopically is really of little practical diagnostic value.

Tumor.—In sixty-five patients, or 78 per cent., a tumor mass could be felt on clinical examination; its existence was known to twenty-eight patients, or 34 per cent., of the total; it was the first evidence of disease in twelve patients, or 15 per cent.; thirty-seven patients were unaware of its existence, although the majority of them had had more or less medical care previously; and it was given as the only symptom by five patients, or 6 per cent. The tumor was described as freely movable in five patients, or 6 per cent.; as slightly movable in forty-five patients, or 54 per cent., and fixed in fifteen patients, or 18 per cent. In twelve of the latter the tumor was found inoperable on exploration. Palpation of tumors in the zone of the kidney is frequently found of very uncertain diagnostic value even when aided by percussion and bowel inflation, and presents many possibilities for error. The following data in palpation of the kidney may be of practical value:

1. Tumors of the surrounding organs so frequently simulate renal tumor in position, form and consistency that it is quite impossible to differentiate them by means of palpation alone.

2. Renal tumor, particularly when involving the lower pole, may extend irregularly toward the median abdomen or down into the pelvis so as to simulate tumor of the various extrarenal organs.

3. Renal tumor may be very uncertain on palpation (a) when the kidney lies high, (b) when the tumor involves the upper pole, and (c) when it occurs in a fat abdomen. It is frequently astonishing how large the tumor is found to be at operation when, on palpation, an enlargement could not be determined or was considered questionable.

4. Kidneys otherwise normal are occasionally found so large that they simulate tumor on palpation. This hypertrophy may be found to occur without apparent reason or as the result of diminished function in the other kidney.

5. Low-lying large kidneys in thin patients may simulate moderate tumor enlargement.

Pain.—When it accompanies renal tumor, pain is caused either through tumor pressure on the surrounding nerve-trunks or by means of increased intrarenal tension resulting from interference with urinary drainage. When caused by tumor pressure the pain may be referred to various parts of the upper abdomen and back and consequently will often be misleading. Not infrequently will the pain radiation simulate that of gall-bladder disease; again, it may readily be mistaken for that of lumbago or muscular rheumatism. Abdominal pain of varying degree was complained of by sixty-eight, or 82 per cent., of the patients. It was given as a primary symptom by twenty-seven, or 32 per cent., and as the only symptom by fourteen, or 17 per cent. The pain was referred (a) to the affected kidney region in fifty cases, or 74 per cent.; (b) to both kidneys in four cases, or 6 per cent.; (c) across the back in eleven cases, or 17 per cent., and (d) it was diffuse and of no localizing value in eight, or 12 per cent. Of the cases of pain referred to the affected kidney, several occurred with hematuria only and in all probability were the results of blood-clots obstructing the ureter. Epigastric distress with more or less nausea was noted by eight, or 12 per cent., of the patients, and in four instances it was given as the predominant and only symptom.

Evidence Afforded by Urinalysis.—Other than blood in the urine (which has been discussed previously), pus may be found to a varying degree. Gross pus was found in five, or 6 per cent., of the cases, and microscopic pus in fifteen, or 18 per cent. Occasionally the pyuria becomes so marked that the condition may readily be confused with a pyonephrosis. Usually only a small amount of pus is found in the catheterized specimen and it may be the result either of secondary infection due to interference with the drainage of urine by the tumor or of tumor necrosis.

Circulatory Disturbance.—Evidence of circulatory disturbance is commonly found with the so-called hypernephroma or mesothelioma. In fact, this condition is observed so often as to indicate that toxins absorbed from the tumor may have a vasomotor dilating effect. Dilatation of the superficial blood-vessels is apparent in the face, the bladder, the scrotum and in hemorrhoids. The dilated superficial veins of the face not infrequently cause a flushed, congested appearance which is almost pathognomonic. Dilated veins in the scrotum or varicocele occur more commonly with hypernephroma than is generally recognized. A history of a varicocele of recent onset in a patient of 40 years or over renders an unidentified hematuria or tumor very suggestive of hypernephroma. Varicocele should always be searched for when renal tumor is suspected. Two of the patients at the Mayo clinic had previously been operated on elsewhere for varicocele. In the last thirty males the condition was found in nine, four on the right side and five on the left. In three instances a recent hydrocele was noted which might have been coincidental. Hemorrhoids of recent appearance were noted in five of the last thirty patients. Dilated blood-vessels in the bladder were noted on cystoscopic examination in four of the last fifty patients. Cardiac dilatation is a rather common late symptom and was found in ten of the twenty-one cases clinically considered inoperable. While dilatation of blood-vessels in the scrotum, bladder and rectum occasionally occurs with various abdominal tumors and may then be explained by mechanical pressure, the peculiar frequency with which they are found with renal tumors together with the venous dilatation in the upper extremities and the common cardiac insufficiency must be explained by causes other than mechanical.

DIFFERENTIAL DIAGNOSIS

The principal problems in differential diagnosis are identification of hematuria and upper abdominal tumor. The conditions which may most easily be confused with renal tumor are (1) "essential" and nephritic hematuria, (2) retroperitoneal tumor, (3) bilateral cystic kidney, and (4) closed pyonephrosis. Hematuria prolonged over a period of several weeks or months and occurring at long intervals is suggestive of "essential" or nephritic hematuria; when it continues but a day or two and reappears at short and irregular intervals it suggests renal tumor. With an otherwise symptomless hematuria, the question frequently arises whether or not surgical exploration is indicated. It has been our rule not to operate on cases of symptomless renal hematuria unless the loss of blood was so great as to interfere with the patient's duties. When, however, repeated severe hemorrhages occur in a patient of 40 years or over with loss in weight and strength, even though neither tumor nor pain exist, exploration may be justified. Illustrative of this point is a case which recently came under our observation. The patient, a man aged 50, complained of hematuria persisting for three months with loss of weight of 15 pounds. Tumor and pain were absent. Cystoscopic examination demonstrated the source of bleeding to be the right kidney but gave no other data. Exploration revealed a kidney normal in size and form but appearing moderately pale.

On section numerous small areas of pale tissue were visible. Microscopic frozen sections demonstrated tissue from these areas to be hypernephroma and the kidney was then removed. Although interstitial hypernephroma is extremely rare, renal tumor revealing itself clinically only by hematuria occurs often enough to warrant exploration in doubtful cases. Acute pain with essential or nephritic hematuria is exceptional, although it must be remembered that blood-clots occasionally cause acute colic.

Hematuria with bilateral cystic kidney may be confusing when the renal enlargement can be felt only on one side. Chronicity of symptoms and clinical evidence of renal insufficiency and bilateral tumor may call our attention to the cystic nature of the tumor. The pyelograph will identify the cystic nature of the tumor in over half the cases. As I have previously described, the pelvic outline of bilateral cystic kidney is characterized by flattening of the calices giving a general oval contour to the pelvis in contradistinction to the retracted calices of the malignant renal tumor. Occasionally, however, a retraction of the calices may also be found with the bilateral cystic kidney but it then is broad and open and not slit-like or narrow.

Tumor in organs adjacent to the kidney frequently cannot be identified even with the aid of all data obtainable through subjective symptoms, palpation, intestinal inflation and analysis of stool, urine and blood. Since about 20 per cent. of renal tumors will have no definite history of disease in the urinary tract and a negative urinalysis, it is very evident that they may easily be confused with tumor in the adjacent organs and vice versa. Cystoscopic data and particularly the pyelograph will identify or exclude renal involvement in about 75 per cent. of such tumors.

Closed pyonephrosis may be particularly confusing. The onset of a pyonephrosis may be most insidious, whether calcareous or tuberculous, and give the patient little or no subjective symptoms. The systemic toxemia as a result of such a pus-reservoir may give the appearance and systemic symptoms of malignancy. The tumor may feel as firm and irregular as a neoplasm. The cystoscopic examination discloses absence of secretion from that side and obstruction to the ureteral catheter at the renal pelvis, but the same condition may be found with malignant renal tumor. Data obtained by means of the pyelograph may be of considerable aid in such cases.

OTHER AIDS TO DIAGNOSIS

Cough.—A dry cough of comparatively recent origin, with negative chest findings, is suggestive of diaphragmatic irritation. While this may occur with various subdiaphragmatic tumors, it is found peculiarly frequent with renal tumor. Bronchial gland metastasis as a possible cause for cough was found in two cases. When this condition is suspected, the radiograph may show the metastasis providing the bronchial glands are large and favorably situated.

Sex.—Renal tumor evidently occurs more often in the male than in the female. It was found in fifty-one, or 62 per cent., of the males, and in thirty-two female patients.

Cystoscopic Data.—By means of the cystoscopic examination we can obtain data which, in most cases, will enable us definitely to determine the source of the hematuria, to ascertain the origin of pain and to identify an otherwise symptomless tumor. These data will be gained through (1) inspection, (2) the ureteral catheter, (3) estimation of renal function, and (4) pyelography.

Cystoscopic Inspection.—The cystoscopic examination of the bladder may reveal (1) dilatation of the veins of the bladder; (2) tumor tissue loose in the bladder or protruding from the ureter; (3) blood-clot in the ureteral meatus; (4) atrophy of the affected meatus; (5) marked comparative decrease in volume and force of secretion; (6) unilateral dark-colored secretions; (7) unilateral hematuria. Dilatation of the veins of the bladder is seen only occasionally with conditions other than renal tumors and occurs usually as a result of mechanical pressure from an adjacent tumor. When found with tumor in the upper abdomen, it is strongly indicative of renal tumor. The dilated veins are not necessarily confined to the area surrounding the ureteric orifice, but may be found over the base and walls, more often on the affected side. While the secretion from the affected kidney may appear entirely normal, it not infrequently will have a comparatively dark brownish color, and its volume and force may be much less than that from the other kidney.

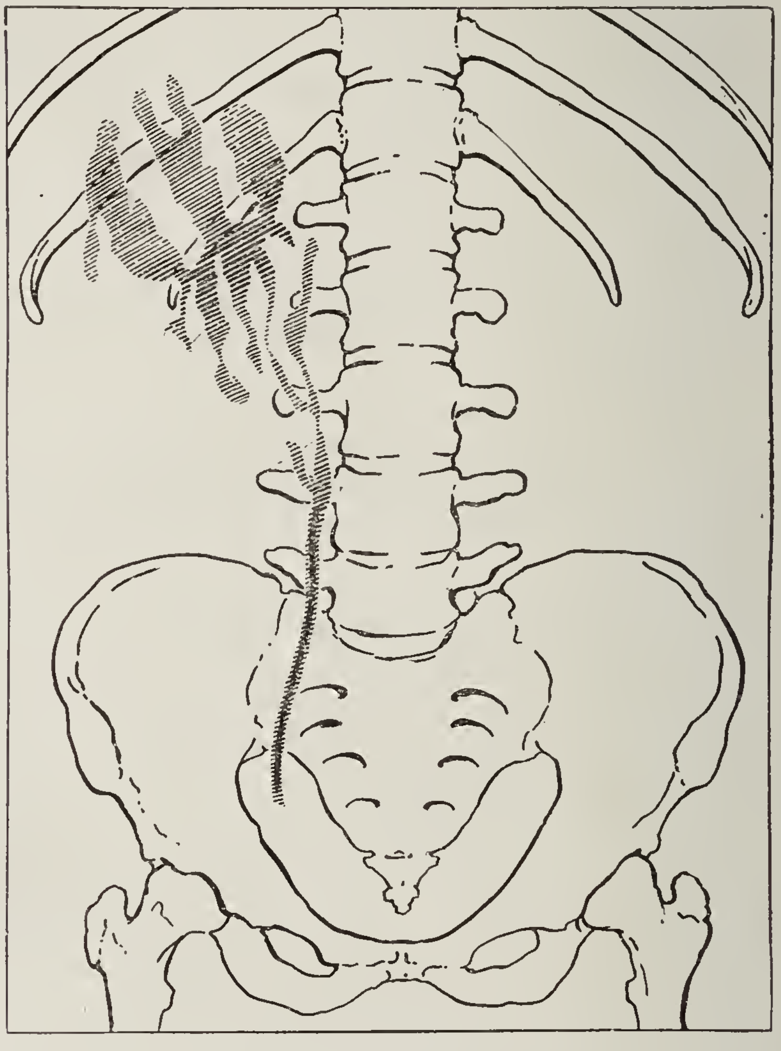

Fig. 1.—Typical "spider-leg" retraction of calices; note point of obstruction of catheter at level of fourth lumbar vertebra.

Ureteral Catheter.—The data obtained by means of the ureteral catheter are secured through evidence of obstruction and dilatation. Obstruction to the ureteral catheter may result from (1) invasion and partial or complete obliteration of the renopelvis or upper ureter by tumor tissue, or (2) from pressure on the ureter by surrounding tumor tissue, particularly when the tumor is large and involves the lower pole. Some evidence of dilatation of the pelvis as a result of tumor changes may be obtained through the discovery of residual urine in the pelvis. Similarity of pain caused by pelvic overdistention is not to be relied on.

Estimation of Renal Function.—Evidence obtained through chemical estimate of decrease in renal function consequent to tumor must be considered with caution. With most renal tumors a quantitative functional estimate will not show a decrease sufficient for a definite estimate of disease. Although a considerable portion of the substance of the kidney may be invaded by tumor tissue, the remaining kidney will more often be found to secrete almost as great an amount as the entire kidney. When, however, the remaining renal tissue becomes involved in some secondary inflammatory process, as evidenced by pyuria, microscopic or macroscopic, the functional capacity will be markedly reduced. Since particularly those tumors in which the urine is found normal are difficult of identification, functional tests will be found to be of diagnostic value in but a small proportion. In twenty cases of tumor with urine containing no pus, marked decrease in function was noted in but five. In these five cases, but a very small amount of secreting tissue was found remaining. On the other hand, it must be remembered that pressure of an adjacent tumor on the kidney will diminish its functional activity as measured by chemical tests. Various other circumstances may also cause a comparatively normal kidney temporarily to retard its secretory activity. Of the various functional tests, phenolsulphonephthalein will probably be found to be the most practical because of the simple technic involved and since it permits a comparatively accurate quantitative estimate.

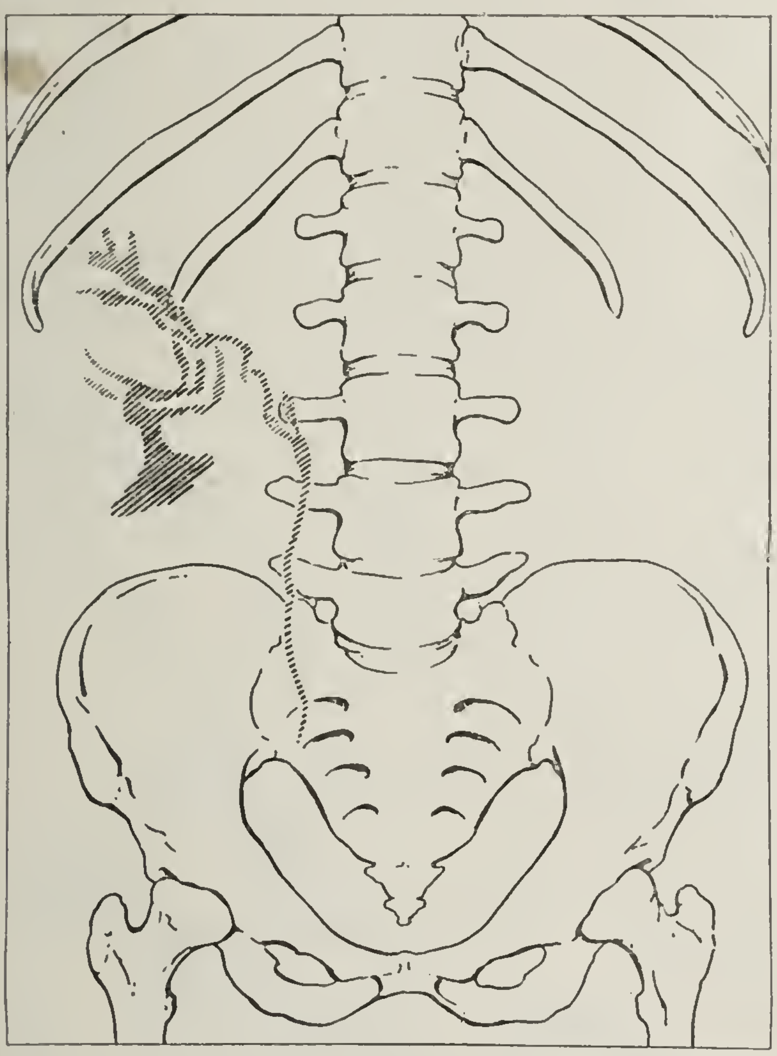

Fig. 2.—Typical retraction of calices into fine radiating streaks.

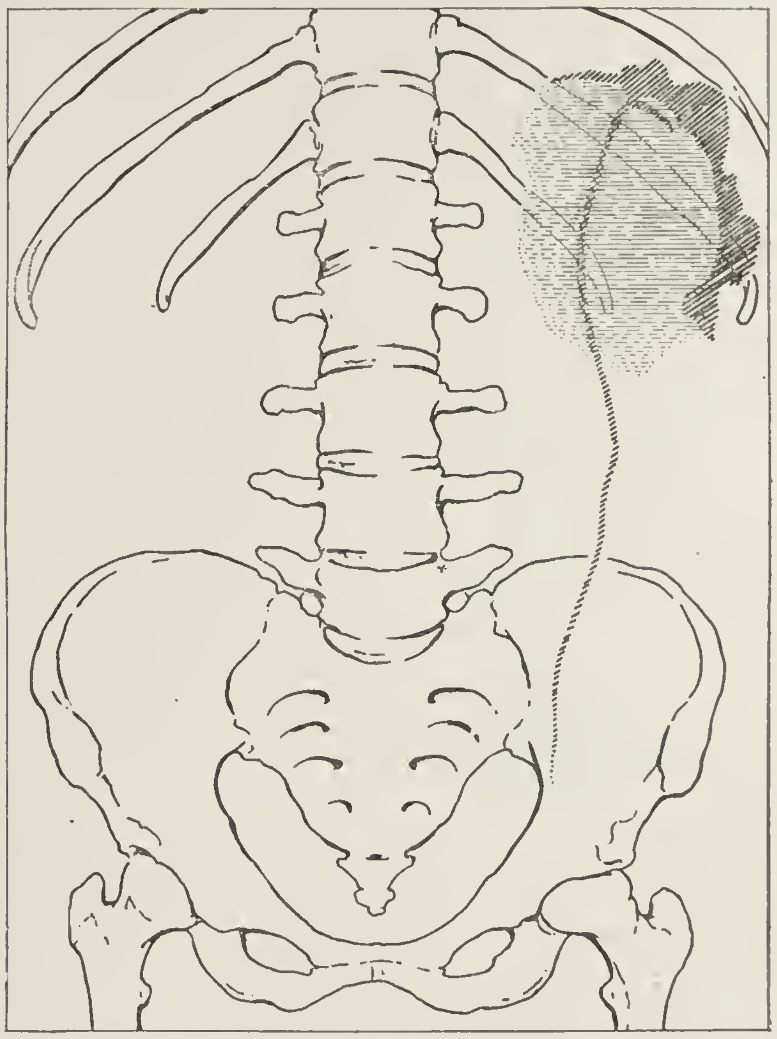

Fig. 3.—Flattening and lateral deviation of renal pelvis by median-lying tumor tissue.

Pyelography.—In over 75 per cent. of the kidneys operated on for malignant renal tumor the pelvis was found involved to a varying degree. Abnormality in pelvic outline consequent to such involvement can be demonstrated in the radiograph by injecting liquid solutions of silver colloid into the renal pelvis. In order to distinguish the normal from the abnormal, the outline must vary considerably. In the twenty-two cases with operation in which pyelography was employed, recognizable deformity was demonstrated in seventeen. The changes in the pelvic outline as seen in the radiograph will be found to be as follows:

1. Retraction of one or more calices well into the cortex giving a bizarre, "spider-leg-like" appearance (Fig. 1).

2. Partial obliteration of the pelvic lumen by invading renal tissue with remaining thin streaks (Fig. 2).

3. Irregular pelvic dilatation following tumor necrosis or secondary infection.

4. Retraction and consequent dilatation of the upper ureter by surrounding tumor.

5. Abnormal position of the renal pelvis so that its outline is found lying either extremely median or lateral (Figs. 3 and 4).

Needless to say that pyelography should not be employed except where other means of diagnosis fail to identify the tumor. While it will cause no permanent injury, it occasionally will be accompanied by considerable pain unless carefully employed. It will be found particularly valuable in identifying renal tumor not accompanied by urinary symptoms and in which urinalysis is found negative.

OPERATIVE FINDINGS AND RESULTS

Inoperable Tumor.—Among the eighty-three patients operated on for malignant renal tumor, the surrounding tissues were found so involved as to render nephrectomy impossible in twenty-two. Among the twenty-two cases explored and found inoperable, the tumor was described as fixed in sixteen. Of the twenty-two patients, but fifteen could be traced and with two exceptions they were reported dead within a year after exploration. Our clinical records also show twenty-one patients in whom tumors in the zone of the kidney, hematuria and other evidences of malignancy made the clinical diagnosis of malignant renal tumor reasonably certain, but they were considered inoperable. Thus we have a proportion of one case in five considered inoperable clinically. This large proportion is not surprising, since the average duration of symptoms of the patients operated on was 2.3 years, while with 31 per cent. it was 3 or more years. The symptoms which caused us to consider the patient's condition as inoperable were (1) fluid in the abdomen; (2) edema of the extremities; (3) extreme emaciation and weakness; (4) evidence of metastasis; (5) cardiac insufficiency; (6) evidence of thrombosis. It must be remembered that metastases may be found when the renal tumor is so small that it cannot be palpated clinically. Microscopic sections of superficial tumors may be the first to call our attention to the existence of hypernephroma. In a case which came under our observation recently a metastatic tumor was found in the rectum.

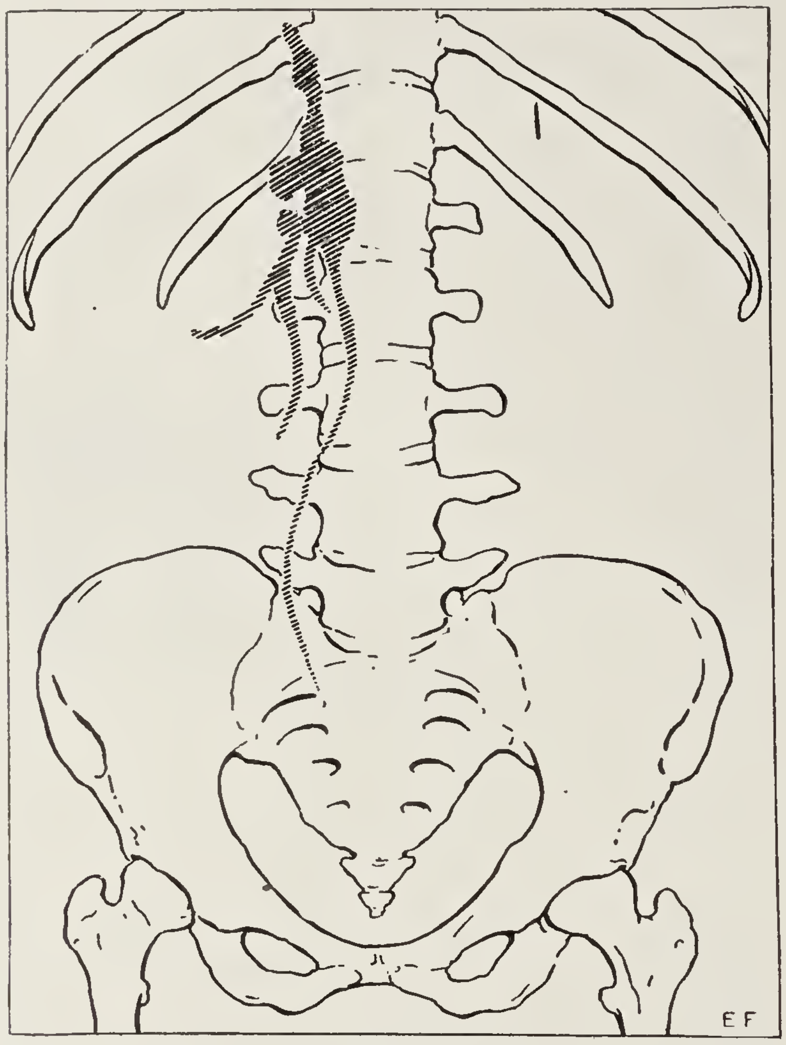

Fig. 4.—Flattening and median deviation of pelvis by lateral-lying tumor, with retraction of calices.

Results of Nephrectomy.—Of the sixty-one patients in whom nephrectomy was done, seven, or 11 per cent., died in the hospital. Of the remaining patients, we were able to trace fifty-one. Of these, ten were operated on less than a year before, seventeen were alive more than one year, twelve after three years, four after five or more years, and one after eight years. Of the twenty-seven patients reported dead, nine died before one year after operation, two lived one year, four lived two years, and one lived three, four and five years after operation, respectively. Thus we have a three-year cure in fourteen, or 27 per cent., of the patients, and a five-year cure in five, or 10 per cent., of the patients. Of the patients that were reported alive three years or more the average length of symptoms noted prior to operation was 1.6 years. Of those who lived less than three years the average length of symptoms was 2.8 years. It is evident, therefore, that, as a general rule, the shorter the existence of symptoms prior to operation the better will be the prognosis. Furthermore, it is seen that results of nephrectomy for renal tumor compare favorably with operations for malignancy elsewhere in the abdomen.

In conclusion I wish to emphasize the importance of immediately ascertaining the source of every hematuria. Of the fifty-three patients operated on for malignant renal tumor who had a definite history of hematuria, but eighteen, or 34 per cent., had been advised to be examined for its source. Hematuria, particularly when so well marked as to color the urine, is always to be considered a sign of some grave condition in the urinary tract. In fact, it would be conservative to regard every case of hematuria as the result of a malignant process until it can be definitely proved otherwise. Renal tumor may lie dormant or grow insidiously over a period of years and by the time that hematuria, tumor or pain calls attention to its existence, it should receive immediate surgical attention.

REPLACING DEPRESSED FRACTURES OF THE MALAR BONE

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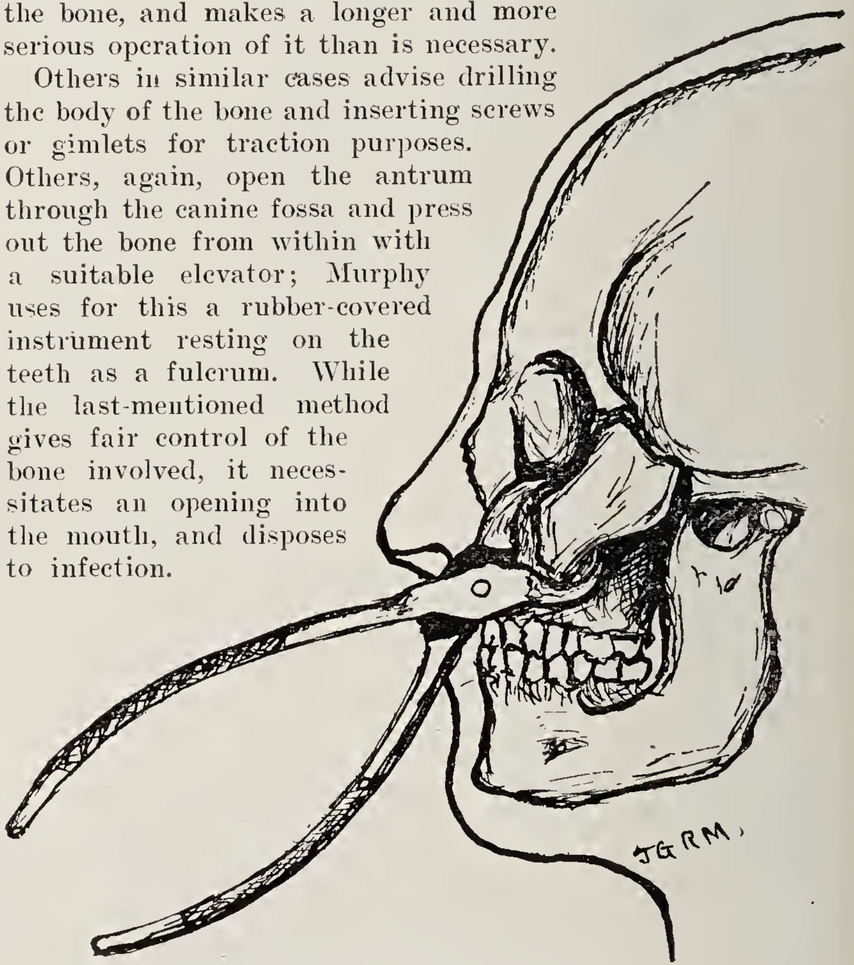
In a recent report of a case of depressed fracture of the malar bone the operator mentioned the fact that he made an incision three-fourths inch long in the skin under the eyelid, drilled through the orbital crest of the malar bone, and then inserted a silk thread through the hole thus made to use as a tractor in replacing the depressed bone. This seems improper, since it scars the face, gives but imperfect control of the bone, and makes a longer and more serious operation of it than is necessary.

Others in similar cases advise drilling the body of the bone and inserting screws or gimlets for traction purposes. Others, again, open the antrum through the canine fossa and press out the bone from within with a suitable elevator; Murphy uses for this a rubber-covered instrument resting on the teeth as a fulcrum. While the last-mentioned method gives fair control of the bone involved, it necessitates an opening into the mouth, and disposes to infection.



Replacing depressed fractures of the malar bone.

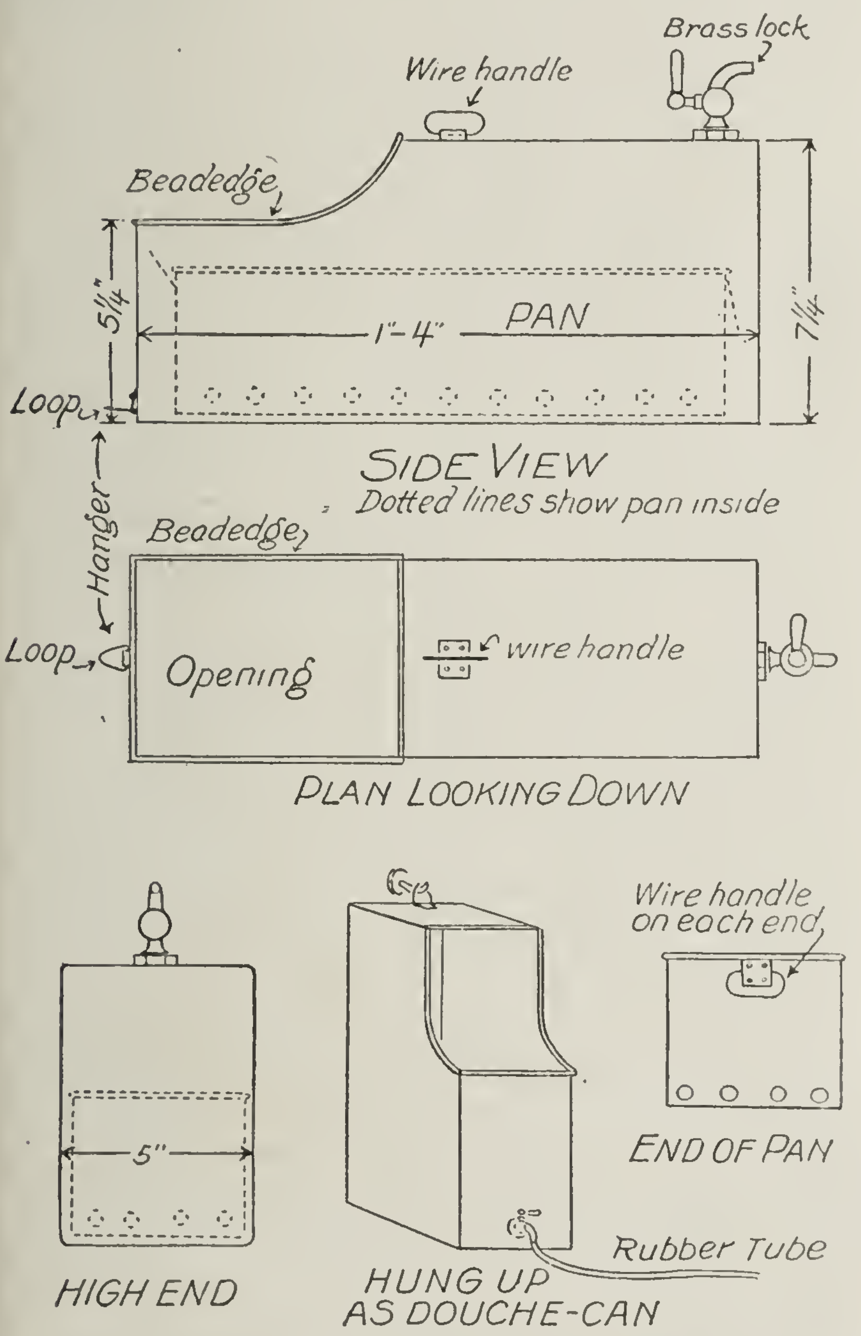
For elevating depressed fractures of the malar bone I have used an instrument always obtainable, the ordinary "cow-horn" forceps of the dentist, as shown in the illustration. The instrument is strong, and when properly used gives firm control of the bone better than the other methods. This is more readily appreciated when tried than would be believed from a mere description of its use. In addition to the sure control it leaves no scars, is quickly used, and does not enter through the mouth cavity.

The skin over the bone is suitably prepared; one point of the forceps is placed over the orbital ridge and the other just under the margin of the body of the bone at its outer side; a little pressure penetrates the skin, and the points grasp the depressed bone with any degree of firmness advisable. Now the more or less impacted bone is disengaged from its bed, elevated to its proper place, and the forceps removed at once. No dressing is necessary, as the holes in the skin are mere pricks. The outline figure here shows crudely the forceps and the method of application.

A PORTABLE COMBINATION DOUCHE-CAN AND STERILIZER

Adam P. Leighton, Jr., M.D., L.M. (Dublin), Portland, Maine

Believing that some of the readers of The Journal who are engaged in the practice of obstetrics may be interested in a combination douche-can and sterilizer, I herewith give a plan and description of one which to me is most satisfactory and practical.



Combination sterilizer and douche-can. The sterilizer is of copper polished outside and tinned inside. The can is of tinned copper. In the bottom of the pan and on the sides are three-eighth-inch perforations.

It is easily carried in the ordinary 18- or 20-inch obstetric bag. Its width of 5 inches allows for ample room between the sides of the douche-can and the bag, where the bottles, pad, dressings and other obstetric necessities may be placed. In the douche-can may be placed the forceps, sutures, gloves and other instruments, so that all space in the bag is utilized.

The instruments, gloves, etc., are placed in the pan of the sterilizer and boiled, after which they are removed in the pan from the sterilizer. The brass cock, which is threaded and easily removed and which has been duly sterilized with the instruments, may be screwed into the sterilizer, and this in turn set on end or hung on a hook. The desired antiseptic being added to the boiled water, and a rubber tube, which also has been sterilized, being attached to the cock, makes ready a douching solution if needed.

I take no credit for originality in presenting this sterilizer and douche. It is nearly identical with Dr. Jellett's sterilizer and is in use in the extern department of the Rotunda Hospital, Dublin. I have simply changed the dimensions slightly and added handles, with a little different type of sterilizer pan.

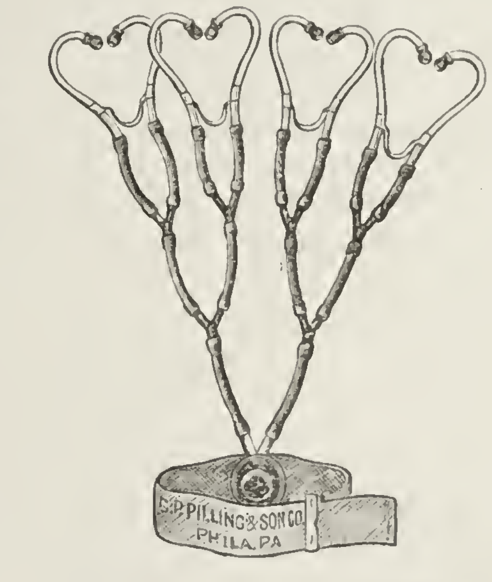
192 State Street.

A NEW INSTRUMENT FOR TEACHING THE AUSCULTATORY BLOOD-PRESSURE TECHNIC

Francis Ashley Faught, M.D., Philadelphia

The accompanying illustration represents a new device to facilitate the teaching of blood-pressure readings by the auscultatory method. This method is now accepted as the most reliable and accurate clinical means of determining both the systolic and the diastolic readings, as by this method the results coincide with the figures obtained by the Erlanger graphic sphymomanometer.[1]

The chief drawback to the method has been the seeming difficulty which the average physician has in learning to perceive and interpret the sounds heard over the artery. The idea suggested itself that if the sphygmometroscope[2] was made into a multiple of four, whereby the sounds could be heard by more than one individual at the same time, it would overcome this difficulty and make it possible for any one familiar with the sounds heard during auscultatory blood-pressure observations to direct the attention of a small group of observers during the actual performance of the test. This has been done and the result has proved highly satisfactory.[3] No difficulty resulted from the distribution of the sound through a larger tubular system.



New instrument for teaching the auscultatory blood-pressure technic.

The device will be valuable particularly to the medical teacher, as it has been my experience that many students go through their clinical studies without ever actually hearing or seeing a demonstration. It is applicable also in demonstrating to medical societies or groups of medical men conditions involving marked variations in pressure.

5006 Spruce Street.

INFANTILE SCURVY IN WHICH SWOLLEN JOINTS RESEMBLED ACUTE ARTICULAR RHEUMATISM *

Louis Fischer, M.D., New York

The importance of selecting the proper food for an infant prompts me to demonstrate this case, which I shall term faulty feeding. It is caused by feeding canned foods in which the antiscorbutic factor is wanting. Human breast-milk is a live food which is decidedly antiscorbutic; therefore no infant fed on the human breast acquires scurvy. If we would imitate Nature we must feed cow's milk in such a manner that it is not deprived of its enzymes. Boiling or prolonged steaming devitalizes the milk and is prone, if long continued, to develop scurvy. Canned or preserved milk is responsible for the damage done in the case reported.

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[1] Warfield, L. M.: Interstate Med. Jour., 1912, xix, 856.

[2] The sphygmometroscope is a Bowles' stethoscope modified and adapted to use over the bifurcation of the brachial artery.

[3] Demonstrated before the Philadelphia Medical Literature Club, Nov. 22, 1912.

* Case presented at meeting of Atlantic County Medical Society, Oct. 1[illegible], 1912.

The patient, Joe W., aged 13 months, was seen by me in consultation with Dr. S. Barbash at Atlantic City, Oct. 11, 1912. The infant was bottle-fed from birth. He was given condensed milk the first month and later received malted milk for a period of seven months. He also received cow's milk when 9 months old. The latter food disagreed. The infant had mucous stools which were streaked with blood. His general development was fair, although a bronzed condition of the skin existed. He had the first tooth when 4 months old, and was able to stand on his feet for several weeks, until four weeks ago, when it was noted that he suddenly refused to stand and that the slightest handling of the joints of his arms and legs gave him severe pains. A diagnosis of articular rheumatism was made.

There was marked tenderness over the joints. The head perspired freely when food was taken. The gums were soft and tender, and had a bluish-red ridge around the teeth. The weight of the child at the age of 13 months was 12½ pounds, which in itself is sufficient to show faulty metabolism. There was a marked rachitic rosary, and beaded ribs on both sides, so that the diagnosis of scurvy and rickets was warranted.

The sudden onset of symptoms made this case resemble a form of infantile paralysis. When these symptoms are associated with the bleeding gums, the purplish spongy swellings and the bluish-black subcutaneous hemorrhages visible on the inside of the cheek, the diagnosis of pseudoparalysis associated with scorbutus must be made. The etiologic factor is the absence of live fresh food. The treatment consists in giving orange juice, pineapple juice and expressed beef juice (raw muscle juice), raw white of eggs and very small doses of olive oil or cod-liver oil if the child can assimilate them.

162 West Eighty-Seventh Street.

Therapeutics

BAD MEDICATION

The following is a prescription written by a physician and compounded by a druggist and presumably the patient took it:

℞

Strych. sulph.	gr. ss
Nitroglycerin	gr. 1/5
Digitalin	gr. 1/4
Caffeinae citrat.	gr. xv
Diuretin	ʒ iss

M. et ft. caps. xxx.

Sig.: One every three hours.

In the first place, let us presume that this prescription was written for a patient who had cardiac weakness, probably edema or dropsy, who also was probably passing an insufficient amount of urine, and in whom the kidneys may have been actually diseased. While each ingredient may be defended, the combination is bad, and to decide exactly what would happen to a patient taking this prescription we must consider the physiologic activity of each drug. Presumably when a capsule is to be taken every three hours the patient received at least five doses during the twenty-four hours. He may have had more.

Each dose of the sulphate of strychnin was 1/60 grain, and in five doses he would have taken 1/12 grain. Each dose of the nitroglycerin was 1/150 grain, and in five doses he would have taken 1/30 grain. Each dose of the digitalin was 1/120 grain, and in five doses he would have taken 1/24 grain. Each dose of the citrated caffein was ½ grain, and in five doses he would have taken 2½ grains. Each dose of the diuretin (theobromin sodium salicylate) was 3 grains, and in five doses he would have taken 15 grains. Therefore, in considering what is happening in a patient, we must reckon with 1/12 grain of strychnin, 1/30 grain of nitroglycerin, 1/24 grain of digitalin, 2½ grains of citrated caffein, and 15 grains of diuretin.

The criticism of this prescription does not have to do with any one ingredient, nor with the dosage; it does have to do with the combination of these active drugs in which almost any one of them might act unpleasantly and would still be continued in order to give the action of the other ingredients. Also, it has to do with the entirely forgotten consideration of the length of time it takes each ingredient to act, and the length of time it takes for each dose to be excreted.

When strychnin sulphate is pushed as it is in this case, namely, 1/60 grain every three hours, 1/12 grain in fifteen hours, it should be given alone so that it may be stopped when the patient shows signs of too much strychnin. Strychnin stimulates the nervous system, stimulates the heart, causes more or less contraction of the blood-vessels, and may or may not increase the amount of urine; many times it diminishes the urine, when it is pushed; 1/12 grain of strychnin in fifteen hours is too much for almost any patient, and certainly should not be continued more than during one twenty-four hours at any such rate. It will hurt and damage a heart that needs to be helped and not injured. Also, such stimulation of the central nervous system will prevent sleep and necessary rest for a bad heart.

Nitroglycerin dilates the blood-vessels, and the dose of 1/150 grain every three hours, 1/30 grain in fifteen hours, may be advisable, but if it is advisable the strychnin stimulation, the digitalin action and the caffein action are probably not indicated. Vasocontractors and vasodilators should not be given at one and the same time; the patient needs either one or the other, and not both. The nitroglycerin action is immediate, as soon as the capsule dissolves; the digitalin will not act before twelve or fifteen hours.

The digitalin in dose of 1/120 grain every three hours, or 1/24 grain in fifteen hours, is a bad method of dosage. The dose of digitalis should be that which seems correct for the individual, and then should not be repeated for twelve hours. Digitalis in any form administered every three hours is never correct dosage. Disagreeable actions and cumulative effects are precipitated in such a method of administration. It is likely to do the very thing that evidently is not desired, namely, to decrease diuresis.

The citrated caffein in doses of ½ grain, or 2½ grains in fifteen hours, is small dosage. This drug will not only increase the heart action, contract the blood-vessels and perhaps cause diuresis, but will also stimulate the brain. It acts rather rapidly, but its action is prolonged, and ½ grain every three hours is not good dosage.

Diuretin in dosage of 3 grains is utterly insufficient. From 10 to 15 grains, given once or twice in twenty-four hours is much the better dosage, if diuresis is desired.

Too much cannot be said to discourage such a prescription as this. From any point of view it is unscientific, unphysiologic, and will do more harm than it can possibly do good. If a poor circulation requires treatment in the lines that the prescription suggests, vasocontractors and vasodilators should not be given coincidently; both cannot be indicated. Nitroglycerin, which acts rapidly and is eliminated rapidly, should not be combined with digitalin, which acts slowly and is eliminated slowly, and a drug that is pushed to its physiologic limit as is the strychnin sulphate, 1/12 grain in fifteen hours, should not be combined with a drug that is given in very small dosage, such as the diuretin, 15 grains in fifteen hours.

It is not now the fault of the medical schools that "shotgun" prescriptions are written, and mixtures prescribed that contain enough ingredients to be medieval and ridiculous. The trouble lies largely in hospitals which advance every science except that of medication. Some of the best hospitals have formularies that they would dislike to see published in a first-class medical journal and ascribed to the source from which they emanated.

DISTURBANCES OF THE HEART

(Continued from page 205)

ANGINA PECTORIS

This is a name applied to pain in the region of the heart caused by a disturbance in the heart itself. Heart pains and heart aches from various kinds of insufficiency of the heart, or heart weakness, are not exactly what is understood by angina pectoris. It is largely an occurrence in patients beyond the age of 30, and most frequently occurs after 50, although attacks between the ages of 40 and 50 are becoming more frequent. It is a disturbance of the heart that most frequently attacks men, probably more than three-fourths of all cases of this disease occurring in men; in a large majority of the cases the coronary arteries are diseased.

Various pains that are not true angina pectoris occur in the left side of the chest; these have been called pseudo-anginas. They will be referred to later. True angina pectoris probably does not occur without some serious organic disease of the heart, mostly coronary sclerosis, fatty degeneration of the heart muscle, adherent pericarditis and perhaps some nerve degenerations. Various explanations of the heart pang have been suggested, such as a spasm or cramp of the heart muscle, sudden interference with the heart's action, as adherent pericarditis, a sudden dilatation of the heart, an interference with the usual stimuli from auricle to ventricle and therefore a very irregular contraction, a sudden obstruction to the blood-flow through a coronary artery, or a sudden spasm from irritation associated with some of the intercostal or more external chest muscles causing besides the pang a sense of constriction. Perhaps any one of these conditions may be a cause of the heart pang, and no one be the only cause.

In a true angina, death is frequently instantaneous. In other instances, death occurs in a few minutes or a few hours; or the patient's life may be prolonged for days, with more or less constant chest pains and frequent anginal attacks. Here there is a gradual failing of the heart muscle, with circulatory insufficiency, until the final heart pang occurs.

Anginal attacks before the age of 40, presumed, from a possible narrowing of the aortic valve, to be due to coronary sclerosis, are frequently due to a long previous attack of syphilis. In these cases active treatment of the supposed cause should be inaugurated, including perhaps an injection of the arsenic specific, and certainly a course of mercury and iodid, with all the general measures for managing and treating general arteriosclerosis, as previously described.

The pain of true angina pectoris generally starts in the region of the heart, radiates up around the left chest, into the shoulder, and often down the left arm. This is typical. It may not follow this course, however, but may be referred to the right chest, up into the neck, down toward the stomach, or toward the liver. The attack may be coincident with acute abdominal pain, almost simulating a gastric crisis of locomotor ataxia. There may also be coincident pains down the legs. It has been shown, as mentioned in another part of this series of articles, that disturbances in different parts of the heart or different parts of the aorta may cause pain and the pain be referred to different regions, depending on the part affected.

Instances occasionally occur in which a patient has an anginal attack, as denoted by facial anxiety, paleness, holding of the breath, and a slow weak pulse, without real pain. This has been called angina *sine dolore*. The patient has an appearance of anxious expectation, as though he feared something terrible was about to happen.

The position of the patient with true angina pectoris is characteristic. He stops still wherever he is, stands perfectly erect or bends his body backward, raises his chin, supports himself with one hand, leans against anything that is near him, and places his other hand over his heart, although he exercises very little pressure with this hand. The position assumed is that which will give the left chest the greatest unhampered expansion, as though he would relieve all pressure on the heart.

Besides the feeling of constriction, even to some spasm, perhaps, of the intercostal muscles, respiration is slowed or very shallow, because of the reflex desire of the patient not to add to the pain by breathing. The face is pale, the eyes show fear, and the whole expression is almost typical of cardiac anxiety. The patient feels that he is about to die. The pulse is generally slowed, may be irregular, and may not be felt at the wrist. The blood-pressure has been found at times to be increased. It could of course be taken only in those cases in which there were more or less continued anginal pains; the true typical acute angina pectoris attack is over, or the patient is dead, before any blood-pressure determination could be made. When there is more or less constant ache or frequent slight attacks of pain the blood-pressure may be raised by the causative disease, arteriosclerosis. During the acute attack with inefficient cardiac action and a diminished force and frequency of the beat the peripheral blood-pressure can only be lowered.

The duration of an acute attack, that is, the acute pain, is generally but a few seconds, sometimes a few minutes, and rarely has lasted for several hours. In the latter cases some obstruction to an artery has been found on autopsy, but not sufficient to stop the circulation at a vital point. Repeated slight attacks, more or less severe, may occur frequently throughout one or more days, or even perhaps a series of days, caused by the least exertion, even that of turning in bed.

While most cases of sudden death with cardiac pain are due to a local disease in or around the heart, it is quite probable that some disturbance in the medulla oblongata may cause acute inhibitory stoppage of the heart through the pneumogastric (vagi) nerves. The power of the pneumogastric reflex to inhibit the action of the heart is, of course, easily demonstrated physiologically. Clinically reflexes down these nerves interfering with the heart's action cause faintness and serious prostration, if not actual shock, and perhaps, at times, death. The most frequent cause of such a reflex is abdominal pain, perhaps due to some serious condition in the stomach, to gastralgia, to an intestinal twist, to intussusception or other obstruction, or to hepatic or renal colic. A severe nerve injury anywhere may cause such a heart reflex. Hence serious nerve pain must always be stopped almost immediately, else cardiac and vasomotor shock will occur. In serious pain morphin becomes a life-saver.

While a number of causes of true cardiac pain may be eliminated by improvement in any loss of compensation, by improvement of the heart tone, by more or less recovery from myocardial or endocardial inflammation, and by the withdrawal of nicotin, which may cause cardiac pains, still, a true angina pectoris once occurring is likely to be caused by a progressive, incurable condition and the attacks will become more frequent until the final one. It is possible that a true angina may be due to a coronary artery disease or obstruction and that a collateral circulation may become established and repair the deficiency. While this probably can take place, occurrences must be rare.

Occasionally when the intense pain has ceased the patient may be nauseated and actually vomit, or he may soon pass a large amount of urine of low specific gravity, or have a copious movement of the bowels.

The first attack, and subsequent ones more and more readily, are precipitated by any exertion that increases the work of the heart, as walking up hill, walking against the wind, going up stairs, physical strains as suddenly getting out of bed, leaning over to put on the shoes, straining at stool, or even mental excitement. Exertion directly after eating a large meal is especially likely to precipitate an attack. Food that does not readily digest or food that causes gastric flatulence may precipitate attacks. Any indiscretion in the use of coffee, tea, alcohol or tobacco may be the cause of an attack.

For treatment of the immediate pain, if the physician arrives soon enough, anything may be given that quickly relieves local or general arterial spasm and spasm of the muscles. The moment that the heart and its arterioles relax, the attack is often over. The most quickly acting drug for this purpose is amyl nitrite, inhaled. If amyl nitrite is not at hand, or has been found previously to cause considerable disturbance of the head or a feeling of prolonged faintness, nitroglycerin is the next most rapidly acting drug. It may be given hypodermatically, or a tablet may be dissolved on the tongue. The amyl nitrite should be in the emergency case of the physician in the form of ampules, or may be carried by the patient after he has had one or more attacks. The ampules now come made of very thin glass with an absorbent and silk covering ready for crushing with the fingers, and are thus immediately ready for inhalation. One of these is generally all that it is necessary to use at any one time. Nitroglycerin, if given hypodermatically, should be in dose of 1/100 grain. If given by mouth the dose should be the same, repeated in ten minutes if the pain has not stopped.

Almost coincidently with the administration of nitroglycerin or the amyl nitrite a hypodermatic injection of ⅛ or 1/6 grain of morphin sulphate should be given without atropin, as full relaxation is desired without any stimulation of atropin.

Alcohol is also a valuable treatment of this pain, when the drugs mentioned are not at hand. The dose should be large; whisky or brandy are best, and should be administered in hot or at least warm water. The physiologic action of alcohol, which dulls or benumbs the nervous system and dilates the peripheral blood-vessels, is exactly in line with the clinical indications.

If a patient is home and at rest at the time of an attack, a hot-water bag but slightly filled, or a pad electrically heated may be placed over the heart sometimes with marked advantage and relief from pain. Occasionally even such gentle applications are not tolerated.

After the attack is over absolute rest for some hours, at least, is positively necessary. If the attack was severe, the patient should rest several days, as there seems to be a great tendency for such attacks to come in groups, the cause being acutely present for at least some time. But little food should be given; nothing very hot or very cold, and no large amount of liquids; gentle catharsis may be induced on the following day, if deemed advisable; no stimulating drugs should be administered, and nothing that would raise the blood-pressure.

The question often arises as to whether the patient shall be told of the seriousness of his condition. It is hardly wise to withhold this knowledge from him, and generally is not necessary. The ordinary alert patient knows how serious the condition is by his own feelings, and will even reprove or joke with his physician for minimizing the danger. It is best that the whole subject be discussed carefully with him and his life regulated and ordered, and emergency drugs prepared and given him with proper instructions to the family, so that he may possibly prevent other attacks, and, if they occur, may have the best immediate treatment.

The acute symptoms being over, a careful analysis of the probable cause of the anginal attack should be made. If it is a general sclerosis, the treatment should be directed to that condition. If it is a myocarditis, a fatty degeneration of the heart or a fatty heart, this should be properly treated as previously described. If it is due to a toxemia from intestinal disturbance, that may readily be remedied. If due to nicotin, it need not again occur from that reason, and perhaps the damage caused by the nicotin may be removed. Any organic kidney trouble must, of course, be managed according to its seriousness, and if there is hypertension without any serious lesion, the treatment should be directed toward its relief. The treatment for hypertension will be described later.

PSEUDO-ANGINA

While this name is more or less unfortunate, it has long been in vogue as a designation for pains and disturbances referred by a patient to his heart. Therefore with the distinct understanding that if the diagnosis is correct the name is a misnomer, it may be allowable to discuss under this heading some of the attacks that may simulate an angina and must be separated from a true angina.

To decide whether pain in the region of the heart or irregularity of its action is due to organic disease, to functional disturbance, or to referred causes is often extremely difficult. Some of the most disturbing sensations in the region of the heart are not due to any organic trouble, and yet the patient is fearful that such sensations mean some kind of heart disease, and therefore becomes exceedingly anxious and watches and mentally records every sensation in the left chest. This is unfortunate, as the patient may learn to note, if he does not actually count, his heart-beats, while normally he should sense nothing of his heart's activity. On the other hand, as just stated, it may be almost impossible to decide that this disturbance of the heart is not due to an organic cause, but is entirely functional, or due to some extraneous reason.

It seems justifiable in every case of irregular heart action to assure the patient that the condition can be improved, which in most instances is the truth. There can be no question of such urgent assurance, if it is decided that the cause is not in the heart itself, or at least is not organic. Irregularities in the heart's action will be discussed later. At this time discussion will be limited to pain which is not true angina pectoris, but which is in the region of the heart or is referred to it.

Intercostal neuralgia is more likely to occur on the left side of the chest than on the right. This is particularly unfortunate, as tending to cause these pains to be referred to the heart. The localization of tender spots along the course of a nerve with demonstration of these to the patient and the diagnosis stated is all the assurance that he requires.

Careful questioning, and if necessary scientific examination of the stomach, may show that the patient has hyperchlorhydria, ulcer of the stomach or duodenum, dilatation of the stomach, or some growth in the stomach as a cause for the pain referred to the region of the heart. Gall-stones in the gall-bladder may also give such referred pains. Other lesions in the abdomen may cause pain referred to the cardiac region. Not only will the demonstration of these causes and their treatment assure the patient that he has not neuralgia of his heart, but also, if curable, the cause of the pain may be removed.

Dry pleurisy of the left chest is not an infrequent cause of these pains, and of course serious disease of the lungs, as tuberculosis, unresolved pneumonia, pleuritic adhesions, emphysema and tumor growths may all be the cause of a referred cardiac pain, the heart being disturbed secondarily.

A stomach cramp is a not infrequent cause of serious pain referred to the heart, and the rare condition of cardiospasm must also be remembered as a cause of pseudo-angina. In other words, the interpretation of these pseudo-anginas means a careful diagnosis of the condition, and as previously stated, not only must the above-named causes be excluded, but also the reverse must be remembered: that many disturbances treated as other conditions really are due to cardiac weakness.

The diagnosis of a real angina pectoris from a false angina may not be difficult. A real angina generally occurs after exertion of some kind, be that exertion ever so slight. False angina may occur at any minute with or without exertion. Pain referred to the heart which awakens a patient at night is not likely to be a true angina; nervous patients are prone to have such night attacks of cardiac disturbance of various kinds. A true angina causes the patient's face to look anxious and pale, with the breathing repressed. A false angina shows no such paleness, allows deep breathing, crying and lamenting, and allows the patient to move about in bed, or about the room. The true angina makes the patient absolutely still and quiet: he hardly dares to speak or tell what he is feeling and fearing. True angina is of course much more frequent in older persons, while false anginas occur in the young, and especially in the neurotic. With all the other manifestations of hysteria, palpitation and cardiac pain are often symptoms.

It should not be decided, however apparently self-evident, that a referred pain is not due to cardiac lesion until a careful examination of the patient has been made. Real cardiac disturbance can of course occur at any time in a neurotic or hysteric patient, and there should be no mistakes of omission from carelessness or neglect on the part of the physician.

Other frequent causes of more or less disturbance of the heart's action, often accompanied by pain, are over-exertion, worry and mental anxiety, and intestinal toxemias due to too much protein or disturbed protein digestion. Frequent causes are tobacco, and the overuse of tea and coffee. Many a patient's pseudo-anginas are corrected by stopping tea and coffee. The effects of caffein and tobacco on the heart will be considered later when toxic disturbances are under discussion.

The above-mentioned causes of pseudo-anginas have only to be named to indicate the treatment that will prevent the pain attacks. At times, the cause being intangible, it may be necessary to change the whole life and metabolism of the patient, as so often necessary in hysteria, neurasthenia, gout, intestinal fermentation and kidney inefficiency. Besides a rearrangement of the diet and measures for causing proper activity of the bowels, massage, exercise and hydrotherapy should be utilized toward the end of improving the nutrition of every part.

TREATMENT OF PSEUDO-ANGINAS

The treatment of these pseudo-anginas depends, of course, on the diagnosis of the cause, and the cause should be eliminated or modified. If the heart shows real disturbance from this reflex cause, the treatment aimed toward it depends on whether the heart action is weak or strong and the circulation poor or good. If the circulation is poor, digitalis in small doses may be needed, either 5 drops of an active tincture twice a day, or 8 or 10 drops once a day. If digitalis is not indicated, strophanthus sometimes is valuable. While strophanthus has been shown not to be a real cardiac tonic like digitalis, still there seems to be a nervous sedative action when it is given by the mouth, and it often does good in these cases. The dose is 5 drops of the tincture, in water, three times a day, after meals. Strychnin in small doses may be needed, but in these patients, who are generally nervous, it is usually better not to give it.

One of the best sedatives to a heart that is irregular in its action and not acting strongly is lime; a good way to administer it is in the form of calcium lactate and the dose is 0.3 gm. (5 grains), in powder or capsule, three times a day, after meals.

If the circulation is good and the heart is strong, and yet these irregular pains and irregular contractions occur, the bromids act favorably and successfully. This is probably on account of their ability to quiet the central nervous system, to quiet and soothe the irritability of the heart, and to relax the peripheral blood-vessels. The dose should be from 0.5 to 1 gm. (7½ to 15 grains), in water, three times a day, after meals. It is not necessary or advisable to continue the bromid very long. Whatever general tonic or eliminative treatment the patient requires should be given. The value of hydrotherapy, massage and graded exercise should not be forgotten.

(To be continued)

The Sociologic Phases of Psychiatry.—A phase of the social side of medicine is discussed by H. W. Gruhle of Heidelberg in the November number of the *Zeitschrift für die gesamte Neurologie und Psychiatrie*. Gruhle calls attention to the social phases of the work of the physician in the public hospitals for the insane, not only in the care of the patients themselves, but in learning their family histories and arousing public interest in their families, particularly the children left without parents. The psychiatrist also has an opportunity to protect the community from dangerous cranks and psychopaths, and to contribute to public education regarding the inheritance and prevention of insanity and feeble-mindedness.

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SATURDAY, JANUARY 25, 1913

SUNLIGHT IN THE TROPICS

In last week's issue it was pointed out that the ability to withstand a tropical climate such as is exhibited in our insular possessions in the Philippines is not solely a question of heat alone or of specific effects of the rays in the violet and ultraviolet portions of the spectrum. The latter may cause sunburn and subsequent excessive pigmentation; but white clothes are a sufficient protection against sunburn so that skin color alone can scarcely be a very important factor in determining adaptability to climate. Chamberlain[1] has carefully compared the relative resistance to the Philippine climate of blond and brunette types of soldiers and reached the general conclusion that there is no essential difference in the ability of the two to withstand it. Dispassionate judgment like this must weigh heavily against the heralded unfitness of the least pigmented of the white race to do duty in the tropics. There is no advantage in specially colored underclothing; the lighter and whiter it is the better it is adapted to protect against the sunlight.[2]

The fundamental requirement in all hot countries is the capacity of lowering the temperature of the individual. Aside from shade, which he may seek or provide, protection is brought about by the evaporation of perspiration, and the better the facilities for this the better off will the individual be. Relative humidity therefore plays a significant part in determining resistance to the climate; and the depressing effect of a "moist" hot atmosphere is well appreciated. Dr. Freer[3] has pointed out that certain untoward effects attributed to the tropical sun are caused by the evenness of the climate rather than by the differences of insolation at any one time. We are accustomed to severe contrasts in the temperate zones; but the absence of winters and the monotony in the tropics doubtless have an effect. There are places where the radiation from the earth at night is so great that no relief is experienced from excessive heat. Such surroundings may preclude the possibility of persons living in health, if they are unaccustomed to the conditions. In the Philippines, we are told, the nights are rarely too hot for comfort and they may even be quite cool.

In discussing life in the tropics, then, we must bear in mind that there are many other factors beside sunlight which go to make up the climate there. Duration of sunshine, clouds, rainfall, winds and humidity all affect the temperature of the air; although the character of the insolation takes a first place. Unfavorable or disagreeable as these may be, it would still seem legitimate, according to Dr. Freer, to draw the conclusion that a climate such as we have in the Philippines, surrounded by a sea which modifies the extremes of temperature and where there is such a large proportion of cloud, is not by any means deleterious to the white man if he takes ordinary precautions which are not so elaborate as those he would take in a northern climate to keep out the cold. The individual needs only to seek the shade to avoid harm from even the greatest insolation.

Inasmuch as perspiration is a very important factor in keeping man comfortable and normal, particularly under conditions of exercise in hot weather, much water is lost from the body in the tropics. This feature may account for some of the discomfort or dangers when drinking-water is not furnished in sufficient abundance. Dr. Freer insists that two canteenfuls per man are not sufficient for marching soldiers, so that the temptation to drink any available water becomes great. Sickness caused by infection from such sources might readily be attributed to the sun as a predisposing factor.

THE HYDROCHLORIC ACID OF THE GASTRIC SECRETION

The origin of the hydrochloric acid of the gastric juice is a question of more than ordinary interest, because the production of a free mineral acid by a living tissue is not a common biologic manifestation. Few instances of similar phenomena are known, so that a variety of chemical and morphologic problems force themselves on us in considering how a practically neutral tissue, bathed in practically neutral nutrient fluids, can liberate a product as specific and active as the hydrochloric acid of the stomach secretion. Regarding the immediate antecedent of the acid there can, of course, be little doubt. Chlorids must in ultimate analysis be the mother substance of this particular mineral acid. But where does the transformation take place, and how is the acid secretion discharged into the lumen of the glands or stomach without damage to or alteration of the tissues with which it comes into contact? Do the glands manufacture the acid as such, or is it produced by particular specialized cells in the glands? Is the product of cellular activity the free acid itself or some intermediary substance from which acid is developed or liberated on the surface of the mucosa? These are some of the questions which are raised by any consideration of the production of the gastric juice.

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[1] Chamberlain: Philippine Jour. Sc., B. 1911, vi, 42. Complexion and Health in the Tropics, editorial, The Journal A. M. A., June 1, 1912, p. 1688.

[2] Compare Phalen: Philippine Jour. Sc., B, 1910, v, 525; also see The Use of Orange-Red Underclothing in the Tropics, editorial, The Journal A. M. A., May 20, 1911, p. 1484; Orange-Red Clothing No Improvement, editorial, ibid., May 28, 1910, p. 1793.

[3] Freer, Paul C.: Philippine Jour. Sc., B; Philippine Jour. Trop. Med., 1912, vii, 23

It is commonly taught at present that free hydrochloric acid is formed in the parietal cells of the gastric glands. The earlier investigators were able to associate other secretory functions of the gastric mucosa definitely with other cells; so that the parietal cells were left, by a process of exclusion, for the formation of the acid component of the secretion. Microchemical evidence gathered more recently seemed to strengthen this somewhat indirect evidence by demonstrating that chlorids — the obvious precursors of the hydrochloric acid — are more abundant in the parietal cells than in other parts of the glands. Still further evidence was sought by injecting into animals salts of iron which will form the familiar Prussian blue in the presence of free mineral acid.[1] The microchemical pictures thus obtained have led some to regard these experiments as corroboratory of the localization of the acid secretory functions in the parietal cells. Miss Fitzgerald is the latest investigator to reach the conclusion, by the method referred to, that the occurrence of the Prussian blue reaction in the canaliculi of the parietal cells of an animal suitably injected affords final evidence of the presence of free acid within these structures.

Renewed study of the subject in the laboratories at the University of Chicago has led Drs. Harvey and Bensley[2] to question the previous statements. They believe that only non-acid substances are formed by the glands. Careful experimental microchemical observations with the aid of dyes of the cyanamin series justify them in asserting that the contents of the gland cells and lumina are not acid, but neutral or alkaline, even when hydrochloric acid is being actively formed on the surface of the mucous membrane. They believe that the secretion formed in the glands contains a relatively high content of solids, and that the bulk of the water found in the gastric secretion is added at the level of the glandular foveolae. It is probably in the latter and also on the free surface of the mucous membrane that the hydrochloric acid is set free. The product of the parietal cells is asserted to be alkaline while in the cells themselves; it may be secreted in the form of the chlorid of an organic base from which the acid is subsequently liberated.

Harvey and Bensley point out that since the contents of the gastric glands proper when in a state of normal activity are not acid in reaction, and may even be alkaline, it follows that the ferment of the same secretion in the gland lumen is probably not in an active form, since, as is well known, pepsin is destroyed by alkalies while its antecedent pepsinogen is not so affected. Hence the failure of the secretion to attack the cells themselves requires no further explanation in the case of the gastric glands than in the case of the pancreas. In neither case does the activated ferment come into immediate contact with the parenchyma cells. The investigators add that it is pertinent to inquire whether under any conditions the secretion within the gland may become acid in reaction; for in this event it is probable that the ferment would be activated and, as happens under similar conditions in the pancreas, the adjacent parenchyma cells would be attacked.

MARION SIMS AND THE SOUTHERN GYNECOLOGISTS

On this, the centenary anniversary of the birth of James Marion Sims (January 25), special interest attaches to the work of his Southern colleagues who did so much for the foundation of operative gynecology, a branch of medicine which is usually acknowledged to be of American origin. Sims himself was the founder of plastic surgery of the uterus (1861-1866), first described vaginismus (1861) and put cholecystotomy on a permanent basis (1878). His introduction of the silver wire suture, the Sims position, the Sims speculum and a new catheter for drainage practically made the operation of vesicovaginal fistula what it is to-day, and his triumphal progress through England, France and Germany resembled Lord Lister's in regard to the rapidity with which his ideas were assimilated.

Far back in the eighteenth century William Baynham of Virginia performed two successful operations for extra-uterine pregnancy (1791-1799), and John King of South Carolina wrote the first book on the subject (1817). While Ephraim McDowell of Virginia may not have been the first one to perform oophorectomy, his statistics of eight successful cases out of thirteen justify his title of "the father of ovariotomy," for they established the operation as a recognized surgical procedure, and it was thereafter rapidly extended by the Atlees in America, Clay in Manchester, England, and Nélaton and Kœberle in France. William Gibson of Maryland performed three successful cesarean sections on the same patient (1835-1837). John Peter Mettauer in 1838 recorded perhaps the first successful operation for vesicovaginal fistula. In 1844 Josiah Clark Nott, a South Carolinian, performed the first operation for neuralgia of the coccyx to which the name "coccygodinia" was given. Thomas Addis Emmet of Charlottesville, Va., a pupil and associate of Sims in New York, carried out the latter's ideas and became a great master in the plastic surgery of the vagina, bladder and perineum. In Theodore Gaillard Thomas we have another eminent South Carolinian. He substituted gastro-elytrotomy for cesarean section (1870), and was the first to perform vaginal ovariotomy (1870). His practical "Treatise on Diseases of Women" (1868) was a standard authority in its day and has been translated into many languages. Over 60,000 copies are said to have been sold. Robert

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[1] Compare Fitzgerald, M. P.: The Origin of the Hydrochloric Acid in the Gastric Tubules, Proc. Roy. Soc., London (B), 1910, lxxxiii, 56.

[2] Harvey, B. C. H., and Bensley, R. R.: Formation of Hydrochloric Acid in the Foveolae and on the Surface of the Gastric Mucous Membrane, and the Non-Acid Character of the Contents of Gland Cells and Lumina, Biol. Bull., 1912, xxiii, 225.

Battey of Georgia, a surgeon in the Confederate Army, was the first to perform normal oophorectomy or Battey's operation (1872), the removal of both ovaries in neurotic women. From what is known of the effect of the ovarian secretions on the female organism, Battey's operation is now physiologically justified, Tait's idea (1879) being to remove the adnexa because they were diseased. Nathan Bozeman of Alabama introduced (1878) an important operation for complications in various female fistulas, with unique methods of drainage. Though using the clamp-suture of Marion Sims in vesicovaginal fistula, he discovered that a button might be combined with older methods, and the button-suture was the happy outcome, resulting in 100 per cent. of successful cases, instead of 25. Prevost of Donaldsonville, La., performed the first cesarean section in America (1830), losing but one mother and operating twice on the same patient. Joseph Price of Rockingham County, Va., who died in 1911, established himself in Philadelphia, where he entered on his successful career and became the militant advocate of the new surgery. He exerted great influence on the development of modern pelvic and abdominal surgery. He found the surgical world rebellious against his progressive ideas, but with Spartan courage, matchless skill and judgment as an operator, he forged ahead and did much in regard to pelvic abscess, ectopic pregnancy and puerperal peritonitis (1889-1890). As McMurtry says, "He stripped from surgery all complicated paraphernalia and made its technic simple and thorough. . . . Every prominent surgeon in this country to-day demonstrates in his methods the impress of this master surgeon."

We congratulate our professional brethren of the South on this distinguished line of workers in one of the most important branches of medical science.

MEDICAL AMERICA SEEN WITH FOREIGN EYES

Sane, unbiased criticism must ever rank among the helpful influences that make for progress. The debt that American medicine owes to Great Britain, to France and to Germany, each of which has in turn furnished instruction and inspiration to eager students and travelers from our shores, has often been referred to in public with becoming emphasis and gratitude. Eminent German physicians and investigators have published their impressions of the status of medical science in America with an impartial insight that has dictated many just comments on our shortcomings. We recall a particularly trenchant commentary of a few years ago by Prof. F. von Müller of Munich. Warm commendation and friendly adverse criticism were mingled in becoming fashion.

Thoughtful Americans do not complain of the shafts of criticism or even of ridicule from which they have suffered, so long as the aim was true and the mark a fair one. All these have helped us in our struggles toward better things in medical education and practice. The day has arrived when America can regard with pride her Nobel prize-winners and her beginnings of scientific achievements. If Americans have any complaint to make against European critics it is against those who are either ignorant or incompetent with respect to matters which they presume to criticize. Perhaps we have greatest cause of complaint, indeed, against those writers who, without criticizing at all, calmly ignore American scientific achievements even in those cases in which it has a prior claim to recognition. Fortunately, our critics are sometimes kind enough to provide us with matter for amusement, even when they do no more for us.

These reflections are prompted by a recent article,[1] purporting to give a view of medical America, which might seem, *mutatis mutandis,* to have been written by a Cook's tourist did we not know its author to be a prominent German physician (Dr. Jaffé of Hamburg, a member of the *ärztliche Studienreise*). Dare we assume, indeed, that the stay-at-home German public shares Dr. Jaffé's naive surprise at the exceptional bathing facilities — and towels and soap! — in our hotels and his childlike relish for the most insignificant incidents in his journey into a land of barbarians and wonders? His is the story of a sight-seeing trip in which 250 physicians from all the walks of medical life were literally hustled about from East to West, North and South in a few short days. To bear this in mind will help us to endure with patience Dr. Jaffé's strictures on our customs and institutions and perchance to overlook what might otherwise appear to be a certain provincial tendency to dwell on non-essentials — to fail to see the forest for the trees.

And what of our things medical? The hospitals receive a passing mention which shows only the most superficial appreciation of the organization of their work in our cities. At one of the clinics at the Mercy Hospital in Chicago, rectal infusion of salt solution seems to have attracted our visitor's notice. In a certain clinic the applause of the listeners mystifies him. Can it be that he has never heard the pandemonium in a German lecture-room?

True to the attitude prevalent in certain quarters, our German visitor does not fail to emphasize the material side of our scientific life. Much as the traditional American from Punkin Hollow lingers before the masterpieces of the Uffizzi or the Louvre merely that he may marvel at their value in cold cash, so our critic mentions the Rockefeller Institute only in terms of the cost of the building and the wealth of the donor. Are the splendid contributions of this great scientific center unknown to the traveler who saw the edifice? Or had the joys of the banquet and the glimmer of the New World deadened an interest in incidental things like the by-ways of research? The International Congress on Hygiene and Demography receives its due share of criticism, some of which, be it frankly admitted, was entirely deserved. The spirit of advertising was everywhere too prominent. The climax appears to have been reached for our critic in the fact that the secretary could not even speak German.

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[1] Jaffé, K.: Reiseeindrücke und Erinnerungen von der ärztlichen Studienreise, München. med. Wchnschr., Nov. 5, 1912, p. 2463.

If we were hypercritical we might dilate on one phase of Dr. Jaffé's article. In the course of his rather querulous chatter about America and things American, he finds time and space to give a fulsome testimonial to a "patent medicine" exploited as a preventive and cure of seasickness. He dilates on the wonderful results to be obtained by taking this nostrum and refers to it in such glowing terms that it became necessary for the *Münchener medizinische Wochenschrift* — in which his article appeared — to publish a brief note in a subsequent issue, giving its readers such information as it had regarding the preparation. There are doubtless many things about the American medical profession to criticize, but it is comparatively free to-day from the blight of testimonial-giving of this kind. Whatever in truth may be said detrimental to the profession in this country, it would at least be impossible to find any American physician, of presumably high standing, shamelessly boosting a "patent medicine" humbug in a scientific publication.

FUNCTIONAL DIAGNOSIS—THE LIVER

The search for specific methods of functional diagnosis to apply in the case of organs whose activities are not directly controllable by the physical methods in vogue in other instances, is both rational and commendable. It is as a rule fully as important to ascertain whether the liver or pancreas or pituitary gland is performing its physiologic duties as it is to know the working capacity of the heart or the conductivity of some nervous tract. In the latter cases, however, we are dealing with physical manifestations for which well-tested methods of detection and measurement have already been devised; but in the other category, in which more clearly chemical reactivity is the conspicuous feature, diagnostic skill has not yet reached so high a stage of perfection.

The most obvious scheme for the diagnosis of glandular functions, and the one commonly followed, has been to give the organ involved a characteristic physiologic duty to perform and to note the success with which this task is accomplished. The test meal in relation to gastric disorder is a case in point. In other instances it has been less easy to hit on a manifestation or function which was sufficiently characteristic to be specific in the individual cases. Practically all of the attempts in this field, however, have overlooked a fundamental principle which greatly diminishes the probability of establishing entirely successful procedures of functional diagnosis along the lines here outlined. It rarely happens that all of the cells of a gland, for example, are incapacitated from fulfilling the activities for which they are intended. The result is that in the majority of cases sufficient normally functioning cells persist to enable an organ like the liver to maintain its metabolic processes in approximate equilibrium. There are numerous cases in which, according to histologic examination, the organ may be profoundly altered in structure and a large proportion of its cells become apparently inefficient; yet the small intact residual group seems to suffice to conduct the operations which are ordinarily entailed on a much larger one. Extensive liver necroses have been produced by various methods without pronounced upsets in the character of the metabolism,[1] and this fact constitutes one of the best evidences of the "factors of safety" or protective adaptations in the body.

The liver is so prominently concerned in the metabolism of carbohydrates as exemplified in its glycogenic functions that this feature was early kept in mind in relation to the diagnosis of hepatic disease.[2] One might naturally expect sugar to escape storage, with a resultant hyperglycemia and glycosuria in derangements of the liver; yet this is among the rarities. Strauss took a step in advance by studying the tolerance to levulose, a different carbohydrate from that commonly considered as the immediate forerunner of glycogen. The levulose test for hepatic insufficiency, in which 100 gm. of fruit-sugar are fed on an empty stomach and followed by a search for unassimilated sugar in the urine, has now been applied by numerous clinical observers with the general result that the tolerance to this sugar is found decreased in a large percentage of the liver diseases. It happens occasionally, however, that apparently healthy persons excrete some levulose under the commonly adopted test conditions; and on the whole the findings, at least in a qualitative way, are too uncertain to be regarded as strictly pathognomonic. Possibly the "test" could be improved by modifying it into some more quantitative measure of hepatic efficiency.

Further progress seemed at hand when Bauer substituted the carbohydrate galactose for use in these tests.[3] In this case 40 gm. of the sugar are fed before meals in the morning. It appeared from the earlier work as if alimentary galactosuria would permit a more specific differentiation of hepatic disease than the earlier investigated levulosuria. Drs. Reiss and Jehn have contributed an elaborate study of this question from the Municipal Hospital in Frankfort-on-the-Main.[4] They find that in normal persons the dose of galactose mentioned (40 gm.) is not attended with any excretion of carbohydrate, or at least not more than traces, the limit for which they put at 2 gm. In conformity with the conjectures which we have expressed above, the German investigators observed marked alimentary galactosuria only in those cases in which it is logical to assume that the entire liver tissue has simultaneously been affected by the pathologic process. This need not be severe or permanent; but it must result in an impairment of every cell, as it were. Hence it is in the acute infections and intoxications characterized by catarrhal jaundice that a pronounced response to the galactosuria test is observed. In the absence of febrile complications a decided reaction of this sort is strongly indicative of the affection referred to. Apparently the usual cellular capacities are markedly interfered with. On the other hand, far more pronounced pathologic inroads on the liver which may even leave permanent lesions do not necessarily or commonly respond in this positive way to the galactose functional test. In cirrhosis, for example, with conspicuous morphologic alterations of the parenchyma of the liver, there are always functionally competent residual cell groups, so that the usual work of the liver can still be accomplished with considerable efficiency. The galactosuria is slight, at most. In carcinoma, cholelithiasis and portal obstruction, it may be missed entirely.

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[1] Compare Jackson and Pearce: Jour. Exper. Med., 1907, ix, 552. Underhill and Kleiner: Jour. Biol. Chem., 1908, iv, 165.

[2] For the literature on the subject see Hohlweg: Deutsch. Arch. f. klin. Med., 1909, xcvii, 443.

[3] Bauer: Deutsch. med. Wchnschr., 1908, No 35, p. 1505.

[4] Reiss, Emil, and Jehn, Wilhelm: Alimentäre Galaktosurie bei Leberkrankheiten, Deutsch. Arch. f. klin. Med., 1912, cviii, 187.

Summarizing, it appears that an acute toxic damage to the entire liver decreases its functional capacity as measured by the assimilation of galactose. In partial destruction of liver tissue or in certain forms of chronic hepatic disease the defective functioning is largely concealed by the efficiency which residual or replaced cellular masses may exhibit. In view of this the findings on such a test as that outlined must be accepted with reserve and interpreted with extreme caution whenever questions of careful diagnosis are involved.

THE COMPOSITION OF THE AIR WE BREATHE

Man is far more dependent on the atmosphere than on any other factor in his environment. Food can be dispensed with for considerable periods, reckoned by days or weeks; thirst can be suffered for briefer periods without untoward results; but the lack of oxygen for respiration manifests itself in the form of severe pathologic consequences in a very few minutes. It is therefore highly important that we should have adequate information regarding the composition of the atmosphere and the changes to which it is subject under the widest variety of modifying circumstances.

In a roughly approximate way it is customary to say that the air consists of four-fifths nitrogen and one-fifth oxygen. How constant are these proportions at different times and in different places? Minor variations have in the past been charged to different factors and influences, such as the differences in the regions of the atmosphere.[1] The upper regions have been supposed to show a small deficiency in oxygen as compared with air from lower levels. Severe depressions of temperature. the so-called "cold waves," supposed to be connected with descents of air from great elevations, have been said to be attended with a small relative deficiency in oxygen in the atmosphere belonging to the downward currents. Alterations in climatic conditions have been ascribed by Arrhenius to relatively small changes in the carbon-dioxid content of the air.

There are a great many further factors which might be assumed to affect in some way the composition of the atmosphere. Oxygen is constantly being abstracted by living animals and carbon dioxid contributed by them. Reverse processes are attributable to plant forms. To these natural ways which may serve to alter the composition of the air must be added the possible effects of fuel-consuming factories and similar agencies which tend to diminish oxygen and produce carbon dioxid. The question is at once raised whether these are sufficient to modify in any detectable degree the atmosphere in their neighborhood. In the case of subways and tunnels, mines and houses, in which the tendency to diffusion and equalization is interfered with and the conditions approach those of a closed space, the importance of having some standard or normal composition for comparison becomes apparent.

The Boston Nutrition Laboratory of the Carnegie Institution of Washington has undertaken a most painstaking series of investigations bearing on this subject. They include an examination of the comparative oxygen-content of uncontaminated outdoor air under all conditions as to wind direction and strength, temperature, cloud formation, barometer and weather. In addition samples of air were collected on the Atlantic Ocean, on the top of Pike's Peak, in the crowded streets of Boston and in the New York and Boston subways. The results of the analyses of uncontaminated outdoor air showed no material fluctuation in oxygen percentage in observations extending over many months and in spite of all possible alterations in weather and vegetative conditions. The average figures are 0.031 per cent. of carbon dioxid and 20.938 per cent. of oxygen. The ocean air and that from Pike's Peak gave essentially similar results.

The extraordinary rapidity with which the local variations in the composition of the air are equalized is accentuated by the observations on street air in the heart of the city, where the contaminating factors might be expected to be of sufficient magnitude to affect perceptibly the analytic data. Only the slightest trace of oxygen deficit is shown, with a minute corresponding carbon-dioxid increment. Observations such as these tend to demonstrate the extent of the diffusion of gases and the establishment of equilibrium by air-currents.

Most unexpected are the figures in regard to the extremely small extent to which the air was vitiated in the modern "tube" or subway, even during "rush" hours. There was, on the average, a fall of 0.03 per cent. in oxygen accompanied by a rise of 0.032 per cent. in the carbon dioxid. Professor Benedict points out that while the measurement of carbon dioxid has been taken as an index of good or bad ventilation, the fact that the proportion of oxygen is actually lowered by an increase in the carbon dioxid has never before been clearly demonstrated. As a result of this, the determination of the content of carbon dioxid in the air, which can be made with ease and accuracy, suffices to establish the approximate percentage of oxygen. For every 0.01 per cent. increase in the atmospheric carbon dioxid one may safely assume a corresponding decrease in the percentage of oxygen. Aside from minor fluctuations explained above, it may now truly be said that "the air is a physical mixture with the definiteness of composition of a chemical compound."

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[1] Most of the facts referred to are taken from the recent monograph by Benedict, F. G.: The Composition of the Atmosphere with Special Reference to Its Oxygen Content, Carnegie Institution of Washington, Publication 166, 1912.

ANAPHYLAXIS AS THE CAUSE OF DEATH FROM BURNS

The death-rate in cases of extensive burns is practically as high at present as it was two or three decades ago. In general it may be stated that burns of the second and third degree involving a third or more of the total body surface invariably prove fatal. Much work has been done and many theories have been advanced to explain the cause of death in these cases. Most of these patients die within the first twenty-four hours; others, however, who are able to withstand the initial shock, linger on for several days or even a week or more before death occurs. Bearing more especially on the cause of death in the latter group, a recent publication by Vogt[1] is interesting. Vogt found that one cubic centimeter of urine from an animal that had been severely burned, injected intraperitoneally in a normal mouse, produced lordotic convulsions and death. Previous to Vogt's work Parascandolo had obtained from the burned flesh of dogs a toxic substance which killed normal animals when injected into them. Urine of these animals injected into other normal animals also produced death with pathologic findings similar to those in the former animals. Parascandolo was also able to obtain an extract from burned animals with which he was able to immunize other animals.

Vogt does not believe that death in animals which live six or seven days after the burns are sustained can be explained by the reflex theory of Sonnenberg. Neither does the theory that death in these cases is due to primary blood changes seem tenable to him. In his opinion the accumulation of some toxic substance seems to be the more probable cause of death. Pfeiffer's theory based on the cumulative action of peptones, and Kutcher's theory that methylguanidin is the cause of death could not be substantiated by the experiments of Vogt. The latter is more inclined to believe that tissue albumins under the action of heat take on antigenic properties, so that antisubstances are developed which in turn by acting on the antigenic substances give rise to anaphylatoxic products and the symptoms of anaphylaxis.

That the toxic substances are really derived from the burned tissues was proved by Vogt by transplantation experiments. Animals which had been burned in a portion of the cutis remained well if the burned skin was excised within twelve hours. Other animals on which this skin was grafted died. By experiments in parabiosis between a normal animal and an animal afflicted with burns, it was demonstrated that the former was also affected by the intoxication. In skin-muscle parabiosis, if the two animals were separated within four days, the life of the unburned animal was saved. In peritoneal unions, however, if the separation was not effected within twenty-four hours, the second animal also died. It is to be regretted that Vogt does not describe in more detail the post-mortem changes in his experiments; it might be possible in that way to advance further evidence in favor of the hypothesis that death following extensive burns is a result of anaphylaxis. If further experiments support this new view, it may prove to have an important influence on the therapy of burns.

Current Comment

THE REDUCTIO AD ABSURDUM OF VACCINE THERAPY

Seven years ago when the first clinical reports on bacterial vaccine therapy were made in the United States an attitude of skeptical pessimism was encountered in the medical profession. To-day a reaction quite to the other extreme is manifest. In fact, this "positive phase" of optimism has carried a valuable therapeutic procedure to limits little short of ridiculous. Commercial expediency on the part of establishments marketing bacterial vaccines, and ignorance on the part of physicians generally as to the limitations of this branch of biologic therapy are to blame for this condition. Manufacturers of bacterial vaccines have multiplied in number beyond a reasonable necessity, and competition between them has led to the marketing of products whose therapeutic value is far from assured, in order that a list of numerous "varieties" may be offered to physicians through advertising claims much too promising. Bacterial vaccines may soon be expected to be found on druggists' shelves like canned goods in a grocery store and at approximately the same prices. Even price-cutting has entered into the commercial scramble — except in the case of semisecret proprietaries. Because of the uncertainty underlying the identity of the offending microbe in many infections, or because of the occasional mixed or secondary infections, combinations of bacterial vaccines theoretically justified by the "shotgun prescriptions" of other days are offered. Potent bacterial products producing toxic reactions of great severity, secret as to their exact composition and vaguely aimed at a mixed infection, are in the field, recommended to the medical profession through persuasive advertising literature or through the oral representations of detail men with no technical knowledge of immunology or practical experience in therapeutics. It follows that the use of these variously compounded bacterial derivatives is an unscientific confession of ignorance as to the specific cause of a given infection, and that the indiscriminate employment of these products must not only be ineffective but fraught with danger. Even when no more tangible harm results, the time in which an appropriate autogenous vaccine could be made and used is often wasted. In this chaotic state of affairs it is well to recall the warning by the pioneer of practical vaccine therapy, Sir A. E. Wright, who in closing his Toronto lecture[1] said: "As a natural outcome of such development in medical science a new type of practitioner would appear, namely, the immunizator. He would say, 'You are infected with a particular microbe and my business is to find out the microbe, make a vaccine from it and inoculate you and bring up the resisting power of your blood.' For such skilled service you will require a man who has spent years of study to master the technic; to know how to make the vaccines, to know where to look for the microbes, to know which are the most important microbes, to know how to isolate them, and most of all, a man with sufficient experience and ability to apply all these things."

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[1] Vogt, Eduard: Ztschr. f. exper. Path. u. Therap., 1912, xi 191.

THE ORIGIN OF THE FAT IN TUBERCLES

The use of non-toxic fat-soluble dyes, such as Sudan III, to follow the migrations of fat in the body during life has developed into an efficient method of research. We have earlier referred to the work of Mendel[2] and others indicating how these dyes enter the organism dissolved in food fat and how they are transported with it to the tissue depots, being deposited there if the fat is left or being returned to the alimentary tract through the solvent agency of the bile when the conditions for transport are not satisfactory. It appears from the observations which have been made that the fat dye rarely enters already stored fat; nor does it leave the food fat to enter the intracellular fats or the lipoids of active tissues. For example, the fat-soluble dyes never enter the brain or spinal cord, which is rich in suitable solvent components. These features suggest a method of studying the character of tubercles which contain a certain amount of fat associated with the disintegrative changes in cells and are frequently decidedly fatty in character. Dr. Corper of the Sprague Memorial Institute in Chicago has accordingly carried over to the lesions of tuberculosis the results already obtained by biologists with typical fat-soluble dyes.[3] His experiments clearly indicate that the fats of tubercles never show any of the administered fat dyes, whether the tubercles form before or after the experimental animals are, so to speak, saturated with the dye. This makes it probable that the fats microscopically visible or chemically demonstrable in tubercles are derived chiefly or solely from the existing fats and lipoids of the disintegrated cells, and not by deposition from the fats carried in the blood. The outcome of Dr. Corper's observations is in harmony with the histologic evidence and the view that the fats of the tubercle are derived from the intracellular fats of the tissues in which it has its origin, rather than from transported food fat. It is interesting, further, to note that tubercle bacilli, which have a notably fatty character, are stainable only to a limited extent *in vitro* with fat dyes, and are apparently never reached within the lesions themselves by the fat stain.

A NEW GRANULOMATOUS LOCAL INFECTION CAUSED BY PROTOZOA

Under the name of "telangiectatic granuloma," Küttner in 1895 described a peculiar skin disease which probably is identical with the disease described by the French under the name of botryomycosis, and by American dermatologists as granuloma pyogenicum.[1] It is characterized by the formation rather rapidly of pedunculated polypoid growths of certain parts of the skin, most frequently on the uncovered parts, especially the hand and still more particularly the fingers. They are observed more rarely on the feet and have been seen on the neck and other places. At first there is an infiltration or lump in the skin which rapidly penetrates the epidermis, and an ulcer forms, from the floor of which a rapid fungus-like proliferation grows out and becomes pedunculated. The growth is usually roundish, smooth or finely nodular on the surface, is intensely red, covered with a crust, and bleeds readily; in size it varies from a pea to a hazelnut and larger. Usually it is solitary but there may be many. The infiltration as a rule is rather superficial but it may extend downward and even destroy the bone and perforate the finger. These lesions have been observed chiefly in France and in South Germany in the vicinity of Freiburg. The growths consist of extremely vascular granulation tissue with leukocytes and other cells scattered between the numerous capillaries together with the plasma cells and eosinophils and mast-cells, especially in the deeper parts. Sometimes the plasma cells are very large, and there are also giant cells. There are no indications that the growth is a genuine tumor — metastases do not form, and thorough removal is not followed by return. What is the cause? Poncet and Dor have maintained that it is due to the same little-understood organism that is believed to cause botryomycosis in animals, especially horses. In horses there may develop after castration and any other lesions, chronic infiltrations with conglomerations of microbes, especially micrococci, concerning the nature of which there is doubt, but which have been called botryomyces. Poncet and Dor maintain that they have found similar microbes in the similar growths in man, but this has not been corroborated. American dermatologists regard the growths as due to infection with pus cocci, particularly staphylococci; hence the name "granuloma pyogenicum" (Hartzell). Not long ago Schridde[2] succeeded in demonstrating in such growths in man peculiar parasite-like bodies in the plasma cells which very much resemble protozoa. These supposed parasites are intracellular, partly round, partly oval, semilunar or pear-shaped, usually staining irregularly, and often present in large numbers. They remind one much of the parasites which are found in kala-azar and oriental sore. The structure of the latter lesion corresponds quite closely with that of the telangiectatic granuloma, and the clinical similarities between the two are also marked. It is peculiar that the granulomas in question seem to develop in the months between July and November. It remains to be learned whether or not in this country also the granuloma pyogenicum of the dermatologist includes processes of a protozoan nature.

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[1] Wright, A. E.: Canadian Practitioner, November, 1906.

[2] The Entrance and Exit of Substances Insoluble in Water in the Organism, editorial, The Journal A. M. A., Nov. 23, 1912, p. 1893. Also Mendel, L. B., and Daniels, A. L.: The Behavior of Fat-Soluble Dyes and Stained Fat in the Animal Organism, Jour. Biol. Chem., 1912, xiii, 71.

[3] Corper, Harry J.: Intra-Vitam Staining of Tuberculous Guinea-Pigs with Fat-Soluble Dyes, Jour. Infect. Dis., 1912, xi, 373.

[1] Pusey, William Allen: Principles and Practice of Dermatology, Ed. 2, p. 483.

[2] Schridde, Hermann: Das Granuloma teleangiectodes europeum, eine Protozoenkrankheit, Deutsch. med. Wchnschr., 1912, xxxviii, 218.

MISINFORMATION ON SEXUAL LAXITY

Those who believe that sexual indulgence is a necessity may not intend to encourage immorality and venereal disease, but that is apt to be the result of any process of making excuse for sexual laxity. If he is correctly quoted, some recent words of Mayor Gaynor of New York will have a similar effect. Because of his general reputation for humanity, philosophy and intelligence, we regret to see him giving currency to mischievous errors of fact. Speaking to the forum of the New York University, he is reported by *Collier's* as having said that irregular relations between unmarried men and women are "not forbidden by any law here or anywhere else in the world." *Collier's* stamps this statement as false by pointing out that actually such relations constitute "a criminal offense in thirty-nine states." Again Gaynor: "But in a few states of the Union they have a law making adultery a criminal offense. But it is a dead letter. Who is prosecuted for it? Nobody." Again *Collier's* replies: "Actually, only three states in the union have failed to declare adultery a crime. Reports show that conviction under both these laws is obtained in three-fourths of the states." It is one thing to express opinions as to the wisdom of these statutes; it is a different and a very serious thing to speak falsely concerning the facts and thus to mislead hearers and readers into thinking that the law-makers of our country have failed to set the seal of criminality on illicit intercourse.

THE CIRCLE WIDENS

The January number of *Good Housekeeping* announces that hereafter no food product or toilet preparation can be advertised in its columns without having been analyzed and approved by the *Good Housekeeping* Bureau of Foods, Sanitation and Health at Washington, of which Dr. Harvey W. Wiley is director. This magazine states that it accepts no advertising without knowledge of worthiness, and insists on the omission of superlatives and an adherence to fact in the wording. For two years household appliances have been tested, in a similar way. The test of food and toilet preparations is threefold. The chemists first test for harmful ingredients. If the products pass this test it is ascertained whether the substances are nourishing and wholesome if foods, or harmless and beneficial if toilet preparations. Finally the labels must be free from extravagant or exaggerated statements. Products receiving from ninety to one hundred points are awarded a star, those which receive from seventy-five to eighty-nine points, inclusive, are acceptable for advertising but do not receive a star, and those below seventy-five are thrown out. Several excellent articles, we are told, have been thrown out because of the exaggerated claims made for them. This is an extension to food and to toilet preparations of the stand taken by the few — too few — medical journals that accept no advertisements of proprietary medicines unless accepted by the Council on Pharmacy and Chemistry, and is an example of the spirit which is beginning to actuate many lay journals.

SHALL THE CALENDAR BE REFORMED?

The new year again emphasizes the need for a reformation of the calendar. Oberlin Smith[1] reviews the history of efforts in this direction and outlines a number of different schemes which have been presented for making a change in the present somewhat arbitrarily arranged calendar. The plan we have already commented on favorably is the thirteen-month year of twenty-eight days each, with an extra day to be a holiday for everybody, and an additional one on leap-year. By this arrangement the days of the week would always fall on the same dates in each month and the fixed holidays would come on the same days of the week each year. This plan has the merit of simplicity and while many objections can be raised against any change on account of the disturbance of contractual relations and the uprooting of traditional and perhaps sentimental considerations, yet this scheme has probably no more demerits than any other proposed. Objection will always be raised to any proposed plan just as there was objection to adopting the decimal system of money, or as there is to the universal adoption of the metric system, both of which have everything from the point of common sense to compel their acceptance.

A NEW FORCE AGAINST FRAUDULENT ADVERTISING

In the fight for clean advertising a new force has come into play. Enlightened public opinion has compelled the users of large advertising space to recognize the fact that an advertiser is known by the company he keeps. The Associated Advertising Clubs of America, an organization with more than ten thousand individual advertisers, has created a National Vigilance Committee whose duty it is "to wage war on dishonest advertising to the end of increasing public confidence in honest advertising." This is a most effective and promising movement. With the purchasers of large advertising space refusing to give contracts to those publications which carry fraudulent advertising — medical or otherwise — an enormous step in advance will have been taken. This activity on the part of large advertisers has already begun to bear fruit, and there is every reason to feel optimistic for the outcome. This new force will simplify to a wonderful degree the problem of fraud in advertising.

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[1] Smith, O.: Pop. Sci. Month., December, 1912, p. 582.

Medical News

ALABAMA

New Officers.—Morgan County Medical Society at New Decatur: president, Dr. John B. Shelton, New Decatur; secretary-treasurer, Dr. U. C. Bailey, Decatur.——Shelby County Medical Society at Calera, December 10: president, Dr. E. C. Clayton, Coalmont; secretary-treasurer, Dr. J. I. Reid, Montevallo.——Marengo County Medical Society at Demopolis, December 24: president, Dr. J. B. Whitfield, Demopolis; secretary, Dr. C. W. Brasfield, Octagon (reelected).——Bullock County Medical Association at Union Springs, December 13: Dr. J. R. Oswalt, Union Springs.——Barbour County Medical Society at Eufaula, December 17: president, Dr. B. F. Bennett, Louisville; secretary-treasurer, Dr. J. W. Fenn, Eufaula.——Walker County Medical Society at Jasper, December 13: president, Dr. A. A. York, Empire; secretary-treasurer, Dr. J. L. Sowell, Jasper.——Randolph County Medical Society at Roanoke: president, Dr. P. G. Trent, Sr.; secretary, Dr. W. W. Stevenson, both of Roanoke.——Colbert County Medical Society at Tuscumbia, December 12: president, Dr. H. W. Blair, Sheffield; secretary-treasurer, Dr. J. T. Haney, Tuscumbia.——Baldwin County Medical Society at Bay Minette, January 9: president, Dr. C. F. McKinley, Perdido Station.

ARKANSAS

Estimates for Tuberculosis Sanatorium.—The biennial report of the board of trustees of the Arkansas Tuberculosis Sanatorium shows that 444 patients were treated during the last biennium. The institution has now seventy patients, and a training school for nurses has been started. An appropriation of $105,000 for the next two years has been asked. This includes $15,000 for a new hospital.

New Officers.—Jackson County Medical Society at Newport, December 10: president, Dr. Josephus S. Graham, Tuckerman; secretary-treasurer, Dr. Ira H. Erwin, Newport.——Sebastian County Medical Association at Fort Smith: president, Dr. Clark Wood; secretary, Dr. D. R. Dorente, both of Fort Smith.——Phillips County Medical Association at Helena: president, Dr. H. M. Thompson, Marvell; secretary-treasurer, Dr. W. R. Orr, Helena.——Lawrence County Medical Society at Hoxie, December 5: president, Dr. Earl Thomas, Hoxie; secretary-treasurer, Dr. J. H. Stidham, Walnut Ridge.——Independence County Medical Society at Batesville, January 2: president, Dr. L. T. Evans, Barren Fork; secretary-treasurer, Dr. O. J. Johnston, Batesville.——Green County Medical Society at Paragould: president, Dr. R. E. Bradsher, Marmaduke; secretary, Dr. Olive Wilson, Paragould.——Pulaski County Medical Society at Little Rock, December 2: president, Dr. Robert Caldwell; treasurer, Dr. William R. Bathurst, both of Little Rock.——Craighead County Medical Society at Jonesboro, January 11: president, Dr. P. W. Sutterloh; secretary-treasurer, Dr. R. H. Willett.

COLORADO

New Officers.—Las Animas County Medical Society at Trinidad, January 10: president, Dr. William Ogle, Terico; secretary, Dr. Ben Beshoar, Trinidad.——El Paso County Medical Society at Colorado Springs, December 11: president, Dr. Beverly Tucker; secretary, Dr. J. H. Brown, both of Colorado Springs.——Otero County Medical Society at La Junta, December 11: president, Dr. J. A. Lawson, Rocky Ford; secretary-treasurer, Dr. A. S. Brunk, La Junta.

Personal.—Dr. John O. Stow, formerly of Goldhill, has lost his right eye in an effort to remove a malignant growth in one of the nasal sinuses.——Dr. Maurice Kahn, Leadville, who has been suffering with frontal sinusitis has gone to California for rest and recuperation.——Dr. E. F. Dean has been elected president; Dr. F. H. McNaught, vice-president, and Dr. R. L. Charles, secretary of the medical staff of St. Joseph's Hospital, Denver.——Dr. A. P. Busey has resigned as superintendent of the State Hospital for the Insane, Pueblo, and has been appointed superintendent of the State School for the Feeble-Minded, Arvada.——Dr. Ralph Morris, Longmont, is ill with pneumonia in Longmont Hospital.——Dr. and Mrs. C. F. Stough, Colorado Springs, have returned from Europe.

ILLINOIS

Small-Pox in Evanston.—The discovery that a teacher in the public schools of Evanston had small-pox resulted in the issuance of orders by the city council that more than 3,000 school children of Evanston be vaccinated.

Millions Needed for Dunning.—The fiscal supervisor of the State Board of Administration reports that for the eighteen institutions now under the immediate supervision of the board, an aggregate of $9,625,369 is required. For ordinary operating expense at the Chicago State Hospital, Dunning, $1,131,400 is asked and also $1,002,216 for rehabilitation of the institution.

Personal.—Dr. Darwin M. Keith has been elected president, Dr. T. H. Culhane, vice-president and Dr. D. W. Day, secretary of the medical staff of Rockford Hospital.——Dr. H. F. Ballard, Chenoa, who has been seriously ill with cholelithiasis, is reported to be improving.——Dr. H. A. Haskell, Lynnville, fell on the ice at Jacksonville, January 9, causing a slight concussion of the brain.——Dr. E. P. Cook, Mendota, has returned after a vacation of three months.

The State University Medical Department.—The alumni of the University of Illinois now state that they will be prepared to turn over the College of Physicians and Surgeons as a gift to the University, February 1.——A petition sent by twenty-six members of the Woodford County Medical Society requests the senate and house of representatives of the state to consider the establishment of a medical department in Chicago. The petition further states that the location of a medical department or any part of it in Urbana will be detrimental to the best interests of the department.

Health Board Recommendations.—At the annual meeting of the State Board of Health, the following recommendations were made by the president:

1. Continuation of distribution of free diphtheria antitoxin.
2. Enactment of an effective vital statistics law.
3. Free distribution of typhoid vaccine to prevent typhoid.
4. Amendment to Medical Practice Act permitting midwives to use suitable prophylactics to prevent ophthalmia neonatorum, this to be supplied to all midwives by the board, and to physicians on request.
5. State sanatorium for tuberculosis.
6. Epileptic colony, provided we can get No. 5 also. If not, then a sanatorium in preference to an epileptic colony.

New Officers.—Marion County Medical Association at Centralia: president, Dr. W. W. Murfin, Patoka; secretary, Dr. F. M. Phifer, Centralia.——DeWitt County Medical Association at Clinton, December 21: president, Dr. O. B. Edmonson; secretary-treasurer, Dr. Charles W. Carter, both of Clinton.——Physicians' Protective Association of Marissa and vicinity, organized at Marissa, December 21: president, Dr. J. A. Campbell; secretary-treasurer, Dr. G. R. Hays, both of Marissa.——Danville Physician's Club, December 19: president, Dr. H. S. Babcock: secretary, Dr. O. H. Crist.——Will County Medical Society at Joliet, December 16: president, Dr. A. J. Lennon; secretary-treasurer, Dr. Marion K. Bowles, both of Joliet.——St. Clair County Medical Society at East St. Louis, January 6: president, Dr. C. A. W. Zimmerman, East St. Louis; secretary, Dr. B. H. Portuondo, Belleville.

Result of Examinations for State Hospitals.—At the recent examinations conducted by the State Civil Service Commission for assistant superintendents and physicians at state hospitals, the following were successful: assistant superintendent, promotional—Drs. Max C. Hawley, Watertown State Hospital; Isaac F. Freemmel, Chicago State Hospital, Dunning; Samuel N. Clark, Kankakee State Hospital; Clessan C. Atherton, Elgin State Hospital; Walter L. Treadway, Jacksonville State Hospital; Emil Z. Levitin, Peoria State Hospital; George W. Morrow, Anna State Hospital; Rommey N. Ritchey, Anna State Hospital; Francis J. Sullivan, Kankakee State Hospital, and Angelina Hamilton, Peoria State Hospital; assistant physicians—Drs. Colin Thomas, Cook County Hospital; Harry C. Rolnick, Cook County Hospital; Oliver P. Bigelow, Cleveland; Harry J. Dooley, Cook County Hospital; Peter S. Winner, 1423 Turner Avenue, Chicago; Victor A. Bles, Elgin State Hospital; Minerva L. Blair, Jacksonville State Hospital; Graham M. Lisor, Chicago State Hospital; Harry J. Freemmel, Chicago State Hospital, and James J. Mendelsohn, Lincoln State School and Colony.

Chicago

Gift to Wesley Hospital.—A Thanksgiving present of $777,352 is to be given to Wesley Hospital by the trustees at the twenty-fifth anniversary of the institution on Thanksgiving Day. This will make the endowment fund of the institution $1,000,000.

The Work of the Visiting Nurses.—At the annual meeting of the Visiting Nurses' Association of Chicago, January 10, the superintendent stated that the staff of fifty-eight nurses made, in the last year, more than 162,000 visits to the homes of the poor, sick and friendless, and administered to nearly 51,000 patients. The receipts for the year were more than $85,000 and the disbursements exceeded $76,000.

Ladies' Night at the Englewood Branch.—The twelfth annual banquet and ladies' night of the Englewood Branch of the Chicago Medical Society was celebrated January 20, nearly two hundred guests being present. Preceding the banquet, a reception was held from 6:30 to 7:30. Dr. Woods Hutchinson was the orator of the evening.

Personal.—Dr. C. G. Elmore, formerly of Chadron, Neb., has been appointed sanitary inspector of the Chicago and Northwestern Railway. His especial duty is to consider the sanitation of coaches and chair cars.——Dr. H. M. Hunt was struck by a street car, January 15, spraining his ankle and sustaining severe bruises.——Dr. George C. Amerson has been elected president, Dr. R. H. Good, vice-president, and Dr. W. A. Barr, secretary, of the staff of the Frances E. Willard Hospital.

Contagious Diseases.—The total number of cases of contagious diseases reported during the week ended January 18 was 1,765, a slight increase over the preceding week. Twenty-two cases of small-pox were reported all but two of which were in the South Chicago District. There were 262 cases of diphtheria reported, nearly double that of the corresponding week of 1912, and 435 cases of scarlet fever, nearly four times as many as in the corresponding week of last year. The mortality from diphtheria was 40 as compared with 11 for the corresponding week of the previous year and that of scarlet fever was 37 as compared with 7 for the corresponding period. Diphtheria showed its greatest increase in two of the best residence wards of the city, the Sixth on the South Side and the Twenty-Fifth on the North Side.

KENTUCKY

Tuberculosis Commission Elects Secretary.—The State Tuberculosis Commission at its session in Frankfort, January 2, elected Roy French, Baltimore, who has had wide experience in the investigation of tuberculosis, secretary.

Ask that Fayette County be Made Tuberculosis District.—The King's Daughters of Lexington at a meeting of the Fiscal Court, presented a petition, strongly urging that the county be made a tuberculosis district. The King's Daughters have funds which they wish to use in the work of tuberculosis, but can do nothing until the county has been declared a tuberculosis district.

Sanatorium News.—The Kentucky Antituberculosis Association is making strenuous efforts to have reconstructed the buildings which were burned. Of the six buildings comprising the institution, two were burned and it has been necessary to use two of the remaining buildings for kitchen, staff bedrooms, store-rooms, etc., thus leaving two buildings only for patients.——The Beechhurst Sanitarium, Louisville, has been transferred from Dr. M. H. Yeaman to his former first assistant, Dr. H. B. Scott.

State Board of Health Meeting.—At the annual meeting of the State Board of Health, in Louisville, January 8, messages were received from the Rockefeller Commission commending the work being done in Kentucky regarding hookworm and from Surgeon-General Blue, U. S. P. H. Service, promising to send an officer to Kentucky with the necessary equipment to make investigations among the prisoners of the state with a view to exterminating syphilis, with which 50 per cent. of the inmates of penal institutions are said to be afflicted.

Contagious Diseases.—Hickman is rigidly observing quarantine because of cerebrospinal meningitis in Tennessee. No one is allowed to enter the city from the infected district of Tennessee without health certificates and proper credentials. Druggists are said to have ordered a supply of serum in anticipation of appearance of the disease and schools and public gatherings have been suspended.——The health authorities of West Point have reported the discovery of a fully developed case of small-pox in the public school in that place and that vigorous precautions are being taken against the spread of the disease.

Personal.—Dr. Louis Frank, Louisville, who underwent a surgical operation in Cleveland, December 20, has recovered and returned home.——Dr. Thomas C. Holloway, Lexington, announces his removal to Memphis, and that his practice will hereafter be limited to diseases of the genito-urinary tract.——Dr. Edward J. Strickler, Elizabethtown, who was operated on recently for appendicitis in Louisville, has recovered and returned home.——Dr. Holland B. Simpson, Breeding, was thrown from his horse, recently, fracturing two ribs.——Dr. Evart Hankins, Finchville, who was operated on recently in the Jewish Hospital, Louisville, has returned home.——Dr. E. H. Maggard has resigned as physician to the Frankfort Infirmary.——Dr. R. H. Dunn has been appointed general surgeon for the Pond Creek Coal Company at Stone, Ky.——Dr. W. A. Young, Newport, has been appointed surgeon-in-chief of the Cincinnati Division of the Chesapeake and Ohio Railway and Chesapeake and Ohio Railway of Indiana.

New Officers.—Bourbon County Medical Society at Paris, December 26: president, Dr. F. L. Lapsley; secretary, Dr. C. G. Daugherty.——Jefferson County Medical Society in Louisville, December 23: president, Dr. Dunning S. Wilson; secretary, Dr. A. C. L. Perceful.——Christian County Medical Society at Hopkinsville: president, Dr. Frank M. Stites, Hopkinsville; secretary-treasurer, Dr. W. S. Sandbach, Casky.——Daviess County Medical Society in Owensboro, December 17: president, Dr. W. Lee Tyler, Curdsville; secretary-treasurer, Dr. J. J. Rodman, Owensboro.——Clifton Medical Club, Louisville: president, Dr. E. T. Grasser; secretary-treasurer, Dr. E. D. Richey.——Fayette County Medical Society at Lexington: president, Dr. George B. Sprague; secretary-treasurer, Dr. L. C. Rodman (reelected), both of Lexington.——Henderson County Medical Society at Henderson: president, Dr. R. H. Moss; secretary-treasurer, Dr. P. Ligon, both of Henderson.——McCracken County Medical Society at Paducah, January 8: president, Dr. H. G. Reynolds; secretary, Dr. C. E. Kidd, both of Paducah.——Oldham County Medical Association at La Grange: president, Dr. J. H. Speer, Brownsboro; secretary-treasurer, Dr. E. D. Burnett, Anchorage.

MARYLAND

Cornerstone to be Laid.—The cornerstone of the new Miners' Hospital, Frostburg, for which the last legislature appropriated $25,000, will be laid, February 2.

Tuberculosis Clinic in Cumberland.—A tuberculosis clinic is to be opened in the basement of the new city hall, Cumberland. A visiting nurse will be in charge and five physicians have volunteered to assist.

New Officers.—Allegany and Garrett County Medical Society at Cumberland, January 8: president, Dr. J. H. McCann, Barton; secretary-treasurer, Dr. Charlotte B. Gardner, Cumberland (reelected).——Baltimore County Medical Association, January 15: president, Dr. Alfred T. Gundry; secretary, Dr. J. Carroll Monmonier.

Personal.—Dr. D. W. Hopkins has been appointed vaccine physician for Havre-de-Grace.——Dr. John S. Fulton has been elected secretary of the Maryland State Board of Health, to fill the vacancy caused by the illness of Dr. Marshall L. Price, who is now in a hospital in Philadelphia.——Dr. Charles A. Wells has been elected president of the Upper Marlboro Bank.

Baltimore

Psychiatric Clinic to Open.—The psychiatric clinic of Johns Hopkins Hospital will open, April 16, with accommodation for one hundred patients. It will be divided into three classes, acute, semi-acute and quiet.

Hebrew Hospital Meeting.—At the annual meeting of the Hebrew Hospital, held January 12, gifts were announced of a mattress sterilizer valued at $1,500 and of $4,000 through Dr. Charles Bagley, Jr., as a foundation for the pathologic fund. A new nurses' home has been added during the year. An observation and isolation ward is urgently needed.

Mental Hygiene Week Opened.—The committee of public instruction of the Medical and Chirurgical Faculty of Maryland has planned a mental hygiene week late in February. Elaborate exhibits on mental hygiene and temperance will be shown and papers will be read on topics relating to mental health, eugenics, alcoholism, etc. This congress will be followed by smaller meetings in various parts of the city and surroundings.

Personal.—At the annual meeting of the Hebrew Hospital, January 12, Dr. Harry Adler was reelected president.——Dr. Nathan R. Gorter has been appointed health officer of Baltimore, vice Dr. James Bosley, deceased.——Dr. John C. Harris, who suffered a cerebral hemorrhage several months ago, fell from his window to the cellarway, recently, suffering severe cuts and bruises.——Dr John M. T. Finney has been appointed professor of clinical surgery in Johns Hopkins University.——Dr. Thomas R. Boggs has been made physician-in-chief of the City Hospital.——Dr. Walter G. Sexton has been made resident surgeon of the Hebrew Hospital.

MASSACHUSETTS

Gift to Harvard.—Harvard Medical School has received a gift of $25,000 from Prof. and Mrs. Frederick C. Shattuck, which will be used for the establishment of the Arthur Tracy Cabot scholarship in surgery.

Staff of Brigham Hospital.—The following members of the medical and surgical staff of the Peter Bent Brigham Hospital, (Roxbury) Boston, have been appointed: physician-in-chief, Dr. H. A. Christian; visiting physician, Dr. Channing Frothingham, Jr.; resident physician, Dr. Francis W. Peabody, Jr., Cambridge; house officers, Drs. Chandler Walker, Reginald Fitz, R. P. Dawson and W. G. Smille; surgeon-in-chief, Dr. Harvey W. Cushing; visiting surgeons, Drs. John Homans and David Cheever; resident surgeon, Dr. Emil Goetsch, Baltimore; superintendent and general financial agent, Dr. H. B. Howard.

Personal.—Dr. Thomas B. Smith, Lowell, has been appointed associate medical examiner for Middlesex County, vice Dr. Pell, deceased.——Dr. E. C. Wylie, Boston (Dorchester), was severely injured by the overturning of his automobile, recently.——Dr. J. R. Slattery has been elected associate physician-in-chief and superintendent of St. Elizabeth's Hospital; Dr. M. J. Cronin, Roxbury, reelected assistant physician-in-chief and Dr. Edward A. Supple, Boston, reelected assistant surgeon-in-chief.——Dr. F. E. Garland has been elected vice-president of the Boston Municipal Athletic Association.——Dr. A. K. Boom, Adams, has been elected president and Dr. F. J. O'Hara, North Adams, secretary of the staff of the North Adams Hospital.

Hospital Notes.—Arrangements have been completed between the Fairview Hospital Corporation and the Visiting Nurses' Association of Great Barrington, whereby a house on West Avenue will soon be opened containing living quarters and an office for the visiting nurse and rooms for emergency cases of illness and accidents.——The report of the Massachusetts Babies' Hospital states that the hospital is still unable to meet the increased demands for its service and that because of lack of funds, it is obliged to turn away sick babies that need hospital treatment, and well babies that should be sent out to board. The hospital needs $5,000 before April 1 in order to continue even its present service.——The new Marlboro Hospital, donated by Hannah E. Bigelow, was opened January 1, to receive patients.——The new Hampden Hospital, Springfield, has recently been opened. The building has been remodeled at a cost of $12,000, and fitted out with a modern equipment.——The State Board of Health, in a communication December 12, insists that the Lowell board shall obey the law regarding the erection of a hospital for the care of contagious diseases.

NEW YORK

New Location for Medical College.—The Albany Medical College has secured the rights to the land where the old penitentiary building now stands, and there it is planned to erect new buildings.

Site Purchased for Cancer Experiment Station.—Ten citizens of Buffalo have purchased a farm of 31 acres in Springville as a site for an experiment station for the state institute for the the study of malignant disease.

Contract for Care of Tuberculosis Patients.—The board of supervisors of Wayne County has entered into a contract with Sunny Crest Hospital, Auburn, to receive and care for Wayne County patients over 15 years of age at an expense of $8 per week.

Asks Three Million Dollars for Medical School.—President Elmer Ellsworth Brown, in his annual report to the Council of New York University, calls attention to the needs of the university. Altogether $5,000,000 is asked for, $1,000,000 of which is for the permanent endowment of the medical school and $2,000,000 for the building, equipment and endowment of a teaching hospital.

Health Officers Must Report Communicable Diseases.—General notice has been served by Commissioner Porter that health officers will be removed from office if they fail to report promptly to the department all cases of communicable disease. It is pointed out that it is the business of local health boards to see that their health officers perform their duties, but if they fail to act the health officers will be cited to show cause why they should not be removed from office.

Personal.—Dr. F. E. Fronczak, health commissioner of Buffalo, has a mild attack of appendicitis.——Dr. Charles B. Wills, Huntington, was given a verdict of $1,000, January 14, in a suit for $10,000 damages on account of injuries received, November, 1910, when he was run down by an automobile owned by an attorney of New York City.——Dr. C. S. Wilson, Lestershire, fractured his arm, January 8, while cranking his automobile.——Dr. A. E. Broga, Oneida, is reported to be seriously ill with heart disease.

New Officers.—Orange County Medical Association at Goshen, January 8: president, Dr. E. C. Thompson, Newburgh; secretary, Dr. E. M. Schultz, Middletown.——Amsterdam Medical Society, January 9: president, Dr. L. H. Finch; secretary-treasurer, Dr. David Wilson.——Cattaraugus County Medical Society: secretary, Dr. Benjamin Van Campen, Olean.——Oswego Academy of Medicine, January 8: president, Dr. C. S. Albertson; secretary-treasurer, Dr. H. S. Albertson.——Jefferson County Medical Society, at Watertown, January 9: president, Dr. S. C. Hollis, Belleville; secretary, Dr. Charles E. Pierce, Watertown (reelected).

Port Health Officer Wants Increased Force.—Dr. James J. O'Connell, Health Officer of the Port of New York, in his annual report to the legislature recommends the creation of thirty-seven new positions in his department, carrying salaries that amount to $35,000 a year. He says that he has reduced the expenditures of 1912 by $50,000 as compared with 1911. Dr. O'Connell also recommends the establishment of a branch post-office in his department and the creation of a memorial tablet to commemorate the services and death of Dr. Edward Fiske Ashley, the bacteriologist who died in 1911 from spinal meningitis contracted while in performance of duty.

Accidents on State Railroads.—Accidents on steam railroads in this state for the year ended June 30: killed, 871 persons and injured 4,340. Accidents to locomotive boilers caused three deaths and 40 injuries, but the commission states that there have been no boiler explosions in the five years since the state has had jurisdiction over locomotive boilers. On the electric railways outside of New York City, 80 persons were killed and 2,206 injured during the year 1912. The commission reports that safety precautions taken by telephone and telegraph companies have decreased the number of fatal accidents 57 per cent. and non-fatal accidents 45 per cent. as compared with the previous year.

Public Medical Lectures.—The first of the series of free public lectures on medical subjects by members of the faculty of the medical department of the University of Buffalo was given, January 12, in Alumni Hall, by Dr. Lucien Howe, who spoke on the progress of medicine concerning the eye. The succeeding lectures are by Dr. Lesser Kauffman on the measure of blood-pressure and its meaning, by Dr. James C. Sullivan on producing the method of general anesthesia, by Dr. W. W. Plummer, who will show *x*-ray pictures of the digestive processes, and others. The course will continue every Sunday afternoon until March 2, when Health Commissioner Fronczak will speak on the methods of avoiding the spread of contagious and communicable disease.

New Cocain Bill.—A bill is ready for presentation to the legislature which it is believed is drastic enough to crush the illegal traffic in cocain in New York. It makes the illegal sale of the drug a felony with a seven-year penalty; the possession and traffic in flake cocain are prohibited and the drug is required to be traced from the manufacturer to the druggist. The bill limits the character of prescriptions which a doctor may give. and a physician is not allowed to prescribe the drug in the crystalline form. Thirty days after the passage of the act druggists, physicians and veterinarians must keep records, and when purchase sheets and sale lists fail to tally, it will be presumptive evidence of illegal sale, and no drug store may have more than five ounces of the drug at one time. Every effort has been made to have the bill conform to the requirements of the legitimate drug trade. The bill has the endorsement of the New York County Medical Society.

Hospital News.—The new Saratoga Hospital was formally dedicated December 28. The building, which was erected at a cost of $90,000, the money being raised by the efforts of the women of Saratoga, is of thoroughly modern construction and equipment and its staff includes the following physicians: Fred J. Resseguie, John F. Humphrey, J. B. Ledlie, Amos W. Thompson, G. Scott Towne, Earl H. King, Miles E. Varney, Henry L. Loop, James R. Swanick, W. J. Green, A. Sherman Downs, George H. Fish and M. E. Van Aernem.——Mrs. Bowne has offered $60,000 for the extension and equipment of the Bowne Memorial Hospital, Poughkeepsie.——The J. N. Adam Hospital, Perrysburg, is raising a fund to build a hospital for children suffering from tuberculosis.——The Ad Club of Rochester has announced its intention of raising $100,000 for the Infants' Summer Hospital. It has organized a stock corporation whose advertisements read as follows:

> Babies' health unlimited.
> Infants' Summer Hospital.
> Rochester Ad club, incorporators.
> Capital stock unlimited.
> All stock preferred.
> Guaranteed continuous dividends for perpetual happiness.

New York City

New Laboratory Opened.—The new physiologic laboratory of the Polhemus Memorial Clinic of Long Island College Hospital will be formally opened, January 29, at 3 p. m. The principal address will be delivered by Dr. John C. Cardwell.

New Officers.—New York Neurological Society: president, Dr. S. Ely Jelliffe; recording secretary and treasurer, Dr. C. E. Atwood.——New York Psychiatric Society: president, Dr. Charles L. Dana, New York City; secretary-treasurer, Dr. Swepson J. Brooks, Harrison.

Society Opposes Publicity.—The Williamsburg Medical Society at its meeting January 3, put itself on record as being averse to newspaper publicity. After an address on the subject, it was voted that no information should be given to the lay press concerning the meetings.

Hospital Saturday and Sunday Results.—At the annual meeting of the Hospital Saturday and Sunday Association it was announced that more than $45,000 had been received thus far, an increase over the amount collected up to this time last year. The Woman's Auxiliary reported that it had raised $11,700.

Personal.—Dr. Heinrich Riedel has, through the German Medical Society of New York, been presented with an honorary diploma by the Medical Faculty of Erlangen University, Bavaria, on the occasion of his fiftieth anniversary of his doctorate in medicine. The president of the society also presented the congratulations of the German Hospital, of which Dr. Riedel was the first house physician.

City Withholds Hospital Gift.—Four years ago the city transferred its rights in the property at Park Avenue and Sixty-Eighth Street worth several hundred thousand dollars to the Hahnemann Hospital with the understanding that the hospital should care for the poor. The Sinking Fund Commission has now decided to reconsider this transfer on the ground that the hospital is not caring for all the poor that apply. A committee of investigation has been appointed.

Lebanon Hospital Asks Funds.—A campaign is in progress to obtain $50,000 for this institution, part of which is needed to wipe out deficits in the cost of maintenance and part for improvements and new buildings. Those in charge of the Lebanon Hospital say that this is the first time in twenty-five years that this institution has made a public appeal for funds. Last year more than 4,000 patients received treatment in the hospital and over 30,000 in the dispensary. The hospital answered 2,500 ambulance calls during the year.

Medical Reserve Corps Division Organized.—The Medical Reserve Corps, U. S. Army, New York Division, was organized at Fort Jay, Governors Island, December 7, with an initial membership of two hundred. The following officers were elected: president, First Lieutenant Henry Clarke Coe; vice-president, First Lieutenant Thomas Darlington; secretary, First Lieutenant Harold Hays; treasurer, First Lieutenant H. Sheridan Baketel; councilors, First Lieutenants Arnold Knapp, Howard Lilienthal, Clarence A. McWilliams, Eugene H. Pool and John Rae.

Discontinuance of Free Antitoxin Administration.—The Department of Health of the City of New York announces that the free administration of diphtheria antitoxin by the department and the performance of intubation at the homes of the patients on request of attending physicians, will be discontinued after February 1. After that date, when it becomes necessary for the department to administer antitoxin, or to perform intubation in any case of diphtheria, the patient will be removed to one of the hospitals of the department for further observation and treatment. Diphtheria antitoxin may still be obtained, free of charge, by physicians from supply stations at drug stores, when payment for the same would be a hardship to the patient.

A Good Year for Babies.—The Babies' Welfare Association has made public a summary of the work done in 1912. While the general death-rate was reduced from 15.13 to 14.11 per one thousand of the population, or a little more than 1 per cent., the rate for infants under one year was reduced 6 per cent. There were during the year 1912, 14,289 deaths of babies under one year of age as compared with 15,053 deaths during 1911. At the same time the number of births in the city increased by 1,081. In this ratio the figures show a saving of 884 babies, and an actual saving of 764. These results are attributed to the cooperation of the eighty agencies forming the Welfare Association and not entirely to weather conditions as the mortality rates in other cities do not show such a reduction and there was no decrease in the number of deaths in the Bronx where there are only three milk stations and the social welfare work is not as well organized as in the other boroughs.

Public Health Lectures.—A series of lectures is being given by the Public Health Education Committee of the Medical Society of the County of New York with the cooperation of the New York Academy of Medicine and American Medical Association, having for its design an educational campaign which is being carried forward with the hope of lessening suffering and saving life. The lectures began January 8 and are given on alternate Wednesday evenings and Thursday afternoons. The general subject of the course is the prevention of disease and the special subjects of lectures are, the growing child; household sanitation; diseases of exposure; deafness; surgical emergencies; care of convalescent and chronic invalids; industrial hygiene; the mental growth of the child; relation of the food to development; common skin conditions; advances in modern medicine and common contagious diseases. These lectures are open to the public and no cards of admission are required.

Bureau of Clinical Information.—The Society for the Advancement of Clinical Study in New York has opened a bureau of information at the New York Academy of Medicine. This bureau will furnish visitors to New York and the local profession information which will enable them to make use of the large clinical opportunities that are always here and which have hitherto not been generally available. The members of the medical profession are requested to furnish the bureau with information regarding their clinical work which they are willing any physician should visit. Surgeons are requested to send a list of operations which they have arranged for the following day. Any information as to autopsies, laboratory demonstrations, lectures and medical clinics is also desired. The bureau is supported by funds furnished by the Society for the Advancement of Clinical Study and the medical profession is requested to lend its aid by joining the society. An attendant will be on duty daily after 9 o'clock to furnish any desired information.

NORTH CAROLINA

Change of Date of State Meeting.—On account of conflict with the meeting of the American Medical Association, the Medical Society of North Carolina has changed the date of its sixtieth annual meeting, to be held at Morehead City, from June 17 to June 10.

New Officers.—Wake County Medical Society at Raleigh, December 12: president, Dr. Hubert A. Royster; secretary, Dr. W. C. Horton, both of Raleigh.——Durham County Medical Society in Durham, December 13: president, Dr. W. N. Hicks; secretary-treasurer, Dr. Foy Robinson, both of Durham.

Physician Vindicated.—Dr. Paul Paquin, Asheville, was arrested January 4, charged with having given a prescription for whisky to a patient, December 6. The patient was a Good Government League detective who claimed to be ill with la grippe and after detailing his symptoms, and affirming that he always secured relief from the use of whisky and glycerin, was given a prescription containing these ingredients by Dr. Paquin. At the meeting of the Buncombe County Medical Society, January 6, a resolution was adopted affirming the confidence of the society in the integrity of Dr. Paquin. At the hearing before the Municipal Court, January 8, Dr. Paquin was fully vindicated by the trial justice and the police authorities were censured for presuming to call in question the right of a physician to exercise his judgment as to the nature of medicine to be prescribed for a patient.

PENNSYLVANIA

Plans for County Hospitals.—At a meeting of the Pennsylvania Society for the Prevention of Tuberculosis held January 17, draft of a bill permitting counties in the state to erect hospitals for the treatment of consumptives was approved, and the society will have the bill introduced at the present session of the legislature. The act reads that on petition of 5 per cent. of the voters of any county, the question as to the establishment of a tuberculosis hospital shall be voted on at the next general election. This is intended to make provision for the dying and bed-ridden consumptives.

Epidemic Diseases.—The schools of Millville, Columbia County, are closed as the result of an epidemic of measles, seventy-six children having the disease.——The spread of typhoid along the main line of the Pennsylvania Railroad near Ardmore has become so alarming that the board of health of the county is making a rigorous investigation of the water and milk supply. A preliminary investigation of both these supplies failed to show any infection as both were found nearly normal. A second test is being made by Dr. David W. Horn and the retail milk dealers are cooperating with the board of health, and have furnished a list of the dairies from which they receive supplies.

Philadelphia

Personal.—Dr. Richard S. Hooker was operated on for appendicitis at the Episcopal Hospital, January 10, and is making good progress toward recovery.——Dr. Samuel J. Gittelson of the staff of Mount Sinai Hospital has gone to Germany.

The President Guest of the Medical Club.—President Taft, who was in this city as the special guest of the Clover Club, attended and addressed the meeting of the Medical Club of Philadelphia, January 17. This is the second time that President Taft has been a guest of this organization.

Measles and Small-Pox.—There were 348 cases of measles reported to the Bureau of Health during the week ended January 18. The number during the previous week was 321. Scarlet fever is also spreading, 122 new cases having been reported.——Following the discovery of three cases of small-pox at 1804 Addison Street, apartment houses and private homes in the fashionable district were quarantined until all were vaccinated. All three victims were negroes, who had been employed as servants in private homes or apartments. It was a serious situation, as one of the victims had worked as heater tender in a number of homes. The fact that all three victims had never been vaccinated caused the Board of Health to issue a warning to all hotels, apartments and stores not to employ persons who are unable to show a mark of a successful vaccination. Three physicians have been stationed in the neighborhood of Eighteenth and Addison Streets to keep a careful watch over the residents. Nearly 2,000 persons were vaccinated on January 17 and 18.

New Officers.—South Side Branch of the Philadelphia County Medical Society: chairman, Dr. S. A. Loewenberg; clerk, Dr. N. Ginsburg.——Section on Otology and Laryngology of the College of Physicians of Philadelphia: chairman, Dr. Arthur A. Bliss; clerk, Dr. Ralph Butler, both reelected.——Academy of Natural Sciences: president, Dr. Samuel G. Dixon; recording secretary, Dr. Edward J. Nolan.——Medico-Pharmacal Association: chairman, Dr. M. V. Leof; clerk, Dr. H. S. Snyderman.——West Philadelphia Medical Association: president, Dr. George C. Shammo; secretary, Dr. Henry G. Munson.——Aid Association of the Philadelphia County Medical Society: chairman of the board of directors, Dr. Samuel D. Risley.——Philadelphia Pediatric Society: president, Dr. Theodore Le-Boutillier; secretary-recorder, Dr. Maurice Ostheimer.——Northern Medical Association: president, Dr. Henry Beates, Jr.: secretary, Dr. William H. Mackay.——Physicians' Motor Club of Philadelphia: president, Dr. S. Leon Gans; secretary, Dr. Howard A. Sutton.——Philadelphia County Medical Society, January 15: president, Dr. Charles A. E. Codman; secretary, Dr. William S. Wray.——Medical Club of Philadelphia, January 17: president, Dr. James C. Wilson; secretary, Dr. William S. Wray.

WISCONSIN

Municipal Hospital for Waukesha.—Through the efforts of the Waukesha City Medical Society and the Women's Clubs, a fund of $15,000 has been secured for the erection of a municipal hospital, designed to accommodate both private and city cases.

Health Insurance for Working Men.—Insurance against sickness for the working men and women, to be administered by the State Industrial Commission, and to be correlated with the administration of the Workmen's Compensation Act, is one of the plans to be worked out for presentation in the bill for the next Wisconsin legislature.

Medical Colleges Merge.—By the direct purchase of the Wisconsin College of Physicians and Surgeons and leasing the property of the Milwaukee Medical College, it is reported that Marquette University has brought about the merger of the two medical schools of Milwaukee. The new school resulting will, it is said, be developed as an organic department of the Marquette University, under the name Marquette University School of Medicine.

TEXAS

Personal.—Dr. B. R. Valls has succeeded Dr. J. M. Matthews as local surgeon of the Santa Fe System at Wharton, and Drs. J. F. Mathews and A. J. Pollard, Alvin, have succeeded Dr. R. S. Brunfield as local surgeons at Alvin.——Dr. W. H. Brown, Coffeeville, was shot from ambush, December 27, and is in a critical condition at the Kahn Memorial Hospital, Marshall.——Dr. Donald McKay, mayor of Flatonia, recently underwent operation at the Southern Pacific Hospital, Houston, and is reported to be convalescent.——Dr. W. L. Crosthwaite, Waco, has been elected secretary of the State Board of Medical Examiners, vice Dr. J. R. Mitchell, Fort Worth, resigned.

New Officers.—Bell County Medical Association at Temple, December 4: president, Dr. G. T. Thomas, Amarillo; secretary-treasurer, Dr. E. J. Burns, Temple.——Galveston County Medical Society at Galveston, January 3: president, Dr. W. F. Starley; secretary-treasurer, Dr. W. C. Fisher, Jr., both of Galveston (reelected).——North Texas District Medical Association at Dallas, December 12: president, Dr. Martin E. Taber; secretary, Dr. H. Leslie Moore, both of Dallas.——South Texas District Medical Association at Houston, December 12-13: president, Dr. John H. Foster; secretary-treasurer, Dr. E. F. Cooke, both of Houston. Galveston was selected as the next meeting place.——Fifth District Medical Association of Texas at San Antonio: president, Dr. C. C. Jones, Comfort; secretary, Dr. J. A. McIntosh, San Antonio.——Harris County Medical Association at Houston, December 20: president, Dr. S. M. Lister; secretary, Dr. E. L. Fox, both of Houston.

GENERAL

Infectious Diseases.—No notable changes with reference to epidemic infectious diseases have taken place during the past week. There seems, however, to be a rather wide-spread prevalence of these diseases in many localities. The meningitis situation in the area centering in Memphis is somewhat improved.

Hospital Ship for Fisheries.—A model has been made of the proposed hospital ship which the United States Public Health Service is endeavoring to secure to patrol the fishing grounds for the benefit of sick and injured American fishermen. It is to be a two-masted schooner, about 100 feet long. A bill is under consideration in Congress for an appropriation for its construction.

Eye and Ear Specialists Organize.—On January 7, the Louisville Eye, Ear, Nose and Throat Society was organized by eye and ear specialists of Louisville, Ky., and New Albany and Jeffersonville, Ind., with an initial membership of fifteen. Dr. Adolph Pfingst, Louisville, was elected president; Dr. W. J. Leach, New Albany, vice-president, and Dr. J. R. Peabody, Louisville, secretary-treasurer. The meetings are to take place the second Thursday of each month.

Personal.—Colonel William C. Gorgas and Major Robert E. Noble, M.C., U. S. Army, sailed from Guayaquil, Ecuador, December 24, arrived at the Panama Quarantine Station, December 28, and were released from quarantine three days later.——Dr. and Mrs. Louis Schapiro have started for their new home in Bontoc, P. I.——Dr. Willard D. Bigelow has been appointed a member of the board of food and drug inspection, vice Dr. R. E. Doolittle, resigned.

Bequests and Donations.—The following bequests and donations have recently been announced:

Montefiore Home for Chronic Invalids, New York City, $5,000, by the will of Florence Phillips.

Policlinic Hospital, New York City, $5,000, by the will of Mrs. Magdalena Hermann.

S. R. Smith Infirmary, New Brighton, S. I., $35,000, by the will of Emil F. Kipper, should Lucy I. Kipper die without issue.

New York Orthopedic Dispensary and Hospital, about $10,000, the proceeds of a concert recently given at the Waldorf Astoria.

Episcopal Hospital, Philadelphia, about $30,000, by the will of Eliza M. Fagan, contingent on her son's death without issue.

Rush Hospital for Consumptives, Philadelphia and West Philadelphia Hospital, each $5,000, by the will of Louise Laipple.

Syracuse (N. Y.) Hospital Relief Fund, $200,183.24, by subscription.

Holyoke (Mass.) City Hospital and House of Providence Hospital, Holyoke, the proceeds from the sale of a house and lot of the late George H. Munger.

Children's Free Hospital, Detroit, $5,000, from E. C. Walker and J. Harrington Walker, Walkerville, Ontario.

New Haven Hospital and Grace Hospital, New Haven, each $10,000, by the will of Amelia Lee Benedict, for free beds to be named after the heirs of the testatrix.

Samaritan Hospital, Troy, N. Y., bequests and specific legacies which will amount eventually to more than $100,000, by the will of Mrs. Charles B. Knight; $50,000 for a power and laundry building, donation by F. H. Peabody, and $50,000 for the erection of a building in memory of Mr. H. Van Schoonhoven, by Mrs. Elida Van Schoonhoven; $20,000 donations, each by Robert B. Cluett and George B. Cluett.

St. Elizabeth's Hospital, Elizabeth, N. J., $15,000, donation from the heirs of James McGuire.

Schenectady Hospital Association, $20,000, by the will of Mary F Willard.

New York *Tribune* Fresh Air Association, $50,000, by the will of Whitelaw Reid.

Massachusetts General Hospital, Boston, New England Hospital for Women and Children, Roxbury, Children's Hospital, Boston, and Massachusetts Charitable Eye and Ear Infirmary, each $5,000, by the will of Mrs. Caroline B. Allen, Dorchester.

German Hospital, Philadelphia, and Burlington County (N. J.) Hospital, each $5,000, and for the foundation of a new hospital in Riverside, $250,000, by the will of Theophilus J. Zurbrugg, Riverside.

Champlain Valley Hospital, Plattsburg, N. Y., will soon receive $200,000 endowment, by the late Loyal L. Smith.

Methodist Hospital, Philadelphia, $8,000, to endow two beds for children to be known as the Emmaretta McKinley beds, and $5,000, to endow an adult's bed; Charity Hospital, Norristown, $5,000, to establish a ward for destitute children, by the will of Emmaretta McKinley.

Jewish Hospital, Philadelphia, a contingent bequest of $5,000, by the will of Mrs. Isabella Steppecher.

Solomon and Betty Loeb Home for Convalescents, New York, $250,000, subject to the life interest of his widow, by the will of Prof. Morris Loeb.

Presbyterian Hospital, Philadelphia, was given about $318,000, December 10, by the Pennsylvania Company for Insurance of Lives and Granting Annuities, as its share in the residuary estate of the late Lady Martha E. Kortright of England.

Maternity Hospital, Albany, N. Y., a donation of $150,000, by Anthony N. Brady.

University of Pennsylvania, $50,000, for the building of two dormitories, to be called Cleeman Halls, by the will of Dr. Richard Alsop Cleeman.

Brooklyn Home for Consumptives, $10,000, by the will of J. Walter Ganz, Vineland, N. J.

Cedar Falls, Iowa, City Hospital, $25,000, for a site and construction of a building, a donation by Joseph Sartori.

Amsterdam (N. Y.) City Hospital, $6,000 and a deed of property amounting to about $4,000, by William McCleary.

Central Maine Association for the Relief and Control of Tuberculosis, $5,000, donation by Mrs. Valora A. Chase of Waterville.

Presbyterian Hospital, Philadelphia, $5,000, by the will of Elizabeth Norris Brown.

St. Mary's Hospital, Brooklyn, a donation of $100,000, by Mr. and Mrs. James Shevlin, in memory of Bishop Laughlin.

FOREIGN

Rebuilding of International Hospital at Kobe, Japan.—The International Hospital at Kobe is to be rebuilt. A piece of land on the bank of the Waterfall stream, not far from the Kobe middle school and near both the Hill and the Settlement, has been purchased and we are told that on the site it is proposed to erect a modern model hospital building.

Railroad Hospital in Mexico.—The National Railways of Mexico have definitely decided to erect a hospital for the benefit of their employees and work will commence at once. The hospital will be erected on lands belonging to the company near Popotla, a suburb of Mexico City. It will be equipped with all modern conveniences and it is expected that its two wards will have a capacity for 150 patients (*Consular Reports*, Dec. 25, 1912.)

Another Hospital for Bangkok.—The king of Siam has recently purchased a large building, known as the Himapan Park, with extensive gardens, in the northern part of Bangkok and presented it to the city for hospital purposes. The cost of the place has been given as $88,800, according to the report of Consul S. L. Crosby. The work of construction is now in progress, the funds for which, as well as for the maintenance of the hospital will be furnished by the king.

Intercollegiate Gathering of Students in South America.—The third biennial "congreso de estudiantes americanos" was held at Lima, Peru, recently. The preceding ones met at Montevideo and Buenos Aires. Among the subjects discussed at the meeting were "Preliminary Education;" "Empiricism in the Professions;" "Participation of University Students in Political Life;" "Hygiene at Universities;" "Training for University Professors," and, last but not least, "Means to Render Effective the Resolutions Passed by the Congress." The gathering, it is stated, represented the youth of eighteen nations. The medical departments sent many delegates and Dr. E. Odriozola addressed the congress on Peruvian verruga or Carrion's disease, relating the story of Carrion's devotion to science.

Honors for Baccelli and Freund.—The eightieth birthday of Guido Baccelli, professor of clinical medicine at the university of Rome and the leading statesman of Italy, is approaching and his friends are soliciting subscriptions to present him with some souvenir worthy of the occasion. Subscriptions can be sent to the Associazione della stampa, Piazza Colonna, Rome. He has kept up his clinical teaching, the faculty refusing to accept his recent resignation but granting him leave of absence with the right to appoint a substitute in his place.——W. A. Freund's eightieth birthday will arrive Aug. 26, 1913, and a number of his former pupils have issued an appeal to friends to rally to do honor to the man who conferred on humanity the boon of hysterectomy for uterine cancer. According to the total amount of the subscriptions received, it is proposed to endow a research fund at the university of Strasburg or instal a bust or tablet in the clinic where he has worked for so many years. Contributions should be sent to Professor Klein, Neu Kirchgasse 1, Strasburg, Germany.

LONDON LETTER

(From Our Regular Correspondent)

LONDON, Jan. 11, 1913.

The National Insurance Act

The failure of the policy of the British Medical Association to prevent the working of the insurance act except on the terms laid down by it was indicated in my last letter. It now appears that 15,000 physicians (more than half those available) have gone on the panels from which insured persons can choose their medical attendant. There are only a few districts in the country in which there is now any difficulty in forming a panel. Where the physicians were recalcitrant the threat of the government to introduce outside men proved sufficient. In London the opposition is stronger and more obstinate than in other places and only 759 out of the 7,000 physicians have gone on the panels. This allows an average of one physician to every 2,000 insured persons, a number which is not excessive. But in some districts of London there is only one physician to over 3,000, and, in one, to 5,000 insured persons. The act has aroused very bitter hostility in the profession and London, and independently of the British Medical Association, a strong organization has been formed to resist it. Meetings of physicians are constantly being held, and those engaged in organizing have so much work thrown on them, in addition to their ordinary professional duties, that they have to work far into the night. An attempt is being made to organize a system of medical benefit on lines more agreeable to the profession than the insurance act. The idea is to take advantage of the section of the act which allows an insured person under certain circumstances to "make his own arrangements" for medical benefit and receive as a contribution toward paying for it his capitation grant. It is hoped that if the majority of the physicians keep off the panels the "free choice of doctor" provided by the act will become a farce and the insured in their own interest will demand to be allowed to make arrangements by which they can have "their own doctors." The opposition press have taken up the agitation, and "sandwich men" are parading the streets carrying boards bearing the legend "Insist on having your own doctor." The government, however, takes the view that "free choice of doctor" means free choice of the physician on the panels and says that the making of their own arrangements by the insured is not right, but only a thing which the insurance commissioners may, for special reasons, grant or not as they see fit, and that they will not allow the machinery of the act to be broken down in this way. In London, a large meeting of physicians was called to discuss the following resolution: "We protest against the unfair methods of intimidation employed by the chancellor of the exchequer, Mr. Lloyd George, for the purpose of coercing medical practitioners to serve on panels under the insurance act, and are convinced that these methods cannot result in a service satisfactory to the insured persons." Sir Thomas Crosby, ex-Lord Mayor of London, who has been for sixty years a general practitioner, presided. About 2,000 physicians attended and the proceedings were most enthusiastic. Mr. E. B. Turner, member of the state sickness insurance committee of the British Medical Association, moved the resolution in a speech of great bitterness. He was filled with a sense of deep shame and humiliation that a gathering of a scientific and learned profession should find it necessary to impugn the conduct of a minister of the crown. The insurance act was obnoxious to the great majority of the profession and ruinous to many. Some of the most reasonable demands of the profession had been refused, not because refusal was just or right, but as a matter of political expediency. A policy of intimidation, misrepresentation and falsehood had been pursued in the press in order to induce physicians to join the panels. "Passing over all, like a malign comet, was the chancellor of the exchequer himself with a daily lengthening tail of inconsistent statements, repudiated utterances and promises unfulfilled, both to the profession and to the insured." The resolution was carried unanimously.

The final decision of the British Medical Association to reject the insurance act can be described only as a disastrous failure. The situation is well summed up in an editorial in the *Lancet*: "A year ago the policy of the British Medical Association was to a large extent shaped by a council favorably inclined toward the act and optimistic as to the future of the medical profession under it. Now the machinery of the association is almost entirely controlled by members who take an exactly opposite view." When the act was introduced it contained many defects which made it obnoxious to the profession. These have been considerably diminished, though some still remain. Many physicians while not considering the act perfect, considered that the government had made a fair offer. Hence the beginning of the schism in the association, which rapidly developed when men found themselves confronted with loss and even ruin if they refused to work the act. But all through the latter part of the struggle bitter denunciation and implacable hostility were in evidence at the local and central meetings of the association. The extreme party naturally thought they had the whole association and practically the whole profession with them, and that if they gave the signal to refuse to work the act it would have been impossible for the government to find physicians to do so, and therefore their terms would have been granted. The result is that the physicians who have been loyal to the pledge not to work the act unless except on terms approved by the association, have suffered loss. It would have been a much wiser policy to accept the act under protest and preserve the unity of the association and the profession for the purpose of securing the necessary reforms, the nature of which will be more accurately shown by the actual working of the act.

[The cable brings word, January 19, that the council of the British Medical Association decided to release its members from their pledge not to work under the national insurance act.]

Important Discovery in Tropical Medicine: Metamorphosis of Filaria Loa

An important discovery in tropical medicine has been made in West Africa by Dr. R. T. Leiper, Wandsworth scholar of the London School of Tropical Medicine He has found that the metamorphosis of *Filaria loa* takes place in the salivary glands of a fly belonging to the genus *Chrysopa*. This discovery is important, because of the large number of Europeans who become infested with this worm in West Africa. The effects are rarely fatal, but the worm travels under the skin and sometimes under the conjunctiva. The commonest result is the so-called "Calabar swelling," due to the worm's migration in the deeper parts of the limbs—in the muscles and around the tendons. In consequence of Dr. Leiper's discovery, it is hoped that the condition in which infection takes place will be determined and infection thus prevented. The members of the genus *Chrysopa* are day-biting flies and are widely distributed not only in the tropics, but also in temperate climates. The embryos of *Filaria loa* are found in the blood during the day, which is in keeping with the discovery that the disease is due to a day-biting insect. On the other hand, the embryos of *Filaria bancrofti*, the cause of elephantiasis, are found in the blood only during the night, which led Manson to the conclusion that the disease was due to a nocturnal-biting insect. The Wandsworth scholarship, the income of which enabled the London School of Tropical Medicine to send Dr. Leiper, their helminthologist, to investigate the life history of *Filaria loa* and other blood-worms, was placed at the disposal of the school about six months ago.

An International Medical Exhibition

In connection with the forthcoming International Congress of Medicine to be held in London, and recently referred to in a previous letter (The Journal, Dec 21, 1912, p. 2269), a medical exhibition is being organized which, it is said, will be the most representative professional exhibition ever held. It will exemplify (1) hospital design, construction, arrangement and equipment; (2) surgical and medical instruments and appliances; (3) sanitary and other appliances for the ward and sick room; (4) pharmaceutical preparations, chemicals, disinfectants and dietetic articles; (5) microscopes and all other apparatus used in pathology, bacteriology and other investigations or in clinical instruction; (6) appliances for the treatment of the sick and wounded in war and emergency aids for street accidents and industrial disasters; and (7) carriages and other personal requirements in professional practice. The exhibition will be held in the great hall and the two minor halls of the University of London. The committee will grant awards for the best exhibits in each section.

Remarkable Health Figures of the British Army in India

The health of the British troops in India has now reached such a standard that the sickness is officially described as the lowest humanly possible of achievement. The figures for the last twelve months are the most favorable ever recorded; sickness was only one-half of the 1905-to-1909 average and invaliding two-thirds. Medical research into tropical diseases is mainly responsible for this result. The notable features are the drop in the cases of typhoid fever and malaria. Inoculation against typhoid fever is responsible for the decline of this disease. The health of the European soldier in India is now approximating that at home; thus the ratio of constantly sick per 1,000 in India was 28.8, while at home it was 20. A few years ago the figure for India was 90.

Increased Facilities for Divorce

Divorce is a much more difficult thing to obtain in England than in the United States and is so expensive as to be practically within the reach of only the rich. An American wit in this country once said "Divorce with you is a luxury, with us it is a necessity." Certain reformers have been for some time advocating increased facilities for divorce, so as to bring it within the reach of the poor, who often suffer great hardships in consequence of the present state of the law. A royal commission, consisting of Lord Gorell, chairman (late president of the Divorce Court), Sir Frederick Treves, Mr. Thomas Burt (a labor member of Parliament), the archbishop of Canterbury and others, was appointed in 1909 to inquire into the present state of the law and its administration in divorce and matrimonial causes, and its applications for separation orders, especially with regard to the poorer classes. The report has just been issued. On some important points the commission has been unable to agree. This is mainly due to the ecclesiastical objections of a minority led by the archbishop. The majority recommend a considerable extension of the grounds for divorce. Thus at present only the husband can obtain a divorce on the grounds of adultery; for the wife to obtain divorce the adultery must be combined with cruelty. The commission recommends that whatever grounds are permitted the husband for obtaining a divorce should also be available for the wife. The majority recommend that the law should be amended so as to permit of divorce being obtained on the following grounds: (1) adultery; (2) desertion for three years; (3) cruelty; (4) incurable insanity after five years' confinement; (5) habitual drunkenness found incurable after three years; (6) imprisonment under commuted death sentence.

GROUNDS OF NULLITY

The following grounds for pronouncing a decree of the nullity of marriage are recommended: (1) when the other party is of unsound mind at the time of marriage or in a state of incipient mental unsoundness which becomes definite within six months after marriage, of which the first party was then ignorant, provided that the suit be instituted within one year of the marriage and that there has been no sexual intercourse after the discovery of the defect; (2) when the other party is at the time of the marriage subject to epilepsy or recurrent insanity and such fact is concealed from the first party, who remains ignorant of the fact at the time of the marriage, with a similar proviso to that mentioned in the previous case; (3) when the other party at the time of the marriage is suffering from venereal disease in a communicable form and the fact is not disclosed to the first party who remains ignorant of the fact at the time of the marriage, with a similar proviso to that mentioned in the first case; (4) when a woman is found to be pregnant at the time of marriage, her condition being due to intercourse with some other man than her husband and such condition has not been disclosed to him, with a similar proviso to that mentioned in the first case.

There are 150,000 registered insane persons in the United Kingdom, of whom about 70,000 are married. It is estimated that if insanity becomes a ground for divorce about 41,000 married persons would be affected. Of the 150,000 insane about 50,000 are the subjects of incurable secondary dementia; 35,000 are congenitally feeble-minded, while 20,000 are the subjects of alcoholic dementia. In the total number there are only about 1,000 with recurrent insanity, of whom 500 may be assumed to be married. About two-thirds of the inmates of asylums may be regarded as incurable and about 98 per cent. of the recoveries take place within five years.

PARIS LETTER

(From Our Regular Correspondent)

Paris, Jan. 3, 1913.

The Law and the Sale of Poisons

Public interest has been aroused by the death from morphin of a young professor of literature. Investigation shows that the morphin habit is making considerable inroads in certain intellectual circles, especially among young poets and literary men. While morphin is the favorite drug in the Latin quarter, cocain has many victims among the demi-monde of Montmartre, where the night restaurants are frequented by dealers who sell little boxes of cocain at two francs a gram. The French law, to be sure, has placed certain precautions about the sale of poisonous substances. According to the law of 1845 poisons can be sold only on the prescription of a physician or a veterinary and, in certain strictly defined cases, of dentists and midwives. The prescription must be signed and dated, and must specify the dose and method of administration. Dealers in chemical products, industrial or others, can deliver poisons only after having received authorization and only to chemists, manufacturers, etc., duly authorized to use them. Inspectors visit drug-stores and the shops and warehouses of dealers and manufacturers unexpectedly in order to ascertain if these regulations are complied with. Unfortunately these precautions are insufficient to prevent the unauthorized sale of poisons. The prefect of police has just called the attention of the inspectors of drug-stores in the Department of the Seine to the cases of druggists who sell to the public without medical prescription, often under the form of specialties, tablets or ampules containing poisonous substances such as morphin hydrochlorid, cocain, heroin, opium, etc. The prefect maintains that this sale constitutes a violation of the law even if the substances are presented under the form of specialties. As for the sale of poisons without sufficient control, the commission appointed to revise and complete the regulations for the sale of poisonous substances is about to require special accounting from every pharmacist for the purchase and sale of morphin and cocain, like that required for the purchase and sale of opium under the decree of 1908. Many poisons are sent in from abroad. Chemical houses send packages containing morphin or cocain in by mail under the guise of harmless samples. The same commission proposes to render it obligatory to declare the nature of the contents of such parcels.

The Institute of Infantile Hygiene and the Public Charities

The general administration of the public charities has protested against the creation of the Institut de puériculture at the Hospice des Enfants-Assistés under the direction of Dr. Variot (The Journal, Jan. 28, 1911, p. 283, and June 24, 1911, p. 1892) as an autonomous service to the disadvantage of the medical services, which might with equal justice demand to be made autonomous likewise. The government has recognized the justice of the complaint, and has annulled the action of the prefect of the Seine on the ground that the latter has no power to interfere with the work of the director of the public charities of Paris.

Ambulance Dogs

The experience of recent years has shown that in spite of the improvement of the army hospital corps, the number of wounded who are abandoned tends to increase. This is due to the tactical demands of modern warfare, which require combatants to shield themselves behind natural and artificial shelters, and to the necessity that the litter-bearers should not proceed to the relief of the wounded until night, during the short truce made by darkness during battles several days long. If, moreover, the litter-bearers use any kind of artificial light they furnish a target for the enemy. Such considerations have led to the use of the dog in the search for the wounded. In a previous letter (The Journal, Aug. 26, 1911, p. 751) I mentioned the method used, which has given uniformly satisfactory results. It has had the highest development in Germany. The idea originated in 1885 and has rapidly developed so that private societies and sanitary organizations could now put into service 2,000 dogs with their equipment. In France there was founded in 1908 under the initiative of Captain Tolet a Société nationale du chien sanitaire. The minister of war is considering the organization of such a service in the army. However favorably the idea may be received by the army medical service, and however liberal may be the provision for it by the government, the number of sanitary dogs possessed by the army itself will be very much below the needs of a European conflict. It would seem desirable to form an auxiliary contingent of dogs ready to be put into service of the army hospital corps at the opportune moment, as branches of the Red Cross are organized to give assistance to the wounded in time of war. The Société nationale du chien sanitaire has therefore encouraged the training and equipment of dogs by private persons. Among the advantages of this arrangement would be the avoidance of the danger of epidemics among the dogs and the placing of these dogs at distant parts of the country where they may familiarize themselves with the topography.

BERLIN LETTER

(From Our Regular Correspondent)

Berlin, Dec. 27, 1912.

Personal

Professor Ponfick, director of the pathologic institute at Breslau, will resign his position on April 1.

The Campaign Against Cancer

A proprietor of a fine arts establishment in Nuremberg has donated $12,500 (50,000 marks) for the furtherance of scientific investigation and extermination of cancer. The income is to be given each year as a prize for important service in this field in Germany. This service should be, as a rule, performed not earlier than about a year before the prize is awarded, and must represent some advance in scientific research or in prevention and treatment of cancer. The foundation will be under the management of the Nuremberg municipality. Besides the donor, the judges will be the mayor and the first district physician of Nuremberg, the director of the local municipal hospital and the dean of the medical faculty of the university of Erlangen, or another member of the faculty.

Influence of School Life on Fitness for Military Service

At the joint session of the German association for public hygiene and the Berlin society for school hygiene, the question was discussed as to the influence of the upper school grades on military efficiency. As a basis for their argument, surgeon-major Professor Schwiening and Dr. Nicholai referred to an investigation of records of 52,650 volunteers for one year in the period of 1904-06. Among these recruits, half of whom received their education in high schools and colleges, there were 65 per cent. eligible against 55 per cent. unfit. The most unfavorable conditions were found among the students from the gymnasiums and realgymnasiums, and these are followed by the realschulen, seminars and agricultural colleges. It is evident that fitness for military service decreases as the years spent in school increase; on the other hand, the unfavorable influence of the school grows less evident the longer the interval between leaving the school and entering the army.

CAUSES OF INELIGIBILITY

So far as the special cause for the unfitness is concerned, 33 per cent. of the unfit suffered from general physical debility. Diseases of the heart, lungs and nerves were more frequent among those unfit for military service than among those who are fit, while among the latter severe diseases of bones and joints, hernia and flat-foot are more prevalent. Here again the unfavorable conditions increase with the number of the years spent in school. However, it is to be considered that students attending gymnasiums come mostly from families which have for many years been identified with sedentary pursuits.

NEEDED REFORMS

While the schools are not altogether to blame for these unfavorable conditions, improvements are necessary in order to secure a better physical development. In addition to gymnastic work, games and other physical exercises in the open air should be considered, but these should not degenerate into competitive athletics with its overtraining and its attempts to beat the record. If pupils begin to practice such games already in the school, they will continue them after leaving school and thus the injurious influences of professional training will be avoided.

SCHOOL LIFE AND VISION

From the standpoint of the oculist, Surgeon-Major Nicholai discussed the injurious influences of the school, which have been known for more than a hundred years, but were first brought to general notice by the investigations of Hermann Cohn of Breslau. Compared with the essential diseases of the eye, functional disturbances on account of anomalies of refraction play a much greater rôle, as has been shown by many examinations of pupils in the last decades. The disturbances of vision increase from the primary school to the high schools and proportionately with the grade. Although the latest investigations of pupils have given somewhat better results, yet the conditions are still far from satisfactory. Among the 52,650 one-year volunteers, there were 10.3 per cent. unfit on account of defective vision, which defect takes the third place after general physical debility (36.4 per cent.), and heart disease (14.7 per cent.) Here again the highest percentage was furnished by the gymnasiums, with 47.8 per cent., while the seminars followed with 35.4 per cent. The longer the attendance at school, the more unfavorable the findings. They improve two to three years after leaving school, and later become worse again on account of the work for examinations and the professions. During the time of service there often occurs marked improvement in the acuity of vision, when the anomalies of refraction have been corrected by proper glasses. A third of all the eye defects are due to myopia, in which the gymnasiums again take the first place. There were 1.7 per cent. of ineligibles on account of short-sightedness. The provinces of Westphal and Schleswig-Holstein furnished the fewest short-sighted persons, and Saxony and Berlin the most. Among European states, Germany occupies the most unfavorable position, with 38 per cent. of myopics, as compared with 14 per cent. in Switzerland and 12 per cent. in England and France. Assuming that the standard of examinations is the same, either the hygienic conditions in our schools must be inferior or much greater requirements are placed on the pupils. A distinction should be made between ordinary school myopia, which is caused by too strenuous school work, and the progressive form, depending on a hereditary taint, which leads to higher grades of short-sightedness and even to blindness. Both forms are avoidable, but the question of prophylaxis is still unsettled. Large numbers of statistics collected by school physicians on a uniform basis are needed, and for this special courses on diseases of the eye must be provided. The eyes must be examined on the entrance of school and constant supervision of pupils with defective vision must be exercised, the amount of work at home should be diminished, afternoon study discontinued, less work in writing must be required and a longer stay in the open air in play and sports is necessary, and the parents must be instructed as to unsuitable conditions at home, which are often to blame for much of this evil. To this must be added a supervision of the young people after leaving school until they have entered on their business career or chosen proper professions. There should be legal regulation of this matter in order to secure better conditions in regard to vision, which is of the greatest importance not only for the military service, but for the prosperity of the entire nation.

Official Investigation of the Reduction in the Birth Rate

As I reported some time ago, the Prussian government has instituted a collective investigation to be conducted, among other agencies by the medical chambers, on the cause of the reduction of births in Germany. The medical chamber of Saxony is the first one to express its opinion, which is as follows: There are no indications of a decline in fertility. The reduction in births is not limited to certain classes of the population. It does not depend on unfavorable hygienic conditions, although a certain influence of the spread of venereal diseases is possible. The reduction depends on a voluntary limitation of the number of children. This old custom among the peasantry has been introduced in late years also in the other classes of population. Comfort, luxury and love of pleasure are the main causes of this with which go the fear of interruption of the earning capacity and often the desire to keep the inheritance intact, and probably also the higher cost of living and confined living quarters. Neomalthusianism plays scarcely any rôle in the reduction of the birth rate, but advertisements and display of means for preventing conception certainly cooperate, as also the lectures held by the nature-cure societies.

VIENNA LETTER

(From Our Regular Correspondent)

Vienna, Jan. 4, 1913.

Austrian Statistics of Births and Deaths

The Austrian Central Committee for Statistics has just published part of the results of the last census taken two years ago, dealing chiefly with the first decade of this century. The number of marriages has increased, but not in proportion to the increase of population. The number of children born living has decreased absolutely; this is observed in numerous other countries, too. In 1910 alone there were 25,000 births less than the year before. The number of deaths also decreased, a welcome proof of the improvement of hygienic conditions. Austria, with its 30,000,000 inhabitants, stands between Hungary and Germany as regards the fall of the birth-rate and death-rate. It is interesting to note that the number of births increases more and more as one goes southward. In the extreme south where mostly Slavic nations live, there is an absolute and continual increase in the number of births, while in the intellectual and industrial centers and in the various capitals of our provinces it is continually falling.

Conflicts in Regard to Contract Practice

Ever since the radical change of the conditions of living has made itself felt in this part of Europe, the relations between the Krankenkassen or sick-benefit clubs and their appointed physicians have been far from peaceful. Owing to the fact that these clubs are the result of a rather antiquated national insurance law which is no longer adapted to modern conditions of life, the physicians have been rather handicapped in their fight. But now an organization of medical men has been effected after very hard struggles, and about 90 per cent. of all practitioners in the larger towns and important rural districts of the chief provinces belong to it. Every now and then a local conflict has arisen, mostly from petty reasons, and has been temporarily allayed. But now the sick-benefit clubs also have united into one powerful corporation, the Verband der Krankenkassen. This club has about 500,000 members and about 500 physicians. The membership is compulsory, at present, for all who are wage-earners, without regard to the size of salary, according to the law. The profession is now endeavoring to secure a new law, restricting compulsory membership to a yearly income of $600; it also supports every boycott of an appointment to a sick-benefit club, if the conflict has arisen from the demand of the physician for better payment or for ethical reasons. At present over 120 physicians have given notice to the Verband that they will no more serve on the old terms, and newcomers are kept away effectively by the organization. The terms still in force work out a ridiculously low remuneration in many instances, 4 to 6 cents for a consultation in the physician's office, and the amount of administrative work is so pressing that a good deal of the physician's time is taken up by it. The physicians demand either a fixed fee of about 20 cents per consultation in the office or the free choice of physicians at reduced private rates. The conflict is at present *sub judice;* the Verband has not accepted the notification of resignation of the appointments and claims damages from the physicians. But it seems that, however this litigation is settled, the position of the clubs is untenable in consequence of the united resistance of the profession. In one town the actual strike of the physicians has forced the sick-benefit club to come to reasonable terms. This victory will prompt the profession to hold out until the battle is won everywhere.

Miscellany

College Athletics in After-Life.—In answer to the question "Does the physical training of the college athlete better fit the business or professional man for his after-life?" Harlow Brooks, in a paper read before the New York Medico-Surgical Society, says that he has had frequent opportunity to test this question during a period of fifteen years. As medical officer of a regiment of the national guard composed largely of ex-college men, he has had opportunity to examine them and to oversee their military work anywhere from five to fifteen years after they have left college. During one year he examined in this organization twelve different men, all at one time famous as college football players, six of them captains of their teams. These men were subjected to the same work and the same physical tests as men who had passed through their college course without particular athletic distinction or who had never been in college. Of these twelve famous athletes only one could be rated physically up to the average of the men of his own age. This one subsequently died in the early thirties of diabetes mellitus. Brooks says that similar conditions obtain with regard to men who were active in other college sports, and that the defects become even more marked in trackmen and in oarsmen particularly, but appear in the least degree in baseball players. He says that the experience of other physicians connected with athletic clubs is similar to his and that the distinguished college athlete after ten years of severe business life is below the average man physically, and also in the measure of his resistance against disease. He may even fall below the level of the entirely non-athletic man. The defects, as Brooks has observed them, are confined chiefly to lesions or disturbances of the heart and other circulatory organs, to adiposity or to joint-disease. Brooks attributes this largely to the fact that these athletes, when they engage in business, must largely give up their athletic exercises, and it is the law of physiology that a useless tissue deteriorates rapidly.

The physical descent of the crack college athlete, Brooks believes, is much more rapid than that of the purely untrained man who has exercised during his youth for pleasure or for benefit alone and who has had no records to maintain.—Harlow Brooks in *Am. Pract.*

Breast-Nursing, Nasal Obstruction and Orthodontia.—The relation of breast-nursing and consequent perfect nutrition in early infancy to proper facial development and the prevention of nasal obstruction is one to which more attention might profitably be paid. W. H. Haskin (*Laryngoscope*, November, 1912, p. 1237) calls attention to this subject and shows that proper early attention by the rhinologist and the orthodontist may obviate many serious developmental defects about the head and face which will not only make better-looking persons but will vastly improve the development and the health of the whole organism. Haskin calls attention to the fact that mouth-breathing with defective chest development, facial asymmetry, impacted teeth and nasal obstruction, and even, according to W. F. Daly, a train of ills in the eye and its adnexa, such as the various heterophorias and anomalies of muscular dynamics, with resultant loss of vision in one eye in many cases, all may be the result of mouth-breathing due to adenoids. The adenoids, in their turn, are due to defective nutrition on account of artificial feeding or deficient breast-nursing. The moral which Haskin draws is that physicians should pay more attention to prenatal and postnatal conditions, the latter including breast-feeding and the earliest tendencies toward mouth-breathing. Adenoids which have developed through faulty nutrition should be removed, and defects in the development of the dental and palatal arches attended to. Deviations of the nasal septum, Haskin shows, are due to impacted teeth and defective development of the dental arches and, as he demonstrates by illustrative cases, these defective nasal septa may be corrected by spreading the dental arch and other orthodontic treatment to secure proper dental occlusion and straightening up of the teeth. These effects may be produced even after the eruption of the second set of teeth has been partially completed. The improvement of features by the plastic work of the orthodontist is sometimes really remarkable, and the possibilities in this direction should be a sufficient encouragement to parents to have their children looked after in this respect even though no serious detriment to the development of the child otherwise has occurred on account of deflected septa, impacted teeth, malocclusion, etc. The theory of Haskin, which he seems to substantiate in his paper, that most of this defective development is dependent on a lack of maternal nursing, is highly interesting and important.

Marriages

Charles Glenn Baird, M.D., Mount Vernon, Iowa, to Miss Margaret Mary Blythe of Williamsburg, Iowa, December 31.

Roderick Gambrell Lander, M.D., Lone Oak, Texas, to Miss Mary Elizabeth Ford of Dallas, Texas, January 1.

Raymond C. Creasy, M.D., Wilkes-Barre, Pa., to Miss Leonore A. Waldon of Philadelphia, January 3.

Hardy Lewis McCubbin, M.D., to Mrs. Cora A. Cooper, both of Turlock, Cal., in San Francisco, December 31.

Henry P. Linner, M.D., Minneapolis, to Miss Amanda E. Anderson of Ishpeming, Mich., December 31.

John M. Mallow, M.D., Lebanon, Texas, to Miss Edna Covington of Frisco, Texas, December 18.

William K. Ruble, M.D., Martinsville, Ohio, to Mrs. Stella West of Wilmington, Ohio, December 24.

David C. Pierpont, M.D., Ironwood, Mich., to Miss Anna Heller of Menominee, Wis., January 4.

Moses J. Fine, M.D., New York City, to Miss Lillian G. Eiddelman, in Brooklyn, December 31.

Daniel L. Scanlan, M.D., Volga, S. Dak., to Miss Dahl, in Minneapolis, December 31.

Louis Schapiro, M.D., Bontoc, P. I., to Miss Matie Meyer of Chicago, December 26.

Deaths

Nelson Asath Drake, M.D. Rush Medical College, Chicago, 1868; a member of the American Medical Association; ex-president of the Jackson County Medical Society; a member of the American Association of Railway Surgeons; a member of the surgical staff of the University Hospital, Kansas City, Mo., and of the consulting staff of the German Hospital; local surgeon for the Rock Island System; a veteran of the Civil War; one of the founders, and for a time editor, of the Kansas City *Medical Index*; died at his home in Kansas City, January 9, from nephritis, aged 70.

Hugo R. Arndt, M.D. Cleveland University of Medicine and Surgery, 1869; of Cleveland; formerly professor of materia medica in the University of Michigan Homeopathic College, Ann Arbor, and of theory and practice of mental and nervous diseases in the Hahnemann Medical College of the Pacific, San Francisco, field secretary of the American Institute of Homeopathy and editor of the *Homeopathic Journal;* died in the Huron Road Hospital, Cleveland, January 2, from pneumonia, aged 66.

William Warner Hoppin, M.D. College of Physicians and Surgeons, New York City, 1864; assistant surgeon of volunteers during the Civil War; a practitioner of law since 1889; from 1877 to 1891 a trustee of his alma mater; formerly a member of the board of governors of the Woman's Hospital in the State of New York and at the time of his death one of the governors of the New York Hospital; died at his home in New York City, January 3, aged 74.

Benjamin Franklin Kierulff, M.D. Rush Medical College, 1867; a surgeon in the Franco-Prussian War; formerly local surgeon of the Chicago and Northwestern system at Marshalltown, Iowa; surgeon of the Second Brigade, Iowa N. G.; consulting oculist and aurist to the Emergency Hospital, Eldora; died at his home in Los Angeles, January 4, from intestinal disease, aged 73.

Matthew Marvin, a matriculant of Rush Medical College in 1847, and a practitioner of Warren and Galena, Ill., for ten years or more; thereafter an attorney; who had served as county judge in Jo Daviess and Stephenson counties, Ill., and as city attorney of Freeport for ten years; died at his home in that city, December 11, from senile debility, aged 91.

Robert Eddy Bell, M.D. New York University, New York City, 1883; a member of the American Medical Association; a surgeon of volunteers during the Spanish-American War with service in Cuba; prominent in the organization of the ambulance corps of the Massachusetts Volunteer Militia; died at his home in Lowell, January 4, aged 52.

Edward K. Shirley, M.D. Homeopathic Medical College of Missouri, St. Louis, 1883; aged 57; a member of the Illinois State Medical Society; of White Hall; slipped and fell on an icy sidewalk, January 10, and while unconscious from the fall, rolled from the sidewalk into the gutter and drowned in the water standing there.

Raymond H. Pillow, M.D. Jefferson Medical College, 1876; a member of the American Medical Association and Baltimore and Ohio Association of Railway Surgeons; local surgeon at Butler, Pa., for the Baltimore and Ohio system; died at his home, January 10, from secondary processes incident to cerebral hemorrhage, aged 59.

Willard Ide Pierce, M.D. New York Homeopathic Medical College, 1891; professor of materia medica in his alma mater; a member of the New York Academy of Pathological Science, and visiting physician to the Flower Hospital; died suddenly at his home in New York City, January 8, from heart disease, aged 56.

William Louis Rabe, M.D. Rush Medical College, 1866; a member of the American Medical Association, Illinois State Medical Society and Livingston County Medical Society; also a graduate of McCormick Theological Seminary, Chicago; died at his home in Dwight, Ill., January 13, from pneumonia, aged 73.

Ianthus Clyde Perkins, M.D. Hospital College of Medicine, Louisville, Ky., 1905; a member of the Kentucky State Medical Association; a practitioner of Grant; who was obliged to go to the Southwest six months ago on account of tuberculosis; died from that disease, January 2, in El Paso, Texas, aged 33.

Abram Goodfellow, M.D. Michigan College of Medicine and Surgery, Detroit, 1902; a member of the Michigan State Medical Society; formerly supervisor of Genesee County; died at his home in Clio, January 6, from cerebral hemorrhage, aged 51.

William Foree Beard, M.D. University of Louisville, Ky., 1858; a member of the Kentucky State Medical Association; a surgeon in the Confederate service during the Civil War and a trustee of the Kentucky Confederate Home; died at his home in Shelbyville, January 9, from heart disease, aged 77.

John Wesley Carson, M.D. Western Reserve University, Cleveland, 1892; a member of the American Medical Association; local surgeon for the Lake Shore and Michigan Southern Railroad at Bergholz, Ohio; died at his home, January 5, from angina pectoris, aged 50.

Joseph Red Stuart, M.D. Jefferson Medical College, 1890; a member of the American Medical Association; proprietor of the Houston (Texas) Infirmary; was instantly killed in a collision between his automobile and a wagon, near Houston, January 12, aged 44.

William Batchelor Bradner, M.D. College of Physicians and Surgeons, New York City, 1857; who had been an invalid for twenty-two years on account of cerebral hemorrhage; died at his home in Englewood, N. J., October 5, from chronic nephritis, aged 78.

Doke Gentle, M.D. St. Louis University, 1908; of New Franklin, Mo.; a member of the American Medical Association; who was operated on for appendicitis in St. Anthony's Hospital, St. Louis, December 25; died in that institution January 6, aged 26.

Thomas Clinton Baldwin, M.D. University of Maryland, Baltimore, 1894; for several years health officer of Whitehall, Md., and later health commissioner of York, Pa.; died at his home in White Hall, January 3, from nephritis, aged 44.

William Cosby Paschal, who retired from practice more than forty years ago; for six years president of the Mercer University board of trustees, Macon, Ga.; died at his home in Dawson, Ga., October 26, from cerebral hemorrhage, aged 74.

Willard H. Titus, M.D. Hahnemann Medical College, Chicago, 1874; a member of the Wisconsin State Medical Society and an enthusiastic student of Indian ethnology; died at his home in Oshkosh, January 7, from influenza, aged 65.

Keran O'Brien, M.D. Long Island College Hospital, Brooklyn, 1901; a member of the Medical Society of the State of New York; at one time physician at the schoolship *Newport*; died at his home in East New York, January 6.

William Elza Green, M.D. Eclectic Medical Institute, Cincinnati, 1872; died at his home in Little Rock, Ark., January 5, from the effects of a gunshot wound, self-inflicted, it is believed, with suicidal intent, aged 68.

William Patch, M.D. Western Reserve University, Cleveland, 1885; formerly a member of the American Medical Association; for many years a practitioner of Coleta, Ill.; died in the Watertown State Hospital, January 2.

Lewis Haines Crothers, M.D. University of Pennsylvania, Philadelphia, 1899; formerly a member of the surgical staff of the Chester (Pa.) Hospital; died at the home of his mother in Upland, Pa., January 1, aged 35.

David G. Morris (license, Wisconsin, 1899); a member of the Wisconsin State Medical Society; for fifty-nine years a practitioner of Sharon, Wis.; died at his home, December 31, from hypostatic pneumonia, aged 78.

James Gibson, M.D. College of Physicians and Surgeons, Chicago, 1886; for twenty-eight years a practitioner of Janesville, Wis.; died at the home of his sister in that city, January 6, from heart disease, aged 47.

Virgil Corydon Taylor Kingsley, M.D. University of Michigan, Ann Arbor, 1883; a member of the American Medical Association; died at his home in Danville, Ill., January 10, from meningitis, aged 55.

Charles F. Sager, M.D. Columbus (Ohio) Medical College, 1884; formerly a practitioner of Leavenworth, Kan.; died in a hospital in Kansas City, Kan., January 3, from cerebral hemorrhage.

John A. Burlington, M.D. Baltimore Medical College, 1890; a member of the Medical Society of the State of Pennsylvania; died at his home in Duryea, December 31, from pneumonia, aged 55.

Waine Sims, M.D. Reform Medical College of Georgia, Macon, 1857; for fifty-five years a practitioner of DeKalb County, Ga.; died at his home in Crosskeys, January 3, from senile debility, aged 80.

Richard Sigmonde Hau Saloman, M.D. College of Physicians and Surgeons, Chicago, 1906; a member of the Illinois State Medical Society; died at his home, January 6, from myelitis, aged 28.

Andrew Truax Veeder, M.D. Albany (N. Y.) Medical College, 1863; formerly of Schenectady, N. Y.; a retired practitioner of Pittsburgh, Pa.; died at his home, January 4, aged 70.

William H. Shank, M.D. Cincinnati College of Medicine and Surgery, 1890; a member of the Ohio State Medical Association; died at his home in Burton, recently, aged 50.

James Peter Oliver, M.D. Tulane University, New Orleans, 1859; a member of the State Medical Association of Texas; died at his home in Caldwell, November 30, aged 75.

Elmer Claude Stanley, M.D. Drake University, Des Moines, Iowa, 1902; a member of the Iowa State Medical Society; died at his home in Des Moines, January 2, aged 38.

Joseph Tully Winlock, M.D. Jefferson Medical College, 1867; a Confederate veteran; died at his country home near Hiseville, Ky., November 27, from nephritis, aged 69.

Thomas Jenkins (license, examination, Tennessee, 1889); of McBurg, Tenn.; was drowned while trying to ford a flooded creek, near his home, January 6, aged 45.

M. F. Jerrolds (license, Tennessee, 1889); a surgeon of volunteers during the Civil War; died at his home in Jearoldstown, January 5, from senile debility, aged 91.

Edward Maurice May, M.D. College of Physicians and Surgeons, Keokuk, Iowa, 1893; died at his home in Mount Zion, Ill., November 2, from uremia, aged 44.

Leo John Steger, M.D. University of Tübingen, Germany, 1861; died at his home in Egypt Mills, Mo., January 3, from cerebral hemorrhage, aged 70.

Theodore Millspaugh, M.D. College of Physicians and Surgeons, New York City, 1861; died at his home in Wallkill, N. Y., December 12, aged 74.

M. Ware, M.D. Northwestern University Medical School, Chicago, 1875; died at his home in Oakland, Kan., December 2, from nephritis, aged 69.

Edward Lawrence Casey, M.D. University of Maryland, Baltimore, 1905; died at his home in North Woodstock, N. H., December 10, aged 30.

James Lewellen (license, Arkansas, 1903); for many years a practitioner of Mabelville, Ark.; died at his home in that place, January 6, aged 76.

Alvin T. Henton (license, Illinois, years of practice, 1878); a practitioner of Bloomington since 1891; died at his home, January 6, aged 64.

Orla Stair Bailey, M.D. University of Michigan, Ann Arbor, 1882; died at his home in Lansing, Mich., December 25, from nephritis, aged 53.

William A. Grove (license, Illinois, years of practice, 1877); a pioneer practitioner of Henry County; died at his home in Galva, January 9.

Robert Dempsey Boyd, M.D. Rush Medical College, 1878; died at his home in Chicago, January 9, from valvular heart disease, aged 67.

Evert James Bergen, M.D. New York University, New York City, 1887; died at his home in Washington, N. J., December 22, aged 66.

Louis T. Beemer (license, years of practice, Illinois, 1889); of Effingham; died in St. Anthony's Hospital, in that city, January 2.

Simon Goldmann, M.D. Imperial-Royal University, Vienna, Austria, 1889; died at his home in Pittsburgh, Pa., December 14, aged 49.

Hartley Spinney Jacques, M.D. New York University, New York City, 1887; died at his home in Halifax, N. S., November 11, aged 54.

Isaiah Bee, M.D. Cleveland Medical College, 1860; died at his home in Princeton, W. Va., November 15, from senile debility, aged 81.

Peter Eppler, M.D. Northwestern University Medical School, Chicago, 1867; died at his home in Pontiac, Ill., November 3, aged 72.

Franklin Potts (license, Nebraska, 1899); of Kearney; died in the Masonic Home, Plattsmouth, December 21, aged 77.

Willis Wallace Carson (license, Oklahoma, 1908); of Boynton; died suddenly in that place, December 28.

James Charles McKenna, M.D. Harvard Medical School, 1898; died at his home in Boston, December 13.

A. L. Maple (license, Oklahoma, 1908); died in Oklahoma City, January 3.

The Propaganda for Reform

In This Department Appear Reports of the Council on Pharmacy and Chemistry and of the Association Laboratory, Together with Other Matter Tending to Aid Intelligent Prescribing and to Oppose Medical Fraud on the Public and on the Profession

COUTANT'S FRAUDULENT DEAFNESS CURE

A Fakish Concern Conducted by an Individual With an Unsavory Reputation

George E. Coutant, M.D., conducts a fraudulent "cure for deafness" concern from two addresses in New York City, 1215 Broadway and Station E, Post Office. The business is conducted on the mail-order plan by methods common to fakes of this type. Victims are obtained in the usual way—advertisements in such newspapers and other publications as are not above sharing in the profits of quackery. Coutant went to New York City ten or twelve years ago. Before that time he had practiced in the towns of Poughkeepsie, N. Y., and Dobbs Ferry, N. Y.

After settling in New York City, Coutant advertised for some time from the same address as that of "Woods' Cure for Drunkenness"[1] and the "Koskott Laboratory" cure for baldness, and it is said that he is identified with both these concerns. His connection, whatever it may be, with the "cure for baldness" is, naturally enough, kept from the public; a glance at his picture will show why.

It may be remembered that at the time Ehrlich's salvarsan ("606") was first introduced in this country, blatant advertisements were inserted in the newspapers all over the United States by a New York concern styling itself the "'606' Laboratories."[2] This wretched fraud, which advertised "One Dose Cures, All Symptoms Removed in Two Days," was owned by one James H. Scott. Coutant was the professional renegade who administered the drug and shared the profits of Scott's quackery. The New York authorities prosecuted Scott who, it is said, has discontinued the business which is now being conducted under the name of "Dr. G. N. Bancker."

In addition to his connection with this unsavory outfit, Coutant is said to have been more or less closely identified with such frauds as the Force of Life Co.,[3] which the federal authorities put out of business a few years ago, with old Dr. Hale on Fourteenth Street, New York City, and with two medical mail-order fakes, Kotalko Inc., at 1215 Broadway and the All Day Cure Co., 534 Sixth Avenue.

ANSWERING THE ADVERTISEMENT

Those who answer Coutant's advertisements are sent a thirty-two-page pamphlet entitled "A Treatise for Those Troubled With Deafness." In it Coutant declares, as his "positive belief," that he has discovered "the most efficacious general system for treating catarrhal deafness and head-noises which is obtainable anywhere in the world." Like so many advertising quacks, he attempts to defend his method of going to the public. No matter how skilful a physician may be, says Coutant, he "must remain in the same oblivion as the stupid doctor"—unless he advertises!

> "Even if he could accomplish wonders in any branch of therapeutics, he must, according to the old system, plod along depending on the recommendations of patients."

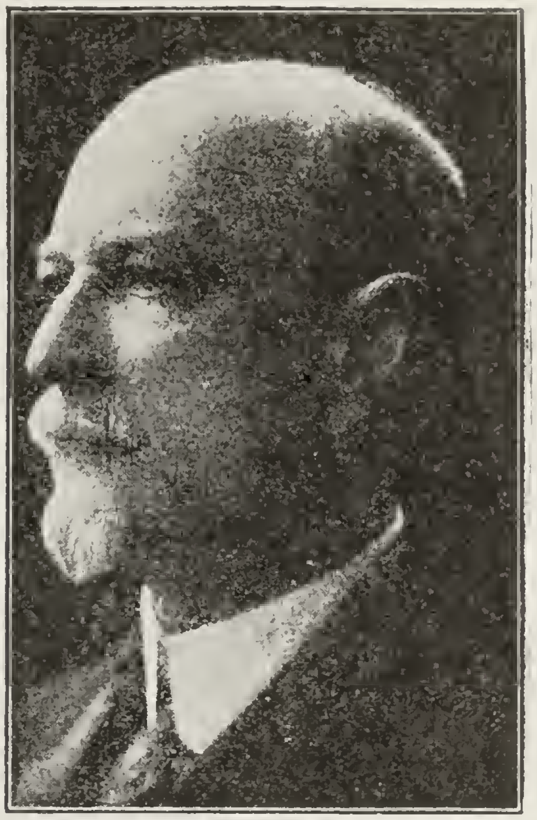
For a man who does not stick to facts, Coutant's memory is short, for a few pages farther on in his pamphlet, where he wishes to make an entirely different point, he says:

> "Most of the good aurists are very busy practitioners."

In 1910 and 1911, Coutant fabricated even more boldly than he now does. Probably the activity of the fraud-order department of the post-office has made him more wary. A comparison of a few sentences taken from his earlier follow-up epistles with those he sends out to-day will make this clear:

1910	1912
"You could not write to any other medical specialist who *could* treat your case *as* effectively as I can."	"You could not write to any other medical specialist who *would* treat your disorder *more* effectively than I can."
"Fully 95 cases out of every 100 are *curable*."	"Fully 95 cases out of every 100 are *amenable to being benefited*."
"You may look forward with hope and joy to a *complete and lasting cure*."	"You may look forward with hope and joy to a *notable benefit*."

"It is far from my nature and disposition to boast," confides Coutant; in fact, "if I had not become a physician I should have been a clergyman. I am inherently conscientious. . . ." And, modest violet that he is, he goes on to say:



G. E. Coutant, M. D.

Fig. 1.—Like so many quacks, Coutant is fond of publishing his picture. Side view and full view, his picture appears scattered promiscuously throughout his "literature." A glance at the picture here reproduced will explain why the alleged connection of Coutant with the Koskott "cure for baldness" is kept in the background.

> "I know the only satisfactory method of conquering deafness."
>
> "I am well learned and experienced in general medical practice."
>
> "I have successfully treated . . . rheumatism, sciatica, lumbago, gout, neurasthenia, nervousness, loss of vigor, general weakness, catarrh, asthma, hay fever, bronchitis, epilepsy, piles, female disorders, eye troubles, children's chronic ailments and numerous other ills to which flesh is heir."
>
> "I truly believe I am the one who is, by far, doing the most good."
>
> "I am fair spirited and courteous."

And so on *ad nauseam.* In addition to the booklet, Coutant sends, to those who write him, the first "letter" of his follow-up series. This is a four-page communication, printed in purple ink and in imitation of typewriting, with the name of the person to whom it is addressed filled in to match. It tells of the wonderful results that may be expected if the patient takes the treatment—for which $10 is asked. The prospective victim is urged to send the money at the earliest possible moment, for:

> "The probability is that if you put off answering this letter and write to me later, I shall have raised my fee so that you must pay fifty dollars. Yet, I ask you to send only ten dollars with your letter. Do not put this aside, dear Friend. IT MEANS SO MUCH TO YOU."

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[1] Edward J. Woods' Fraudulent "Cure" for Alcoholism, Propaganda for Reform Department, The Journal A. M. A., Feb. 17, 1912, p. 502; also reprinted in pamphlet form, price 4 cents.

[2] Advertising Salvarsan to the Public, Miscellany Department, The Journal A. M. A., Feb. 11, 1911, p. 436.

[3] See Turner Obesity Cure, Propaganda for Reform Department, The Journal A. M. A., June 22, 1912, p. 1961.

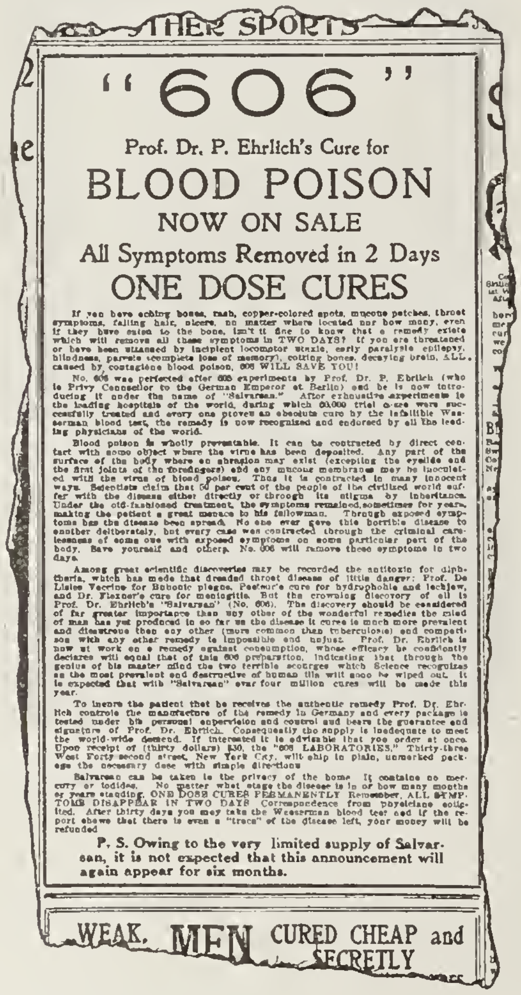
He would have been nearer the truth had he said: The probability is that if you put off answering this letter long enough I will lower my price to $3! But of this, more later.

If his first letter is ignored, follow-up Letter 2 arrives five days later. This is marked "personal" and commences:

> "*Esteemed Correspondent:*—The accompanying 'photograph gallery' will interest you, as well as the other particulars that are herein given. The notable success of my system of self-treatment at home is upsetting the old notion . . ."

And so on. The "photograph gallery" referred to is a list of testimonials with pictures of those giving them. Nothing is said in the second letter about the price. If this letter, too, is not answered, in twelve days comes Letter 3. This has a little more of the personal touch although it, too, is printed in imitation typewriting. The name of the person to whom it is addressed is filled in and so is the date. In the body of the letter this paragraph, too, has been put in by Coutant's girl typists:

> "I would like to make you, Mr. ————, the happiest man in Chicago. Will you let me do it?"



"606"

Prof. Dr. P. Ehrlich's Cure for

BLOOD POISON

NOW ON SALE

All Symptoms Removed in 2 Days

ONE DOSE CURES

If you have aching bones, rash, copper-colored spots, mucous patches, throat symptoms, falling hair, ulcers, no matter where located nor how many, even if they have eaten to the bone, isn't it fine to know that a remedy exists which will remove all these symptoms in TWO DAYS? If you are threatened or have been attacked by incipient locomotor ataxia, early paralysis epilepsy, blindness, paresis (complete loss of memory), rotting bones, decaying brain, ALL caused by contagious blood poison, 606 WILL SAVE YOU!

No. 606 was perfected after 605 experiments by Prof. Dr. P. Ehrlich (who is Privy Counsellor to the German Emperor at Berlin) and he is now introducing it under the name of "Salvarsan." After exhaustive experiments in the leading hospitals of the world, during which 60,000 trial cases were successfully treated and every one proven an absolute cure by the infallible Wasserman blood test, the remedy is now recognized and endorsed by all the leading physicians of the world.

Blood poison is wholly preventable. It can be contracted by direct contact with some object where the virus has been deposited. Any part of the surface of the body where an abrasion may exist (excepting the eyelids and the first joints of the forefingers) and any mucous membranes may be inoculated with the virus of blood poison. Thus it is contracted in many innocent ways. Scientists claim that 50 per cent of the people of the civilized world suffer with the disease either directly or through its stigma by inheritance. Under the old-fashioned treatment, the symptoms remained, sometimes for years, making the patient a great menace to his fellowman. Through exposed symptoms has the disease been spread. No one ever gave this horrible disease to another deliberately, but every case was contracted through the criminal carelessness of some one with exposed symptoms on some particular part of the body. Save yourself and others. No. 606 will remove these symptoms in two days.

Among great scientific discoveries may be recorded the antitoxin for diphtheria, which has made that dreaded throat disease of little danger; Prof. De Lisle's Vaccine for Bubonic plague, Pasteur's cure for hydrophobia and lockjaw, and Dr. Flexner's cure for meningitis. But the crowning discovery of all is Prof. Dr. Ehrlich's "Salvarsan" (No. 606). The discovery should be considered of far greater importance than any other of the wonderful remedies the mind of man has yet produced in so far as the disease it cures is much more prevalent and disastrous than any other (more common than tuberculosis) and comparison with any other remedy is impossible and unjust. Prof. Dr. Ehrlich is now at work on a remedy against consumption, whose efficacy he confidently declares will equal that of this 606 preparation, indicating that through the genius of his master mind the two terrible scourges which Science recognizes as the most prevalent and destructive of human ills will soon be wiped out. It is expected that with "Salvarsan" over four million cures will be made this year.

To insure the patient that he receives the authentic remedy Prof. Dr. Ehrlich controls the manufacture of the remedy in Germany and every package is tested under his personal supervision and control and bears the guarantee and signature of Prof. Dr. Ehrlich. Consequently the supply is inadequate to meet the world-wide demand. If interested it is advisable that you order at once. Upon receipt of (thirty dollars) $30, the "606 LABORATORIES," Thirty-three West Forty-second street, New York City, will ship in plain, unmarked package the necessary dose with simple directions.

Salvarsan can be taken in the privacy of the home. It contains no mercury or iodides. No matter what stage the disease is in or how many months or years standing, ONE DOSE CURES PERMANENTLY. Remember, ALL SYMPTOMS DISAPPEAR IN TWO DAYS. Correspondence from physicians solicited. After thirty days you may take the Wasserman blood test and if the report shows that there is even a "trace" of the disease left, your money will be refunded.

P. S. Owing to the very limited supply of Salvarsan, it is not expected that this announcement will again appear for six months.

Fig. 2.—A typical advertisement of the "606 Laboratories" with which Coutant was connected.

Of course, Coutant, himself, never sees these letters after the proof has once gone to the printer. Even his signature is printed and the filling in is done by girl typists. If Letter 3 fails to extract the cash—and, by the way, nothing is said about the price of the treatment in this letter—Letter 4 may be looked for about three weeks later. This commences:

> "*Dear Friend:*—I feel prompted to send you this letter to-day because I do not believe that you wrote me originally out of mere curiosity and I am, therefore, somewhat mystified as to the reason why I do not receive your order for my Home Treatment."

If this, too, fails to capture the victim, Letter 5 arrives three weeks later. Thus:

> "*Esteemed Friend:*—If I were to pin a five-dollar bill to this letter, you would acknowledge it as a nice present, yet it would be no more liberal than what I now propose. Let me send you my Treatment (as described and specified in my treatise) for half its price—only five dollars. . . ."

Three weeks more elapse and then Coutant's mailing force sends form-letter No. 6:

> "*Dear Friend:*— . . . From my previous letters you may have learned how deeply interested I am in you and how anxious I am to aid you and even went so far as to offer to send you a Home Treatment Set upon receipt of half the regular fee . . . It may be inconvenient to spare the sum of five dollars in one remittance and as a special favor to you I am willing to accept one dollar now and allow you to pay the balance ($4.00) when you receive the Home Treatment Set. I know you will concede that this is a very liberal arrangement for you . . ."

A month later—if the bait is still untouched—comes Letter 7 of the series. In it Coutant surmises that financial reasons may account for the "Esteemed Recipient" not having ordered the treatment. Hence:

> "Let me now make your mind easy on the financial side of the question. I want to cure you and do not intend to let you lose the opportunity of taking my treatment merely because you are unable to send me ten dollars monthly. I make an offer to you now which I am confident you will not delay in accepting. I want you to send me ONLY THREE DOLLARS for a month's Treatment . . ."

This is the last of Coutant's series. If he fails to get the three dollars finally asked for, he charges up the postage and advertising matter to "profit and loss," removes the name from his mailing-list and, presumably, sells it to letter brokers or to other quacks in the same line of business.

Coutant's mailing system may be summarized as follows:

First letter, initialed GEC/A........	Asks $10.
Second letter, initialed GEC/Ax-1...	Mentions no price.
Third letter, initialed GEC/B.......	Mentions no price.
Fourth letter, initialed GEC/C.......	Still asks $10.
Fifth letter, initialed GEC/D........	Asks $5 down and $5 after cure.
Sixth letter, initialed GEC/E........	Asks $1 down and $4 when treatment is received.
Seventh letter, initialed GEC/F....	Asks $3.

THE "TREATMENT"

Should the patient send in ten or five dollars or three dollars, as the case may be, for Coutant's Home Treatment he receives several small boxes containing a salve and pills of various sizes, shapes and colors. "All my remedies are guaranteed by law," says Coutant, a statement that is an unequivocal falsehood. The drugs were analyzed in the Chemical Laboratory of the American Medical Association.

"*No. 55.*"—A circular cardboard box containing thirty-two purple, sugar-coated tablets. When analyzed in the laboratory, these tablets were found to consist largely of resinous matter possessing an odor and taste similar to balsam of Tolu or Peru and to contain some sugar and starch. The instructions accompanying the "treatment" state that one of these tablets should be taken just before breakfast—presumably to make the victim feel that he is being "treated."

"*No. 44. Dr. Coutant's Laxative.*"—A circular cardboard box containing ninety-two pink sugar-coated pills. Chemical analysis showed that they were evidently the well-known aloin, belladonna and strychnin (A. B. S.) laxative pills. The sheet-anchor in the quack's armamentarium is a laxative. There is a tendency for people to overload the alimentary tract too often and unload it too seldom. The feeling of buoyancy and well-being that follows a good evacuation of the bowels is well known and, considering the ease by which it may be accomplished, it is not surprising that the quack takes advantage of it.

"*No. 77.*"—A circular tin box containing sixty-six brownish-gray, uncoated tablets. Analysis showed that these tablets contained no active medicaments, but were apparently nothing but starch and gelatin. The unpleasant glue-like odor was partly disguised by minute quantities of oil of wintergreen. These tablets, like No. 55, are to be taken just at meal-time—this time at midday and in the evening. As no drugs could be found in them they are sent, probably, to sustain the interest!

"*No. 11, For Gargling.*"—A small rectangular box containing sixty-three bright yellow, uncoated tablets. Quantitative analysis showed that these tablets were nothing but sodium chlorid (salt). It would never do to tell the purchaser of a ten-dollar treatment to use such a simple, inexpensive and well-known substance as table-salt. But compress the salt into tablets, stain them a vivid yellow and they may be counted on to produce wonderful results. The mental effect produced by brilliant colors in pills and potions is fully realized by the mail-order medical faker, and every man in this business has his tablets made up in unusual shapes and gaudy hues.

"No. 63, Nasal Douche Solution."—A small glass vial containing eight large, pink, uncoated tablets. Wrapped around the bottle, but not attached to it, was a gummed label on which was printed "Dr. Coutant's Special Lotion for Use in the Nasal Douche." The instructions were to put these eight tablets in a quart bottle of water and fill the bottle up with water, placing the gummed label on the bottle after the solution is made. The tablets, which formed a slightly turbid alkaline solution, were found on analysis to consist essentially of sodium bicarbonate (baking soda) and borax with small quantities of thymol, anise and possibly other essential oils. The pink-colored alkaline liquid made by dissolving these tablets in water is weakly antiseptic. A few cents' worth of the compound alkaline antiseptic solution of the National Formulary would, when diluted, produce a more efficient preparation for a nasal douche. Coutant, in instructing the purchaser in the use of his "No. 63" solution, says: "Draw the liquid up into the nose by suction"—a recommendation that not only endangers him who follows it but also demonstrates the ignorance of him who gives it.

"No. 29, Absorbent Cream Salve."—A circular tin box containing a brownish ointment. Analysis indicated that it was petrolatum ("vaseline") with some turpentine-like substance mixed with it. This is to be rubbed "on the head just back of the ear."

"Dr. Coutant's Kotalizer."—This is a nickel-plated piece of tubing about 3 inches long and a half-inch in diameter, with perforations at each end. It is supposed to be used as an inhaler, one end to be placed in the mouth, the other end to go in the nostril. Within the tube is a small roll of felt saturated with oil having an odor that would shame a decayed onion. On analysis, the oil appeared to be a mixture of oil of mustard, camphor and resinous matter. The danger of inhaling the pungent fumes of oil of mustard, which is a most powerful irritant, is best described by quoting the caution which is given—in italics—in the United States Pharmacopeia: *"Great caution should be exercised when smelling this oil."* Yet this is put in the hands of the unsuspecting with no word of warning.

"Dr. Coutant's Nasal Douche."—This is an inexpensive glass nasal douche of the type commonly known as the Bermingham douche. In this instance it reached the purchaser broken.

Such then is the cheap outfit for which Coutant asks $10, $5 or $3, according to the ease with which his victims give up their money for the promised "lasting relief without drugs." This heterogeneous collection of pills, salves and gargles could doubtless be duplicated, in quantities, for 25 cents—and a profit made at that.

Two weeks after the treatment has been received another follow-up letter comes from Coutant telling the victim not to be discouraged at any apparent failure on the part of the treatment.

> "Dear Patient, you must maintain calm perseverance . . . do not look for miracles; be content with the gradual benefit which it is the purpose of my Method to provide."

This letter, of course, is a preliminary one sent for the purpose of breaking gently the news that more "Home Treatments must be purchased. Again in two weeks another letter comes printed as usual in imitation of typewriting, and while it is marked personal has nothing individual about it except the date which has been filled in on a typewriter. Says Coutant: "It is possible that as yet you may not have experienced any notable change in your hearing." It *is* possible, even probable. But, continues the quack:

> "There is every reason why you should continue under my care . . . If it is necessary to use a second supply, do you not think, dear patient, that the prospective benefit will more than pay you for your inconvenience and expense . . . Please let me hear from you at once so that I can prepare your new treatment for the next month and send it to you in time to avoid an interruption. It is so important."

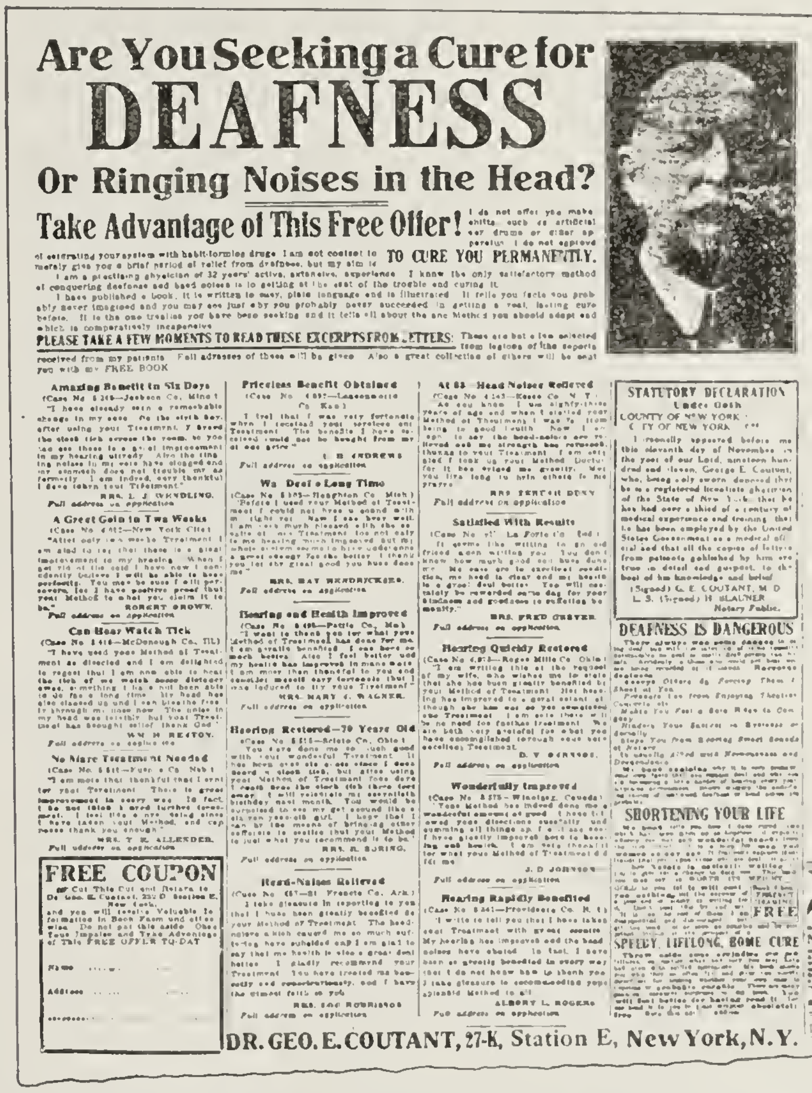
It doubtless *is* important—to Coutant! In three weeks' time, if the money is not sent, the mailing force at the Coutant fakery sends out another form letter:

> "I feel a little apprehensive at not receiving your order, fearing that you may be neglectful of yourself . . . Again, I say, dear Friend, do not lose patience; do not fail to follow my instructions and to take my remedies regularly . . . Write me to-day and enclose payment so that I can send your treatment immediately."

With this letter is a bill for $3 for "One Set Medicinal Preparations for a Second Complete Treatment." More than a month later yet another form-letter comes. This epistle is really pathetic, for every line proclaims the fear of the quack that his chances of getting more money are poor indeed:

> "My candid personal opinion is that you ought to continue with my treatment, using a little further gentle perseverance . . . I say to you truly, upon my professional word of honor, dear Patient, that if you will place your trust in me you will have no reason to regret it . . . I can only surmise that the matter of cost has been standing in the way and if you had only made this clear in your usual frank manner, you could have relied upon me to do everything possible to meet you upon an agreeable convenient basis."

The "agreeable convenient basis" on which Coutant offers to "meet you" is that of offering a second set of his worthless treatment for "only three dollars." Says he, "I shall completely forego the remaining seven dollars."



Are You Seeking a Cure for
DEAFNESS
Or Ringing Noises in the Head?

Take Advantage of This Free Offer!

TO CURE YOU PERMANENTLY.

PLEASE TAKE A FEW MOMENTS TO READ THESE EXCERPTS FROM LETTERS:

STATUTORY DECLARATION

DEAFNESS IS DANGEROUS

SHORTENING YOUR LIFE

SPEEDY, LIFELONG, HOME CURE

FREE COUPON

DR. GEO. E. COUTANT, 27-K, Station E, New York, N.Y.

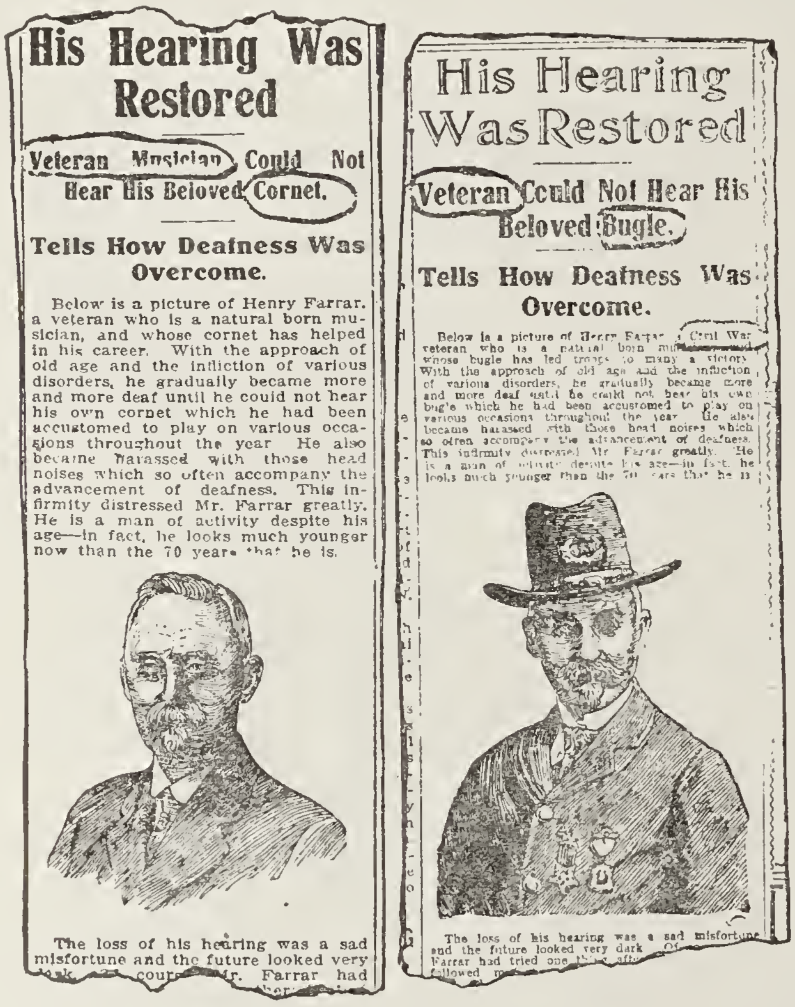
Fig. 3.—Photographic reproduction of a Coutant newspaper advertisement. The size of the original was 12 inches by 9½ inches. Advertisements of this kind are very expensive; Coutant's dupes pay for them.

TESTIMONIALS

Like every other mail-order medical faker, Coutant's trump card is his testimonials. Testimonials, as we have shown time and again, are, as scientific evidence, not worth the paper they are written on. Many of them are positively fraudulent while many more are written in good faith by persons who have just commenced "treatment"—the kind of treatment makes no difference—and who, in the first flush of optimism, believe they are being benefited and write a letter to that effect. In cases of ailments of a general nature, the testimonial-giver is likely to maintain to the end of the chapter that he was benefited by the treatment. Most of us have vague aches and pains at times from which we recover in due course, whether with treatment, without treatment or in spite of treatment. Remembering the inability of the average person to distinguish between a mere sequence of events and cause and effect, it is easy to understand how the particular "treatment" that immediately precedes recovery gets the credit for that recovery.

There are, however, certain pathologic states that will in time give the lie to the testimonial. A sufferer from consumption or from cancer may give a testimonial for some worthless cure, and it is only necessary to wait awhile to be able to prove by documentary evidence—the death certificate—how valueless the testimonial is. The same is true, to a large extent, in cases of deafness. For this reason, a few of the testimonials published by Coutant were investigated.

Most of the testimonials that he issues at present do not give the address of the persons alleged to have written them. The Journal's investigation of mail-order medical frauds has made fakers of the Coutant variety wary. Two or three years ago, when we were beginning to collect the Coutant material, this quack gave the full name and address of those who had written testimonials for him. After waiting for more than a year, or a sufficient length of time to permit the first enthusiasm to wane, some of these testimonials were looked into. First, physicians who lived in the same town as the testimonial-givers were written to and asked to investigate the condition of these persons. We give here as briefly as possible what was learned. The names of the persons (and the towns in which they live) are purposely omitted to shield them from a somewhat unenviable notoriety:



His Hearing Was Restored

Veteran Musician Could Not Hear His Beloved Cornet.

Tells How Deafness Was Overcome.

Below is a picture of Henry Farrar, a veteran who is a natural born musician, and whose cornet has helped in his career. With the approach of old age and the infliction of various disorders, he gradually became more and more deaf until he could not hear his own cornet which he had been accustomed to play on various occasions throughout the year. He also became harassed with those head noises which so often accompany the advancement of deafness. This infirmity distressed Mr. Farrar greatly. He is a man of activity despite his age—in fact, he looks much younger now than the 70 years that he is.

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Fig. 4.—The versatility of the quack is notorious. Here are parts of two advertisements published in Southern and Northern newspapers, respectively. It consists of a testimonial from one Henry Farrar. In the Northern newspapers, Henry Farrar is "a Civil War veteran whose "bugle" we are told "led troops to many a victory;" in the Southern papers, Farrar's picture is shown, minus his G. A. R. insignia, and his "beloved *bugle*" has become his "beloved *cornet*," which, instead of leading "troops to many a victory" has merely "helped in his career."

J. F. C. T———, South Dakota, had given a testimonial. In answer to the question: "Is Mr. T——— in any sense of the word, cured?" a physician in his home town writes us: "No, as bad as ever." He adds: "I have been well acquainted with J. F. C. T——— for some years. He is very deaf."

Miss L. S———, Wisconsin, was another testimonial-giver. The physician who was written to says: "Am well acquainted with Miss S——— and she is just as deaf as ever."

Mrs. M. A. H———, Illinois, has also testified for Coutant. We learn from our informant: "Mrs. H——— is totally deaf in both ears and has been for five or six years to my personal knowledge."

Mrs. M. A. B———, Ohio, furnished another testimonial. The physician who investigated this case writes: "M. A. B——— lives here and is so deaf that her own people are compelled to write for information from her. Her daughter-in-law, with whom she lives, says the treatment did her harm."

Mr. J. M. S———, Oklahoma, testified to the value of Coutant's "Home Treatment," but we are told: "He has suffered from deafness for years. He is not cured in any sense of the word."

Mr. H. L. W———, Kansas, had given a testimonial to Coutant, but: "He is deaf. Very, very deaf. I have known him for years and at no time has he been able to hear ordinary conversation. In order to make him hear at all, one must speak very loud and close to his ear."

Mr. J. A. R. F———, South Dakota, also testified to the value of Coutant's treatment. But Mr. F——— "has been deaf and is very deaf at the present time."

These cases are not selected. The names were taken from a letter sent out by Coutant about two years ago and the answers have been given just in the order they were received. In no single instance have we found a case in which a deaf person taking Coutant's treatment has been cured.

In the face of this testimony, received from unquestionable sources, it seemed worth while to find out what the individuals themselves thought of Coutant's "treatment" which they had taken. Accordingly, letters were sent to each of the persons just referred to by a woman living in a small town in the middle West. She explained that she was deaf and could not afford to waste money on worthless treatments and she urged the persons addressed to tell her frankly and honestly whether or not they could recommend Coutant's treatment. The replies were most interesting and bore out what has been said so many times regarding the scientific worthlessness of testimonials.

Mr. J. F. C. T———, of South Dakota, was the only one of those written to who still persisted in praising Coutant's treatment. T———'s loyalty is evidently known to Coutant for of all these old testimonials this seems the only one the quack publishes at the present day. Coutant sends out what purports to be a typewritten copy of a testimonial from Mr. T———, but which, certainly, was never written by that gentleman, although it may have been signed by him. In answer to the woman's inquiry T——— wrote in his own handwriting:

> "Dear Madam :—Your letter of inquire to hand and in reply Will Say that I took treatmnt for carrh and deafness from Dr. G. E. Coutant of New York, N. Y. And he has help Me a hull lot.
>
> yours truley,
>
> J. F. C. T———, ——— —, S. Dak.

Now imagine the writer of this letter—given *verbatim et literatim*—writing a testimonial which starts in the following language:

> "I, J. F. C. T———, having been annoyed for several years with that treacherous disease known as catarrh and deafness of the head, believing in the honesty and methods of Dr. George E. Coutant of New York, consented to give his Treatment a trial . . ."

But if Mr. T——— is unwilling to warn a poor woman against the wiles of this quack, most of the other testimonial-givers are not. Here is the result of the inquiry:

Miss L. S———, of Wisconsin, failed to reply to the letter that was sent.

Mrs. M. A. H———, of Illinois, wrote in part:

> "I received your letter. Am sorry I can't advise you to try Dr. Coutant for he did me no good and I have corresponded with others that took his treatment and he did them no good. I have also doctored a lot. I have been out to Des Moines, Iowa, to Dr. Coffee. [Another quack. See the 'Great American Fraud.'—Ed.] He did me no good but got about $80 out of me."

Mrs. M. A. B———, of Ohio, did not answer the letter that was sent, but her son did. He writes in part:

> "In answer to your question concerning this doctor's treatment for deafness, my mother had great faith in his medicine and possibly told him that it did her good, but if conditions now justify me of rendering an opinion, I would say that she had better have kept her money. She can scarcely hear anything and her mind is weakened, whether by taking patent medicine or otherwise, I am not able to say."

Mr. J. M. S———, of Oklahoma, another who had given a testimonial, said:

> "Can hardly give you a favorable statement in regard to Dr. Geo. Coutant's treatment . . . His treatment helped me a little but would not reach any further. I took his treatment over six months . . . I wish I could advise you, but I can't."

Mr. H. L. W———, of Kansas, has also changed his mind regarding Coutant's treatment. Says he:

> "Your letter read and will say don't spend any money on the so-called deafness specialist for he cannot cure you but only wants your money. I have doctored with him for over two years and it did not do me a bit of good, and further he has let one of my neighbors believe he could cure him for $10 and after the first month he wanted $10 more so this fellow calls him a cheat, and I don't think he misses it." [Neither do we!—Ed.]

Mr. J. A. R. F———, of South Dakota, in answering, writes:

> "In reply to your inquiry in regard to Dr. Coutant's treatment for deafness will say I treated with him for four months but he did not cure my deafness. He did me some good at first but it was as bad in one week as it was before. He might do you some good or he might not. I could not say he would cure you. I know he did not cure me."

Mr. Thomas Lakey of Onalaska, Tex., was another of those whose testimonials were investigated. Mr. Lakey, also, has changed his mind in regard to Coutant's treatment and he is willing to do what he can to counteract such harm as his testimonial may have done, for he declares, under oath:

The State of Texas }
County of Angelina }

Before me the undersigned authority, a notary public in and for Angelina County, Texas, on this day personally appeared before me, Tom Lakey, who after being by me duly sworn deposes and sayeth: After taking Dr. Coutant treatment for deafness for five and one-half months, I find that my condition is no better, if anything worse, than it was before taking the treatment.

Tom Lakey

Subscribed and sworn to before me this 29th day of November A. D., 1912.

R. V. Welch, Notary Public, Angelina
County, State of Texas.

Could anything show better the absolute worthlessness of the testimonials used by the mail order medical fakers? No wonder quack Coutant no longer publishes the addresses of his testimonial-givers, except in the few instances of individuals whose favorable reports he can rely on!

THE GUARANTEE DODGE

Next to testimonials the "guarantee" scheme is the most popular piece of claptrap used by quacks. Of course Coutant uses it, and his "Money Refund Guarantee Certificate" is an important part of his advertising paraphernalia. Like all such "certificates" the thing is perfectly worthless. In large type Coutant says:

> "I Do Hereby Assert that whoever becomes my patient, for the purpose of treating his or her catarrh, deafness or head noises (or two or all three), and who cannot truthfully report a perfectly satisfactory cure or result, shall receive from me a refund of the sum of ten dollars (or two guineas in English money), which amount I will promptly pay, without hesitation, provided it is demanded within six months and in accordance with the conditions mentioned on the other side of this Money Refund Guarantee Certificate."

The "joker" lies, of course, in the "conditions mentioned on the other side" of the certificate. These "conditions" are buried in a mass of inconsequential verbiage printed in very small type and inordinately long, but the gist of the matter is that Coutant will "refund ten dollars as specified":

> " . . . provided that my Method is followed uninterruptedly for at least three months; also provided that I am prepaid ten dollars for each treatment . . ."

This means that Coutant is willing to return ten dollars provided that the victim shall have sent him at least thirty dollars for a worthless "cure." By the terms of the "guarantee," Coutant plays to get at least twenty dollars for something hardly worth as many cents. Yet there is little doubt that thousands of victims have been led to send in their money in the belief that Coutant guarantees either to cure them or to refund their money!

For instance, we received a letter from a New York business man, asking us about Coutant, in the course of which he says:

> "Dr. Coutant has written to my friend, who has been deaf for a number of years, that if a fee of $10 is sent to him (Dr. Coutant) a cure will be assured or the money returned."

Of course Coutant does not make any such claims: he is too shrewd to make a statement in black and white that if not lived up to could bring him immediately into the courts on the charge of obtaining money under false pretenses or, if lived up to, would land him in bankruptcy. It is characteristic of the modern quack so to word his advertising matter as to give the greatest amount of deception with the least amount of legal risk.

Coutant's fake, then, may be thus summed up:

1. Coutant, himself, is a man of no professional standing; he has been connected with various fraudulent and unsavory concerns and is at present engaged in a business that is both fraudulent and disreputable.
2. Like most quacks, Coutant makes claims that are either positive untruths or gross exaggerations. Like most quacks too, his advertising reeks with self-laudation.
3. He attempts to give the impression that the price of his "treatment" will soon be increased when as a matter of fact he makes it a rule to lower the price the longer the victim remains unconvinced.
4. Although he advertises to produce cures "without drugs," as a matter of fact he sends several different kinds of drugs to the persons who purchase his treatment.
5. The treatment itself is perfectly worthless as a cure for deafness.
6. His testimonials have just as little value as his treatment and, as has been shown, while they may be documentarily genuine they are actually not worth the paper they are printed on.
7. Coutant's "guarantee" to refund money is merely a piece of advertising claptrap that requires those who would benefit from it to spend $30 for worthless treatments on the chance of getting $10 refunded.
8. In short, Coutant is engaged in swindling the deaf, through the instrumentality of the United States mails, and we trust that the efficient but overworked department of the post-office which investigates frauds of this kind will before long protect the deaf by denying Coutant the use of the mails.

Correspondence

Excesses of the Freudian School

To the Editor:—In a recent number of the *Nation* appears an editorial entitled "The Alienist and Literature," which is commended to the attention of the disciples of Freud in this country. It is the answer of the man in the street to the excesses of the Freudian school. In his book on Browning, G. K. Chesterton points out with great insight the fact that there are times when the man in the street knows more than all the specialists. He instances the case of Elizabeth Barrett, confined to a couch in a darkened room, and shielded from every whisper from the outside world. When Browning proposed to marry her he was regarded by her father as demented. And yet he did marry her. He carried her from that atmosphere of invalidism, and two years later she was well enough to bear a child and to ride horseback over the Italian mountains.

How much of all that we have heard lately about the sexual etiology of psychoneuroses is true, I personally am frankly not in a position to judge. But that the neurologists have made out a very good case in print I am most loath to believe. There are few persons who would not admit that in many, let us say in most, cases, hysteria and neurasthenia have a basis in subconscious sex associations. But that sex fills the whole world to the extent that one would gather from a perusal of Freudian literature, even that it fills the whole world of psychoneuroses, is hardly reasonable. Many of the cases which the neurologists instance are well worked out; the connection between the symptoms and the incidents which are believed to be their anlage appear to have been subjected to some sort of critical examination before being accepted. But when we are given a young woman's *gauche* remark—her reply to a compliment on a diamond star which she wore at her bosom by saying, "Yes the stars are always brightest in the milky way"—and are told that the explanation lies in the fact that she had been looking at the heavens with a young man with whom she was in love, that he had said her eyes were like stars, that his own eyes were blue, that he had seen her once holding a blue-eyed baby in her arms and told her that blue-eyed babies were becoming, that she desired to give a blue-eyed baby whose eyes were like stars milk from her breast—why then I am forced to wonder which is crazier, the patient or the physician.

It is difficult to know why the Freudians believe that their case is strengthened by their analysis of cases in imaginative literature. My own type of mind may lack delicacy. But when I read that the explanation of Hamlet's psychoneurosis was that he was sexually in love with his own mother and sexually jealous of his uncle, when passages of the play are quoted to prove this contention, when the words which Shakespeare put into his mouth are adduced as evidence; when Lady Macbeth is subjected to as close a scrutiny, there is only one thing that all this proves to me—that the devil can quote scripture for his purpose, that if the lines of a play 300 years old can be twisted to prove a hypothesis of applied science not yet in its teens any word of any patient can likewise be so twisted.

Logan Clendening, M.D., Kansas City, Mo.

International Memorials to Lord Lister

To the Editor:—I have received word from Mr. A. Ernest Maylard of Glasgow that the managers of the Royal Infirmary have been induced to retain one of the wards in which Lister worked. It will be converted into a museum for everything associated with Lister and his great work. Surely no American surgeon can contemplate such a memorial and the other memorials planned without wishing to take part in at least one of them. The profession owes the profoundest debt to Lord Lister. We all have recognized this in words. Now the opportunity has come to recognize it in deeds. I beg leave through The Journal to appeal to members of the profession throughout the country to contribute such sums as they feel they can afford, sending the amount to those having charge of any of the proposed memorials.

May I also ask through The Journal that the various medical journals of the country give publicity to these splendid memorials to one of the greatest benefactors of humanity?

W. W. Keen, M.D., Philadelphia.

[Comment.—The Lister memorials comprise a Lister International Memorial Fund, from which will be drawn from time to time a Lister International Award for the most notable contribution to surgery in any part of the world, and which will also support fellowships and studentships in surgical research; a monument in London; a memorial tablet in Westminster Abbey; a monument in Glasgow; and the preservation of the ward in the old building which is now being torn down to make way for a new building of the Royal Infirmary. This ward will be arranged as it was in Lister's time, furnished with contemporary articles, and provided with exhibits showing the work that Lister did and with articles of a personal nature associated with the man in his work. Contributions may be made to any of the memorials, and may be sent to Dr. W. W. Keen, 1729 Chestnut Street, Philadelphia. Each contributor is asked to designate the particular memorial to which he wishes his contribution to be applied.—Editor.]

Action of One Society on the Secret Commission Evil

To the Editor:—The Western Surgical Association (a report of whose scientific proceedings you are now running in The Journal) again took an active interest in the question of fee-splitting at its recent meeting in Cincinnati and the following resolution was adopted:

"*Resolved,* That it is the intention of this association not to countenance the practice of fee-splitting in its members or in its applicants for membership and that we incorporate in the application blank for membership in this association a clause to be signed by the applicant, stating that he does not now practice and will abstain in the future from the practice of fee-splitting in any form and that he will not countenance it in others.

"It is further suggested that this association would be pleased to receive the resignation of any member, if such there be, who feels that he is not willing to live up to this provision."

The Western Surgical Association asks the cooperation of the various American surgical associations, the state and interstate medical associations and regents of the state universities, in the suppression of both the secret and open fee-splitting evil in its various forms.

A. T. Mann, M.D., Secretary, Minneapolis.

Prevention of Typhoid Infection

To the Editor:—The sanitary closet-cans referred to by Dr. Charles T. Nesbitt in his article on "The Control of Typhoid Fever" (The Journal, Jan. 4, 1912, p. 6) may be easily obtained in localities where acetylene gas is used for general lighting purposes. The calcium carbid is supplied in airtight, screw-top, iron cans holding 100 pounds of carbid. These cans, when empty, make ideal closet-cans and cost nothing but the asking. I have used them in typhoid in a manner similar to that described by Dr. Nesbitt in his article, with the exception that they are not used the second time.

Herbert A. Thomas, M.D., Lake View, Ohio.

Coccidioidal Granuloma in California

To the Editor:—In The Journal (Dec. 21, 1912, p. 2253) there is reported by F. H. Bowles of Oakland, Cal., a case of coccidioidal granuloma, the nineteenth in California. Dr. Bowles has evidently overlooked a case I reported in The Journal, Nov. 12, 1910, p. 1730. This case, which occurred in 1907, should therefore be the nineteenth case reported. There have been several cases in California, however, since the so-called eighteenth case, which have not been reported as yet; Dr. Dixon of Stanford University has seen three cases.

H. A. L. Ryfkogel, M.D., San Francisco.

Queries and Minor Notes

Anonymous Communications will not be noticed. Every letter must contain the writer's name and address, but these will be omitted, on request.

DO UNTOWARD RESULTS FOLLOW THE USE OF PHYLACOGENS, OR SCHAFER'S VACCINES?

To the Editor:—I am interested in the development and progress of vaccine treatment of infections, and recently I have become especially interested in the so-called "phylacogens" so extensively advertised by Parke, Davis & Co., and known earlier as Schafer's vaccines. I have heard from various sources that the injection of these preparations sometimes gives rise to immediate and alarming symptoms of intoxication, and I should like to know definitely how many such cases there are. How can I get the information? As you know, it is human nature to report successes, but not failures. This is especially true when one is using such proprietary preparations as the phylacogens. What is the best way to get at the facts?

How would it be to publish a letter in The Journal asking those who have had experience to report it with the promise that their reports will not be published, or, if they are, that their names will be withheld? I do not want my name connected with it, but at the same time I should like to get the information. Please enlighten me.

L. V. N.

Answer.—We have replied to our correspondent that the best way to get this information is to publish his letter, for we believe that those who have been using these vaccines—or are they toxins?—and who have had untoward results, either immediate or ultimate, would willingly state the facts. We will be glad to transfer to our correspondent any reports our readers may submit, withholding their names if it is desired. Naturally Parke, Davis & Co. are giving wide publicity to the favorable side—what about the unfavorable?

THE FRIEDMANN TUBERCULOSIS TREATMENT

Scores of physicians and laymen from all over the country are writing us, concerning the recent sensational announcements in the newspapers to the effect that a Dr. Friedmann in Germany had discovered a cure for tuberculosis. They are asking Dr. Friedmann's address, asking where the remedy can be obtained, and one physician asked us if we would advise him to start immediately for Germany to secure some of the material. To the latter we replied that we certainly would advise nothing of the kind, that we do not know that he would be able to secure any of the remedy, and furthermore, that there is a great difference of opinion among Dr. Friedmann's own countrymen as to whether this new remedy justifies its being called any improvement over tuberculin and other methods previously known. We refer all such inquirers to the issue of THE JOURNAL, Dec. 14, 1912. In that number they will find on pages 2158 and 2159 our opinions of the matter at that time; our opinions have not changed at this date of writing (January 22). Those who wish to read more of the Friedmann claims will find them abstracted in our Current Medical Literature Department in the same issue, page 2192, and in our Berlin Letter, Dec. 7, 1912, page 2081. In addition, a letter from Dr. Friedmann's brother in his defense and our comment in reply were published in the Correspondence Department, Jan. 4, 1913, page 67.

It may be of interest to quote from the *Lancet* (London, England) of Jan. 4, 1913:

"The results of the proceedings of the Berlin Medical Society were that Dr. Friedmann's claim to cure tuberculosis was held to be not well founded. Men of high scientific standard who had handed cases over to him have expressed a very doubtful opinion of the results, and also his theory has been severely criticized by competent bacteriologists. The warning of the *Lancet* against regarding Dr. Friedmann's treatment as a scientific discovery for the cure of tuberculosis was thus justified, and was all the more necessary, as some English daily papers were propagating a story of success."

ELIXIR AROMATICUM AS A VEHICLE

To the Editor:—You suggested in THE JOURNAL some time ago that if one wanted to use the lactated pepsin comp. as a vehicle one should leave the pepsin out. Can you give formula of such a vehicle that has the flavor without the digestants? There is no such vehicle that I know of at present.

M. T. CLARK, M.D., Temple, Okla.

ANSWER.—We are unable to find the passage referred to. In the National Formulary is a preparation known as elixir digestivum comp., containing pepsin, pancreatin, diastase, lactic acid and hydrochloric acid in addition to the ingredients of the elixir aromaticum. This unscientific and impossible elixir is made to replace certain proprietary preparations largely used as vehicles. It would serve as a vehicle just as well if it did not contain the pepsin, pancreatin and diastase, and even the lactic and hydrochloric acids might be omitted. Practically the elixir aromaticum will serve the purpose of concealing the taste of many otherwise unpalatable preparations. If it is desired to add a red coloring, this can be done by the use of tincture of cudbear. Elixir adjuvans can also be used for purposes of a vehicle, but it must be remembered that it is incompatible with acids.

RECIPROCAL RELATIONS OF MARYLAND AND PENNSYLVANIA WITH OTHER STATES

To the Editor:—1. With what states does Maryland reciprocate? Will these states accept a physician at once on his Maryland license, or must he have been registered in Maryland a certain period of time?

2. I would like to settle in some good, live, growing western town of from 5,000 to 10,000 or 15,000 population. Is there any way I can obtain a list of such towns, stating the number of physicians in each town (in a state that exchanges with Maryland)?

3. Does Pennsylvania exchange with any western state?

S. H. W.

ANSWER.—1. Maryland has reciprocal relations, on the basis of an examination only, with Arkansas, Delaware, Illinois, Louisiana, Maine, Minnesota, Texas and Virginia, and on the basis either of an examination or of a diploma from a reputable medical college without an examination if the diploma and the license were issued prior to June 1, 1892, with Georgia, Indiana, Iowa, Kansas, Kentucky, Michigan, Missouri, Nebraska, New Hampshire, Ohio, South Carolina, Vermont, West Virginia and Wisconsin. In whichever of these states you go, you would need to be registered. The following states would require that you have practiced in Maryland at least one year: Indiana, Kentucky, Louisiana, Missouri, Virginia (two years), and West Virginia.

2. The best source of information regarding towns of from 5,000 to 15,000 population, and the number of physicians located in each, is the third edition of the American Medical Directory.

3. Pennsylvania now has reciprocal relations with Nevada, New Jersey, Illinois, Ohio, Louisiana and Indiana.

ERADICATION OF TAPEWORM

To the Editor:—What is the best method of eradication of *Taenia saginata* in a delicate child aged 5? The ordinary and usual teniacides given in doses which the patient can tolerate are ineffective. I have tried them all, including pepo.

C. E. BENNETT, M.D., Aneta, N. Dak.

ANSWER.—The best remedies for *Taenia saginata* are pomegranate or its alkaloid, pelletierin tannate, and aspidium (male fern). If these have been used it would be best to endeavor to improve the nutrition and resisting power of the child and wait some months before making another trial. When it is determined to repeat the treatment, the gastro-intestinal canal should be put into as good a condition as possible. The child should first be treated with laxatives so as to free the intestine. Food should be withheld from the early evening until as late as possible the next day. The tannate of pelletierin can be given to a child from 3 to 5 years old in the dose of from 0.01 to 0.03 gm. (1/6 to 1/2 grain). The child should be kept in bed and lying down until the effect of the anthelmintic has passed off. The most useful cathartic is Epsom salts, 7.5 to 15 gm. (2 to 4 drams).

WHERE TO OBTAIN PREPARATIONS OF THE PITUITARY GLAND

To the Editor:—Please tell me where I can obtain preparations of the pituitary gland to be used in cases of infantilism (hypopituitarism), such as Dr. Cushing describes in his recent monograph on diseases of the pituitary body.

W. P. CLANCY, M.D., Warren, Pa.

ANSWER.—The action and uses of pituitary gland are described in New and Nonofficial Remedies, 1912, p. 161; also three preparations of pituitary substance: one derived from the entire gland, one from the anterior lobe and the third from the posterior lobe. These preparations are manufactured by Armour & Co., Chicago. It is probable that the anterior lobe preparations would be suitable for the case to which our correspondent refers.

THE BLOOD-TEST FOR PREGNANCY

To the Editor:—What is the technic for the blood-test for pregnancy and what is the method of preparing the placental extract?

L. N. C.

ANSWER.—In THE JOURNAL (Sept. 14, 1912, p. 881) in an editorial on "The Protective Ferments of the Blood and a New Test for Pregnancy" is a reference to Abderhalden's work in which the technic is described. A more recent editorial on the same subject (THE JOURNAL, Dec. 7, 1912, p. 2073) contains a reference to an article by Abderhalden in which a simplification of the test is described. It seems that the only way to learn to make this test is to follow Abderhalden's directions, which are best studied from his own description of the test.

EFFECTS OF GRAPEFRUIT

To the Editor:—Please advise me in reference to the effect of grapefruit on rheumatic conditions.

W. B. JAMES, M.D., Daytona Beach, Fla.

ANSWER.—Grapefruit is a variety of orange containing citric acid, and would have effects similar to those of orange or lemon. The citric acid is generally oxidized to carbon dioxid in the system, and thus loses its acid properties in the main. Citrates contained in this fruit are oxidized to carbonates and produce an alkaline effect in the blood and the urine.

LAMBERT TREATMENT FOR DRUG ADDICTION

Dr. H. C. Smisson, Jackson, Tenn.: Our supply of copies of THE JOURNAL containing the Lambert article on the treatment of morphinism, etc., has been exhausted. A pamphlet containing the article will be sent on receipt of 10 cents.

THE PULMOTOR

Dr. C. J. Habhegger, Watertown, Wis.: The pulmotor was described Aug. 31, 1912, p. 738.

NATIONAL MERCANTILE RATING AND CREDIT AGENCY

To the Editor:—To-day a man, representing himself as an agent of the National Mercantile Rating and Credit Agency of Milwaukee, came to me with the following proposition: For payment of $50 I would become a member of this association and in turn would make all reports and examinations for accident and health insurance companies in a certain district of Chicago. As this seems unreasonable to me, I would like to get your opinion regarding this company. If it is a fraudulent proposition, as I suspect, I think the profession as a whole should be warned of it.

R. E., Chicago.

Answer.—The National Mercantile Rating and Credit Agency seems to be an institution of varied activities. In February, 1912, in connection with a query in regard to the National Book Company, we found that the book company was a subsidiary concern of the National Mercantile Rating and Credit Agency of Milwaukee. The business of the agency at that time was alleged to be the obtaining of information regarding the financial and general standing of individuals and firms. Physicians were solicited to subscribe for five shares of the stock of the National Book Company at $2 a share, for which they became "confidential agents" for the concern. This seemed to be about the extent of the privilege granted for the purchase of the stock. The company, however, was careful to set forth in its contract that it reserved the "right and option" to purchase the shares of stock owned by the physician at the price formerly paid, plus 6 per cent. interest. But it was likewise careful not to say that the physician had the privilege of returning the stock to the company and demanding the amount paid for it plus 6 per cent. interest. The scheme presented by our correspondent in his query seems to be a rather expansive one, and certainly shows great enterprise on the part of the National Mercantile Rating and Credit Agency in corralling all the insurance examination business of all the companies doing business in a large village like Chicago. It would seem really careless of them to farm out large and juicy sections of the business for such a nominal sum as $50.

DUTY OF A PHYSICIAN TO PREVENT INFECTION

To the Editor:—The following case cannot be unique. I think that it is of sufficient importance to deserve an honest answer and wide publicity.

Among my clients are a young man of 28 and a girl of 18. The young people expect to be married, but the date of the wedding has not been announced. I am treating the young man for acute gonorrhea and have explained carefully and at length the dreadful consequences to the girl likely to follow should she marry him in his present condition, and have urged an indefinite postponement of the marriage. He says that he has known others to marry under like condition and he cannot see that anything very serious happened. He is obdurate and insists that he "will marry her and take the consequences." Unexpectedly to me, the mother of the girl came to my office, said that her suspicions of the young man had been aroused and asked me point blank whether he had any disease which would make it inadvisable for her daughter to marry him. What should I have told her?

W. E. C.

Answer.—The truth.

"There are occasions . . . when a physician must determine whether or not his duty to society requires him to take definite action to protect a healthy individual from becoming infected, because the physician has knowledge, obtained through the confidences entrusted to him as a physician, of a communicable disease to which the healthy individual is about to be exposed. In such a case the physician should act as he would desire another to act toward one of his own family under like circumstances. Before he determines his course, the physician should know the civil law of his commonwealth concerning privileged communications." (Principles of Medical Ethics, Chap. 1, Sec. 2.)

HOSPITAL POSITIONS

To the Editor:—1. What are the duties of an extern to a hospital? 2. What steps would one have to take to obtain such a position? 3. When a physician wants some hospital training and he cannot find a place as intern or extern, would it be wise to try for a position at some hospital as a male nurse?

D. A. B.

Answer.—1. The duties of an extern are similar to those of the intern. The difference is that one resides outside, the other inside the hospital.

2. Communicate with the superintendent of the hospital in which such position is sought. Read the classified advertisements in The Journal.

3. This depends on the hospital. Many have male nurses, but some employ them only for genito-urinary cases. If the service is not thus limited, the experience gained would doubtless be worth while.

LITERATURE ON INTESTINAL OBSTRUCTION DUE TO WORMS

To the Editor:—Please refer me to literature on intestinal obstruction due to worms. Leon J. Menville, M.D., Houma, La.

Answer.—The following articles bear on this subject:

Van Meter, B. F.: Intestinal Obstruction Due to Roundworms, *Surg., Gynec. and Obst.*, April, 1909.
Venning, R. E.: Intestinal Obstruction from *Ascarides lumbricoides*, The Journal, June 18, 1910, p. 2041.
Whelan, Charles: Intestinal Obstruction Due to *Ascaris lumbricoides*, with Autopsy, The Journal, Oct. 22, 1910, p. 1442.
Roll, J.: Oxyuris as a Cause of Ileus, *Norsk. Mag. f. Lægevidensk.*, January, 1910, lxxii, No. 1.
Brun, V.: Helminths Complicating Operations on Children, *Policlinico*, Oct. 6, 1912, p. 1481; abstr. in The Journal, Nov. 9, 1912, p. 1757.

Medical Economics

This Department Embodies the Subjects of Post-graduate Work, Contract Practice, Legislation, Medical Defense, and Other Medicolegal and Economic Questions of Interest to Physicians

ANTINARCOTIC BILL INTRODUCED IN CONGRESS

Mr. Harrison of New York introduced, January 14, a bill known as H. R. 28023, entitled "A Bill Providing for Registration With the Collectors of Internal Revenue of Dealers in and Producers of Certain Drugs." This bill is similar to the Cullom bill, introduced in the Senate in 1910.

The first section provides that after the passage of the bill, every person who "imports, exports, produces or manufactures opium, morphin, coca leaves, cocain, their salts, derivatives or preparations, or who further manufactures, compounds, deals in, distributes, sells or gives away" any of these drugs or preparations containing them, shall register with the collector of internal revenue of his district. "Importers, exporters, producers, wholesale manufacturers, wholesale manufacturing pharmacists and wholesale dealers or jobbers" are to be taxed $100 per year, retailers are to be taxed $5 per year. The section provides minutely who shall be regarded as coming under these different classes. The definition which will interest physicians is the following: "Every other person who sells or gives away any of the aforesaid drugs, their salts, derivatives or preparations shall be regarded as a retailer." No specific mention is made of physicians, druggists or retail dealers, all being placed under the same classification. Wholesalers who fail to register shall be fined from $100 to $1,000; dealers and retailers from $25 to $500.

Section 2 provides for an internal revenue tax of 5 cents a pound on opium and 0.25 cent a pound on coca leaves. It also provides for internal revenue stamps similar to those now used for tobacco. Each person registering must file with his application a sworn statement showing the amount of opium and cocain in his possession at the time the act goes into effect.

Section 3 requires every person "importing, exporting, manufacturing, remanufacturing, compounding for his own account, distributing, offering for sale, or dispensing any form of morphin or cocain, to keep a record, make such reports and give such bonds as the commissioner of internal revenue may require."

Section 4 forbids the transportation in interstate commerce of opium or cocain to or from any unregistered person.

Section 5 permits the exportation of opium and cocain, but forbids their reimportation without the payment of the internal revenue tax.

Section 6 provides that any person who purchases, receives or sells, transfers or gives away any preparations of opium or cocain on which the revenue taxes have not been paid shall be fined from $100 to $5,000, or be imprisoned for from one to five years.

Section 7 provides that the possession of preparations containing the forbidden drugs shall be evidence of violation of the act, unless the defendant shall explain the possession to the satisfaction of the jury.

Section 8 provides for the filing of all reports under the act with the commissioner of internal revenue; also, that all returns of sales and purchases shall be open to public inspection, and that copies can be secured for a specified fee. The section also provides that any person disclosing any information contained in any of the reports except in the manner provided in the act shall be fined or imprisoned as provided for in Section 6, shall be dismissed from office, and be thereafter incapable of holding any office in the government.

Section 9 appropriates $150,000 to carry out the provisions of the act.

Section 10 exempts persons making "sales, distribution or dispensation of remedies which do not contain more than 2 grains of opium or 1/4 grain of morphin or 1/4 grain of heroin, or 1 grain of codein in 1 fluidounce, or in 1 avoirdupois ounce." Dover powders, liniments and ointments are also exempt.

Sections 11 and 12 provide for the extension of existing laws to the provisions of this bill.

The interest of the medical profession in this measure is apparent. While no specific mention is made of physicians, yet they are plainly included under the definition of retailers. The provisions of the bill as introduced would include not only physicians who dispense their own medicines, but any physician who carries a few morphin tablets in a pocket case, or who gives a hypodermic injection. Under Section 4 it would also be unlawful for any patient to receive such medicine from a physician who was not registered under this act, and the patient would be liable to fine or imprisonment for so doing. The exemption clause is plainly drawn for the protection of patent-medicine manufacturers rather than physicians, since no patent or proprietary medicine would contain more than 1/4 grain of morphin to the fluidounce. But in order to come under this exemption, any physician desiring to give 1/4 grain of morphin hypodermically to a patient would be compelled to inject a fluidounce of water. Suppose a physician who has not registered under the terms of this bill should be called to see a patient in an emergency case, with only an ordinary hypodermic syringe. If he gave the patient 1/4 grain of morphin hypodermically in the usual 30 minims of sterile water, both he and his patient would be violators of the law and subject to fine and imprisonment.

It is difficult to see how such a measure could be enforced, as far as applies to the 140,000 physicians in the United States. If a physician gives a hypodermic injection to a patient, or dispenses some tablets or powders, he alone knows how much morphin has been administered. But the physician could not be compelled to testify against himself.

Another objection to the bill as it stands is the amount of the registration fee. The Cullom bill provided for a one-dollar registration fee for physicians. The present bill provides for a registration fee of $5. Why should the medical profession be expected to pay approximately a yearly tax of $700,000 to enforce a law which is for the good of the public? The Journal is, and always has been, heartily in favor of any measure which would help to control the illicit trade in habit-forming drugs. Not only is such regulation imperative for the public good, but it is a matter of honor for this country to comply with its treaty obligations with Great Britain and China in suppressing the opium traffic. But a measure which is plainly drawn for the purpose of exempting patent medicines, and which at the same time imposes an unreasonable burden on the reputable practitioners of medicine, cannot be endorsed. If the registration fee for practicing physicians is reduced to a nominal amount such as 50 cents or $1 per year; providing a fee that will be purely for the registration and not for revenue purposes, and if a proper exemption can be provided for practicing physicians, allowing them to dispense to actual patients limited amounts of opium, morphin, etc., the bill will be entitled to fair consideration. In its present form it is not only unjust and discriminating, but it is practically unenforceable. It would also be interesting to know why such a heavy penalty is provided in Section 8 for any one disclosing the contents of any report.

It is reported that a substitute bill has been prepared by the National Drug Trades Conference, which contains some modifications of the Harrison bill. If this is correct, we may have something further to say on this subject in a later issue.

Medical Education and State Boards of Registration

COMING EXAMINATIONS

Kansas: National Hotel, Topeka, February 11. Sec., Dr. H. A. Dykes, Lebanon.

Missouri: St. Louis, February 24-26. Sec., Dr. Frank B. Hiller, State House, Jefferson City.

Nebraska: Lincoln, February 12-13. Sec., Dr. C. P. Fall, Beatrice.

New York: January 28-31. Chief of Examinations Division, Mr. Harlan H. Horner, Department of Education, Albany.

Texas June and November Reports

Dr. W. L. Crosthwait, secretary of the Texas State Board of Medical Examiners, reports the written examinations held at Austin, June 25-27, and at Dallas, Nov. 12-14, 1912. The number of subjects examined in was 12; total number of questions asked, 120; percentage required to pass, 75. At the examination held in June, the total number of candidates examined was 136, of whom 127 passed including 3 osteopaths and 9 failed. The following colleges were represented:

PASSED College	Year Grad.	Per Cent.
Birmingham Medical College	(1898)	84.5
University of Southern California	(1909)	83.1
Hahnemann Medical College and Hospital, Chicago	(1884)	82
Atlanta College of Physicians and Surgeons	(1912)	79
College of Physicians and Surgeons, Baltimore	(1884)	75
College of Physicians and Surgeons, Boston	(1911)	76
University of Louisville	(1912)	81
Tulane University of Louisiana	(1910) 76; (1912)	78.2, 80.1, 80.1, 80.6, 81, 82, 82, 83.2, 86, 86.2, 87, 87.4.
Hospital Medical College, St. Joseph	(1881)	75.8
St. Louis University	(1912)	80
Woman's Medical College of Pennsylvania	(1910)	86
University of Pennsylvania	(1910) 84; (1912)	86.1
Vanderbilt University	(1912)	84.5, 86.7
University of Nashville	(1905)	76
University of Tennessee	(1911)	86.7
Meharry Medical College	(1909) 83; (1911) 75, 79, 82.5; (1912)	81, 81.8, 83.5, 85.5.
Baylor University	(1912)	76.1, 76.2, 77.6, 77.9, 78, 78.2, 78.7, 81.3, 81.6, 82, 83, 83, 83.8, 84, 87.9.
Fort Worth School of Medicine	(1898) 83; (1912)	77.6, 78.6, 78.8, 79.2, 80, 81, 82.7, 84.2, 84.2, 85, 86.1, 87.
Southern Methodist University	(1911) 81; (1912)	75, 76.6, 78, 78.2, 78.2, 79.3, 80.5, 83.2, 84.4, 85.
University of Texas	(1911) 83; (1912)	78.6, 79.4, 79.6, 79.9, 80, 81, 82, 82, 82.5, 82.8, 83, 83, 83.2, 83.8, 84, 84, 84.6, 84.6, 85, 85, 85, 85, 85, 85.2, 85.5, 85.7, 85.9, 86, 86, 86.1, 86.2, 86.5, 86.5, 86.5, 86.7, 87.7, 88.1, 88.3, 88.5, 89, 89, 89.2, 89.5, 89.6, 90.
University of Virginia	(1911)	89
University of Toronto, Ontario	(1882)	82
FAILED		
Hospital College of Medicine, Louisville	(1904)	67.3
Meharry Medical College	(1912)	65, 72.4, *76
Memphis Hospital Medical College	(1912)	*76.2
Baylor University	(1912)	74.1, *77
Southern Methodist University	(1912)	*76
Fort Worth School of Medicine	(1912)	66

* Fell below 50 per cent. in two or more branches.

At the examination held in November, the total number of candidates examined was 34, of whom 30 passed including 2 osteopaths and 4 failed. For one candidate who passed the college and year of graduation were not obtained. The following colleges were represented:

PASSED College	Year Grad.	Per Cent.
Chicago College of Medicine and Surgery	(1912)	82.6
Northwestern University Woman's Medical School	(1894)	88.3
Keokuk Medical College	(1892)	81.2
University of Louisville	(1912)	77.2, 79.8, 80.2
Kentucky School of Medicine	(1903)	90.8
Tulane University of Louisiana	(1909) 88.5; (1910)	83
College of Physicians and Surgeons, Baltimore	(1907)	88.5
University of Maryland	(1912)	87.7
Johns Hopkins University	(1910) 89; (1911)	86.8
St. Louis College of Physicians and Surgeons	(1909)	75.4
Long Island College Hospital	(1905)	88.9
Fordham University	(1909)	76.4
Hahnemann Medical College of Philadelphia	(1900)	86.2
Memphis Hospital Medical College	(1910) 75; (1912)	85.2
Vanderbilt University	(1912)	83.7, 89
Southern Methodist University	(1912)	83.7
Fort Worth School of Medicine	(1912)	83.7
University of Texas	(1907) 82.7; (1911)	87.9
McGill University, Quebec	(1910)	87.9
Ciruyano College, Mexico City	(1874)	79
FAILED		
University of Louisville	(1910)	71.3
Memphis Hospital Medical College	(1907) 71.8; (1908) 69.6; (1911)	76.6.*

Delaware December Report

Dr. Henry W. Briggs, secretary of the Medical Council of Delaware, reports the written examinations held by the regular and homeopathic boards at Dover and Wilmington, Dec. 10-12, 1912. The number of subjects examined in was 10; total number of questions asked, 100; percentage required to pass, 75. At the examination held by the regular board at Dover, the total number of candidates examined was 4, all of whom passed. Five candidates were licensed through reciprocity. The following colleges were represented.

PASSED

College	Year Grad.	Per Cent.
Medico-Chirurgical College of Philadelphia	(1912)	76.4
University of Pittsburgh	(1912)	90.7
University of Virginia	(1910)	86.2
University of Naples, Italy	(1904)	76.6

LICENSED THROUGH RECIPROCITY

College	Year Grad.	Reciprocity with
University of Maryland	(1905)	Maryland
College of Physicians and Surgeons, Baltimore	(1911)	Maryland
Jefferson Medical College	(1887)	Penna.
Medico-Chirurgical College of Philadelphia	(1904)	Penna.
University of Pennsylvania	(1911)	Penna.

At the examination held by the homeopathic board of Wilmington, two candidates were examined, both of whom passed. The following college was represented:

PASSED

College	Year Grad.	Per Cent.
New York Homeopathic Medical Coll. and Hosp.	(1911)	86.6, 89.5

Book Notices

Old-Time Makers of Medicine. The Story of the Students and Teachers of the Sciences Related to Medicine During the Middle Ages. By James J. Walsh, K.C.St.G., M.D., Ph.D., Dean and Professor of Nervous Diseases and of the History of Medicine at Fordham University School of Medicine. Cloth. Price, $2. Pp. 450. New York: Fordham University Press, 1911.

Dr. Walsh takes up the subject of "Great Physicians in Early Christian Times," "Great Jewish Physicians," "Maimonides," "Great Arabian Physicians," "The Medical School at Salerno," "Constantine Africanus," "Medieval Women Physicians," "Mondino and the Medical School at Bologna," "Great Surgeons of the Medieval Universities," "Guy de Chauliac," "Medieval Dentistry—Giovanni of Arcoli," "Cusanus and the First Suggestion of Laboratory Methods in Medicine," and "Basil Valentine, Last of the Alchemists, First of the Chemists." The last named Dr. Walsh treats with special affection and reverence as "deeply imbued with the old monastic spirit" and characterized by a "fine spirit of sympathy with humanity" and "simplicity of life and purity of intention," especially as compared with his supposed successor Paracelsus. It will be a sad loss to Dr. Walsh's company of medieval scientists if, as indicated by recent investigations on which we shall comment soon, the old "Thuringian monk" proves to be a product of seventeenth-century ingenuity, constructed from fragments of Paracelsus' writings and projected into the past.

His argument is largely intended to show that the decadence of the early Middle Ages was due to the natural shifting of masses of population, and that the one stable element during the period, the medieval church, acted first as the custodian of the traditions of learning and later as the fostering guardian of now forgotten and unappreciated culture. During the later Middle Ages many powerful intellects made beginnings in the science and art of medicine. It may seem to the reader that Dr. Walsh is ready to ascribe to the whole of medieval Europe the light which glowed here and there in a few centers of culture and learning and to assume that science had brought forth ripe fruit, the full corn in the ear, at a time when the first blades were but piercing the soil, for he speaks rather scornfully of "the supposed continuous progress of the race and its marvelous advance." Even by those who cannot fully share Dr. Walsh's enthusiasm, however, it should be admitted that our twentieth-century science was not spontaneously generated, but evolved from far-distant beginnings in the past. To say that these beginnings were small and feeble (we do not accuse Dr. Walsh of saying so) does not imply that they were insignificant or that those who made them were inferior. Each age is, to use Newton's figure, like a dwarf standing on the shoulders of a giant—the mighty Past. Even if the scientific achievements of the Middle Ages were great rather in potentiality than in actuality, this careless and forgetful age is indebted to Dr. Walsh for bringing to light their momentous significance, "for," in the words of the great historian Stubbs, "the roots of the present lie deep in the past, and nothing in the past can be dead to the man who would learn how the present came to be what it is."

Diseases of the Eye. A Manual for Students and Practitioners. By J. Herbert Parsons, D.Sc., M.B., B.S., F.R.C.S., Ophthalmic Surgeon, University College Hospital, London. Second Edition. Cloth. Price, $4 net. Pp. 684, with illustrations. Philadelphia: P. Blakiston's Son & Co., 1912.

Mr. Parsons has thoroughly revised his excellent manual and made many additions to the text and to the illustrations. In some ways this is the most complete and up-to-date of the many manuals of ophthalmology. As one would anticipate, it is very full with respect to the anatomy, physiology and pathology of the eye, and it is all written in a most delightful style. The chapters on physiologic optics and the neurology of vision are excellent, and the descriptions of diseases, operations, etc., exceptionally clear and satisfactory. The illustrations are unusually good, and those by Dr. Head are beautiful. One finds little to criticize, except with reference to treatment. If the work is intended for the guidance of practitioners, as the title suggests, the text is not sufficiently full and explicit in regard to the treatment of some of the commoner affections of the eye. The management of blennorrhea neonatorum, for instance, a condition which is always first seen by the family doctor or the obstetrician, and which still causes 25 per cent. of all blindness, is dismissed in twelve lines. The use of sodium salicylate, in very large doses, in cyclitis and sympathetic ophthalmia, which has proved of such great value in this country, is not mentioned. We believe that experiences with tuberculin as a diagnostic and therapeutic agent warrant a more hopeful view of tuberculous disease of the uveal tract than Dr. Parsons indicates, thereby making enucleation less justifiable. After reading the preceding pages on elementary and physiologic optics, one is surprised to find the following statement on page 73 with reference to the effect of atropin on the eye: "It has so potent an action that it abolishes the tone of the ciliary muscle. Thus, an emmetropic eye placed fully under the influence of atropin becomes hypermetropic to the extent of about 1 D.; this must be taken into account in correcting errors of refraction." This suggests the question: When is an emmetropic eye not an emmetropic eye? If the statement is allowed to stand, it takes away the entire foundation from all accurate refraction work.

The Anatomy and Histology of the Human Eyeball in the Normal State. Its Development and Senescence. By Dr. Maximilian Salzmann, Titular Professor of Ophthalmology, University of Vienna. Authorized Translation by Dr. E. V. L. Brown, Instructor in the Pathology of the Eye, the University of Chicago. Cloth. Price, $5. Pp. 232, with 14 illustrations. Chicago: Chicago Medical Book Company, 1912.

As is well known, Salzmann has for many years given courses in Vienna, in German and in English, on the anatomy and histology of the eye. Many Americans have profited by these courses, and no doubt some have been of the number who have urged the author to publish his lectures. We are informed that in authorizing the translation, Salzmann has insisted on the most literal rendition possible, consistent with the English idiom. His loyal pupil and devoted admirer has found a true labor of love in the translation. As one reads, one is convinced that the book is the result of years of painstaking work as student and teacher, and that the author has been satisfied with nothing less than absolute accuracy in so far as it has been possible for him to attain it. The citations from the literature show that he has made use of all available knowledge from the work of others, but one judges that he has accepted little without personal examination and verification.

The asymmetry of the eyeball as viewed from the outside, and the shorter measurements on the nasal side interiorly are features of the work deserving especial mention. The division of the eye into zones as well as into coats for purposes of study is new and has a distinct advantage in clarifying a difficult subject. The clinician will find helps in the author's presentation of the structures of the scleral furrow, the significance of the ophthalmoscopic picture in relation to the anatomy of the posterior segment, the topography of the anterior segment, and the appearances of age in the eyeball. The statements in regard to the suspensory ligament of the lens and its relation to the ciliary body and vitreous are the outcome of Salzmann's individual researches, and are perhaps the most authoritative words which we possess on the subject.

Too much cannot be said of the illustrations; practically all are original, and all are beautiful. They bear the marks of painstaking labor by a master.

Duodenal Ulcer. By B. G. A. Moynihan, M.S. (Lond.), F.R.C.S. Second Edition. Cloth. Price, $5 net. Pp. 486, with illustrations. Philadelphia: W. B. Saunders Company, 1912.

In this edition the author reiterates with emphasis his conviction, which he expressed in the former edition, that hyperchlorhydria means duodenal ulcer, and he presents further evidence bearing on this subject. Moynihan also doubts the diagnostic value of chemical examination of the stomach contents and says: "To say the truth, the results of the chemical examination of the stomach contents in cases of duodenal ulcer are rarely of any value. The results really do not help one to gain any opinion more accurate than that which is procured after a close study of the anamnesis alone." He thinks that the term "hyperchlorhydria," which has come to be used in a general sense, should no longer be so used but should be held strictly to indicate the excess of active hydrochloric acid in the stomach contents.

The chief additions to this edition are found in a chapter on the treatment of "Melena Neonatorum and Duodenal Ulcer," in an entirely new chapter on "Jejunal and Gastrojejunal Ulcer," and in a considerable increase of the matter in the chapter on "Differential Diagnosis." There is also a second appendix in which are found detailed statements of patients operated on in 1909 and 1910.

The influence of more extensive observation and experience is shown now and then by slight modifications in the wording of the text, the effect of which is simply to make more impressive the author's views. One can scarcely read the work and study the cases without being convinced that duodenal ulcer is really a surgical affection.

General Medicine. Edited by Frank Billings, M.S., M.D., Head of the Medical Department and Dean of the Faculty of Rush Medical College, and J. H. Salisbury, A.M., M.D., Professor of Medicine, Chicago Clinical School. Cloth. Price, $1.50. Pp. 404. Practical Medicine Series. Chicago: The Year Book Publishers, 180 N. Dearborn Street, 1912.

This volume of the Practical Medicine Series is up to the usual standard as a review of the literature of medicine during the year 1911. The two subjects of tuberculosis and heart and blood diseases occupy the bulk of the volume. The review of the writings on the newer conception of the disturbances of the heart and circulatory system as studied by means of the electrocardiograph, the x-ray and other diagnostic instruments is especially interesting and valuable. The literature on diabetes is also reviewed at some length and in an interesting manner.

Manual of Practical Physiology. Designed for the Physiologic Laboratory Course in the Curriculum of the American Association of Medical Colleges. By John C. Hemmeter, M.D., Ph.D., LL.D. Cloth. Price, $2.50 net. Pp. 223, with 55 illustrations. Philadelphia: P. Blakiston's Son & Co., 1912.

This book gives the student directions for conducting laboratory experiments. It illustrates demonstrations on animals, such as the frog, showing the effects of electricity and medicines. One chapter is devoted to the examination of the blood, with illustrations of different apparatus for recording the blood-pressure. Another chapter gives experiments showing the effects of the internal secretions on the body. The theories of immunity are discussed, and hemolytic experiments are outlined. The book can be recommended to the laboratory student.

Making Good on Private Duty. Practical Hints to Graduate Nurses. By Harriet Camp Lounsberry, R.N. Cloth. Price, $1 net. Pp. 208. Philadelphia: J. B. Lippincott Company, 1912.

This is an excellent little book dealing with the problems and difficulties encountered by the nurse who leaves a well-equipped hospital to take up "private duty," for which in most instances she has not had suitable or adequate training.

Medicolegal

Selection of Physician and Services Recoverable for in Injury Case

(Hunt vs. Boston Terminal Co. (Mass.), 98 N. E. R. 786)

The Supreme Judicial Court of Massachusetts holds that where a person is injured by another's negligence, and uses reasonable care in selecting a physician to attend him and in following his directions, then the one guilty of negligence is liable for the resulting injuries even though a higher degree of medical skill might have minimized the injuries. If the appearance of the patient's body resulting from the defendant's wrong, together with an honest and fair statement of his feelings and sensations, are such as sometimes in common experience might cause an attending physician, selected in the exercise of reasonable prudence in view of the seriousness of the injury, to believe that a certain physical condition existed, and to give treatment in accordance with that belief, then the defendant will be responsible even though subsequent developments may demonstrate that the supposed physical condition in fact did not exist, and would not have been supposed to exist by a physician more skilful, experienced or highly trained, and even though the injury may be aggravated by the treatment in fact given. The causal connection is not broken under these circumstances, though one or even two surgical operations may have been performed. And in an action by a husband to recover compensation for expenses incurred by him in consequence of an injury to his wife occasioned by the negligence of the defendant, an instruction was correct which told the jury that it made no difference how much the plaintiff had paid for surgeons and physicians, he could only recover the fair value of such services so far as they were rendered in the treatment of physical ills resulting from the defendant's tort, and that he could not recover unless the services rendered were such that the physicians, if plaintiffs in an action against him, could recover, and that his right of action was measured only by his legal obligation to pay them.

Employer Furnishing Treatment Out of Charity

(Allegar vs. American Car & Foundry Co. (U. S.), 198 Fed. R. 447)

The United States District Court, in Pennsylvania, does not consider that a case of liability was made out against the defendant company. It says that the plaintiff's leg was broken at about 3 o'clock in the morning, while engaged at the company's works. The latter's employees, immediately after the accident, took the plaintiff to the company's emergency hospital, and from thence to a public hospital, for medical and surgical aid. The plaintiff said that he protested against being so taken, and requested to be carried to his home, a quarter of a mile away, and there have the services of his own physician, living some nine or twelve miles distant. His limb was set and treated at the public hospital by a physician, and, after remaining there a short time, he was taken to his home. The limb at present shows some deformity and occasions suffering. It appeared in the case that whatever was done at the time the plaintiff was taken to the public hospital was prompted by the purest motives of charity, and intended for his comfort and personal benefit. It was not made to appear that there was negligence in the selection of the place and the means for treatment of the plaintiff. Nor was negligence to be inferred from the condition of his leg. This may have resulted from the physician's negligence, even though due care was exercised in his selection. That it was the lack of due care in the employment of a prudent physician, occasioning the suffering, was not made to appear. Even where it is shown that an employer undertakes, as a pure matter of charity, to furnish medical treatment to sick or injured employees, due care need be exercised only in the employment of a prudent physician. The employer is not liable beyond this for the negligence of the physician employed. Again, there was no evidence warranting the jury in finding that the plaintiff was treated by the physician in charge at the public hospital at the request or by consent of the defendant. Too much was left for inference. Where the charge of negligence is relied on for recovery, as in this case, it must be clearly shown that the one called on to answer has been at fault.

Society Proceedings

WESTERN SURGICAL ASSOCIATION

Twenty-Second Annual Meeting, held at Cincinnati, Dec. 20-21, 1912

(Concluded from page 238)

Ventral Tumors of the Sacrum

DR. ARTHUR AYER LAW, Minneapolis: In this case a large tumor shows a loose, rapidly growing connective tissue stroma in which nests of embryonic cells grow in syncytial-like masses suggesting malignancy in their manner of growth and appearance. Areas of hemorrhage, necrosis and calcareous degeneration demonstrate the atypical character of the tissue, its rapid development and imperfect blood-supply. A smaller tumor suggests a neuroma in its general characteristics, although neuroglia fibrils have not yet been demonstrated. That the tumor springs from some misplaced remnants of the terminal portions of the neural tube seems a logical conclusion. That portions of it have developed abnormal powers of proliferation and show signs of malignancy change, while other portions have in an imperfect manner reproduced the adult type of nerve tissue, is the only explanation which apparently explains these rather widely diversified tumor masses.

DISCUSSION

DR. E. S. JUDD, Rochester, Minn.: Since Dr. Law has called my attention to this case, I have reviewed our own cases of retroperitoneal tumors and found in the list five cases that, in some respects, are similar to Dr. Law's case. Of the five patients three were operated on by W. J. Mayo, one by C. H. Mayo, and one by myself. One patient was a woman, aged 44, who came to the hospital complaining of constipation and bleeding from hemorrhoids. A tumor the size of an orange could be felt by vagina and rectum; it came to the midline in the pelvis and extended to the right side. Examination otherwise was negative. Wassermann was negative. At operation, through an abdominal incision we found a retroperitoneal tumor apparently growing from the right wall of the sacrum, about the second foramen, bulging out as a tumor the size of an orange under the periosteum and deep fascia, lying between the upper rectum and lower sigmoid and cervix, completely filling that portion of the pelvis. The abdomen and the posterior peritoneum and floor of the pelvis to the right were opened; this tumor, which resembled a hypernephroma, was enucleated and most of the capsule removed. It appeared to be broken down; in the sacrum near the third foramen was an opening the size of the end of a finger, through which the pedicle of the tumor seemed to go. Report of pathologist, inflammatory.

A second patient, a woman, aged 57, had rectal tumor; incontinence; six months before, hemorrhage from bowel; pain and rectal spasm frequently since; bowels gradually became obstructed, and now almost unable to have bowel movements. She lost 10 pounds in weight; had radiating pains from sacral area to thighs and vagina. Examination disclosed a tumor posterior to the rectum. Posterior incision was made at the lower end of the sacrum and all of coccyx removed which was involved in the tumor. The tumor, size of an apple, was apparently a sarcoma of the anterior surface of the lower end of the sacrum and upper coccyx. The third, fourth and fifth sacral vertebrae were involved. The tumor had perforated posteriorly and a large amount of soft sarcomatous tissue had escaped into the hollow of the sacrum. Report of pathologist, giant-celled sarcoma.

DR. JABEZ N. JACKSON, Kansas City, Mo.: I have observed two cases of ventral tumor of the sacrum of two different types. One was exceedingly interesting; the patient, aged 26, was under observation primarily for the purpose of cesarean section. She had a tumor behind the rectum which was recognized some time before pregnancy by a country doctor who warned her at the time not to permit herself to become pregnant. She was in labor forty-eight hours, but as things were not progressing as they should, he at once brought her to Kansas City for operation. Cesarean section was done, followed by hysterectomy. The tumor presented itself a little to the left of the rectum; it turned to the right slightly as well as anteriorly. When the peritoneum was split the tumor was enucleated with practically no bleeding, and after enucleation it showed no apparent point of attachment whatsoever, except that when shelled out the whole anterior surface of the formation of the sacrum was revealed; but it was enucleated without the presence of a pedicle or without definite knowledge as to its original point of development. It was a solitary cyst which on pathologic examination was found to be a simple cyst without a determination of what elements could have been the original focus.

The second patient who came under observation was a man, aged 45. He complained of pain in the lower pelvis, particularly about the rectum during defecation, and of some pains which radiated down the limb, until his physician thought there might be some trouble about the hip-joint. On rectal examination a tumor could be outlined near the lower end of the rectum about the size of a small orange. In operating I made an incision laterally, but on entering the tumor found the fluid cystic. It seemed that some inflammatory secondary condition had taken place, and the wall was so friable it was impossible to make any enucleation whatsoever. We removed certain portions of it and packed for drainage.

How Diseased May the Gall-Bladder Be and Still Functionate?

DR. B. B. DAVIS, Omaha: Certain conditions that are often found at operation are bound to destroy normal function for all time. Undue narrowing or complete obliteration of the lumen of the cystic duct makes a continuation of the function of the gall-bladder impossible. If the obstruction is incomplete, bile will slowly flow in, but the process of emptying is so retarded that stagnation, which always invites infection, is sure to occur sooner or later. Although safe and efficient delivery of the bile through the hepatic and common ducts into the duodenum can be carried on by the other forces without its aid, it can be done more effectually and with less liability to damming up of the current when accelerated by a perfectly functionating gall-bladder. I would, therefore, be the last to recommend indiscriminate removal. Removal ought never to be done unless the organ is so badly damaged that its function will be permanently lost. Drainage operations are not followed by the uniformly good results that ought to be obtained. Many of the unfavorable results might be avoided by a more thoughtful consideration of the capacity of the gall-bladder with which one is dealing to carry on its functions.

DR. CHARLES H. MAYO, Rochester, Minn.: Often we take out the gall-bladder when we should leave it. When a patient complains afterward and comes back to us for a secondary operation, we say that the gall-bladder ought to have been removed. In about half of such cases we find that the gall-bladder ought to have been removed at the first operation. In the other half we find an enormous mass of adhesions; we find the duodenum adherent to the liver and scarred; the pylorus adherent to the gall-bladder and margin of the liver. We say that we wish we had done something to prevent those adhesions, not thinking at the time that those are the adhesions which make secondary symptoms; that that particular gall-bladder was not diseased, but that adhesions occurred on account of bad surgery.

Pyelotomy for the Removal of Renal Calculi

This paper, by Dr. Daniel N. Eisendrath, Chicago, will appear in The Journal.

Radical Cure of Inguinal Hernia

Dr. William Hessert, Chicago: Our choice of operative technic should be determined by the anatomic findings. We have all seen cases in which it would have been impossible to perform a typical Bassini operation. Owing to the absence of the conjoined tendon and the high insertion of the muscles into the rectus, the former could not be brought down to Poupart's ligament, without creating too much tension. Either the muscle would tear at once or necrosis would occur later. Attention has been called to the fact that this inner portion of the canal should be especially fortified against recurrence. The technic which is best adapted to meet the requirements of these cases is the imbrication modification of Andrews. By bringing down to Poupart's ligament the edge of the fascia of the external oblique and as much of the muscle as possible, we secure a very firm covering for this weak area, which is further fortified by the overlapping of the lower flap of fascia. In cases in which the triangle is especially large, or the external oblique aponeurosis is especially thin, the Bloodgood technic will be found of service. By incising the edge of the rectus sheath, the fibers are exposed and a portion of the muscle can be brought down and sutured to Poupart's ligament, thus supplanting the conjoined tendon which is absent. The operation can be completed by following the Andrews technic.

The conjoined tendon is deficient or absent more commonly than has been generally taught. This anomaly supplies an important predisposing factor in the development of direct hernias, and probably plays a certain rôle, though a minor one, in the etiology of oblique hernias. The presence of this defect precludes the performance of the Bassini operation as a routine, except in children. The Andrews imbrication method best fulfils the indications regardless of whether the tendon is present or absent. The Bloodgood transposition of the rectus is an excellent aid when required.

DISCUSSION

Dr. C. M. Nicholson, St. Louis: In probably five cases out of ten that have come under my observation there has been a separation of the aponeurosis of the external oblique, and the intercolumnar fibers could be seen plainly a distance of an inch and a half. If the trouble is due in a large percentage of cases to the absence of any structure, it seems surprising that clinically we obtain such excellent results by doing some modification of the Bassini operation, probably infolding in accordance with Ferguson's suggestion. I feel sure that in something over five hundred herniotomies, not strangulated or complicated, but simple hernias, I have seen but three recurrences, and these were all due to a condition other than that described by Dr. Hessert. All three were in children and were due to a lack of development of the external oblique muscle. I have therefore come to the conclusion that the hernia was not due to a preformed sac, except in that variety of hernia which we know is congenital, that is, irrespective of the time it forms.

Dr. A. E. Benjamin, Minneapolis: I think that Dr. Hessert is right in his conclusion that the conjoined tendon is often absent. It has been my practice in these cases to transplant the fat: after tying it off I pass it back of the transversalis and bring it up high, so as to have the intra-abdominal pressure in the sac after that comes against the transversalis muscle. In that way, we take off the strain; but the fibers of the transversalis and internal oblique I have brought underneath Poupart's ligament with modified Halsted mattress sutures, bringing that out through the skin. This frequently was done because at the time we first developed the operation we did not have suitable catgut or suture material which we could rely on. At present this does not obtain.

Dr. F. Gregory Connell, Oshkosh, Wis.: I have encountered the absence of the conjoined tendon. In these cases we have a direct hernia of the deep epigastric vessels formed under the internal margin; the internal ring, while not bulging, is below. We might call it a ventral hernia rather than inguinal, as it is not inguinal in the strict sense of the word in that it does not come through the inguinal canal.

Dr. M. L. Harris, Chicago: I am fully convinced that all hernias that develop in the active period of life are congenital in origin. By this I mean that they are due to congenital defects. I will exclude the hernias—the simple hernias—that develop in the aged, coming at a period of life when there is general atrophy and wasting of the tissues. Every hernia developing in the inguinal region during the active period of life has its origin in a congenital defect. I have had the opportunity of operating in several so-called traumatic hernias that appeared soon after an injury or a fall. In every one of these I have found congenital sacs, and there has never been any difficulty in determining after the operation that the sac was of congenital origin. The absence of the conjoined tendon is a material factor in the causation of hernias.

Dr. Daniel N. Eisendrath, Chicago: In addition to the fact oftentimes of lack of development of the conjoined tendon or atrophy of the fibers of the internal oblique, this condition is found when the conjoined tendon is fairly well developed. We find it in stout persons who have attenuated oblique muscles, in whom there is practically only white muscle; and lying between the white fibers we find quite a lot of fat. What good does it do to perform the old Bassini operation? To do so would invite disaster. Those who are acquainted with the operation have adopted as a routine method the Wyllys Andrews method of imbrication of the muscles because it has a tremendous advantage.

Dr. William Hessert: I do not assert that the absence of the conjoined tendon is the cause of hernia, except as having a certain bearing on the formation of direct inguinal hernias. I think that Dr. Harris put the matter tersely when he said that the hernias which occur during young adult life are based on certain developmental defects. It is either a congenital hernial sac or some developmental defect, such as absence of the conjoined tendon or peritoneal muscles or fascia in this region. Added to that, we must have the predisposing factors which bring down the hernia.

Spinal Anesthesia

Dr. J. W. Andrews, Mankato, Minn.: Cocain is the best spinal anesthetic. The solution used should be weak; 0.5 to 1 per cent. is strong enough. The lumbar spine is the regional point of election for spinal puncture. Under spinal anesthesia the tissues will not bear pulling or tearing. Pulling or tearing or roughly handling living tissue is bad surgery. Busy surgeons cannot use spinal anesthesia.

DISCUSSION

Dr. James E. Moore, Minneapolis: The chief objection to spinal anesthesia is its danger. Spinal anesthesia was first suggested by Corning, and was first put into practice by Bier in 1898, who abandoned it for a time on account of the mortality connected with it. In 1903 and 1904 stovain and novocain were introduced. At present novocain is the favorite drug for this purpose. In the University of Minnesota we use no other drug for local or spinal anesthesia. So far, we have had no mortality and no uncomfortable symptoms. We have used it locally for hernia operations and the like.

Dr. M. L. Harris, Chicago: The element of time is a factor in the ill effects of an anesthetic. You can kill any animal by keeping him under an anesthetic for a certain length of time, and if the quantity is the same the animal will inevitably die. The changes are in direct proportion to the time in which the anesthetic is given.

Dr. A. W. Abbott, Minneapolis: We have been making some experiments in reference to ether as compared with nitrous oxid, and for two or three years I have kept records of these cases with reference particularly to the results on the kidneys. In many instances we have been able to secure the urine in from ten to fifteen minutes after ether anesthesia is begun, and we find that a slight albuminuria is produced. It is not 1 per cent. or 10 per cent., but every one of the cases has had a slight albuminuria. As a general thing, casts begin to show in the urine taken in the course of an hour. My experience in that line directly corresponds with what Dr. Harris has said, namely, that an amount of injury to the kidney follows in proportion to the length of time you give the anesthetic. The longer you give it, the greater the amount of albumin, and the more abundant the casts. We have the records of one hundred of these anesthesias, and I believe what I have stated is absolutely correct. This applies in a minor degree to nitrous oxid with oxygen, which we have used a great deal. It is followed by the same disturbances. Whatever anesthetic we use, we are going to have kidney complications, and that is a good reason why we should get through with an operation as quickly as possible and not keep the patients under the anesthetic any longer than necessary.

Dr. L. L. McArthur, Chicago: It takes seven times as much novocain per kilogram of body-weight as it does cocain to kill. So far as their anesthetic properties are concerned, they are practically identical. Novocain is now the drug universally used on the Continent and in England, instead of cocain, on the basis of its toxicity.

Coexisting Infection and Sarcoma of the Thyroid

Dr. Miles F. Porter, Fort Wayne, Ind.: Sarcoma of the thyroid is very rare, and sarcoma complicated with infection still more rare. Only eleven cases are reported in the United States to June, 1906. A previous history of goiter exists in 53 per cent. of cases of malignant thyroid (carcinoma and sarcoma), and in half of these for more than ten years. Two-thirds of the cases were in women, and 53 per cent. of the patients were between 40 and 60 years of age. Metastasis of sarcoma of the thyroid by way of the lymphatics is not infrequent. The neighboring bones are frequent seats of metastasis. It is difficult to differentiate between the round-cell variety and lymphosarcoma. Complete destruction of the gland tissue by sarcoma is quite common. Sudden growth of an old goiter, especially if accompanied with pain, is significant of malignant invasion, as is hemorrhage into a goiter. Careful examination of all goiters removed will develop the fact that malignancy is more frequent in the thyroid than it is now supposed to be.

Boning of the Thoracic Precardial Wall in Certain Affections of the Heart

Dr. John E. Summers, Omaha: Cardiolysis is done for the purpose of easing a heart musculature which is constantly being strained by the tugging of the heart against the chest wall because of adhesions between the pericardium and its neighboring organs—mediastinum, diaphragm, pleura, or sternochondrocostal wall. Brauer conceived the idea that it would be of advantage to remove the unyielding, bony precardial wall, changing it "into a movable elastic wall formed solely by musculocutaneous flaps," which also gives a hypertrophied organ more room in which to work. This idea was carried out by Peterson and Simon first, in 1902. Very weak hearts will not be benefited by this operation; the patient must be one whose heart responds to medication and relief from all strain; this is the most important indication for operation and it must be positive. The more evident the sign of tugging, the better the condition of the heart muscle, and the more surely will relief come to it if the overlying bony wall is removed. In J. F., a florist aged 29, illness began gradually, three years before, with "bloating," tiring easily, and shortness of breath on exertion. His condition became rapidly worse until he was entirely incapacitated. At the time of consultation all of the symptoms which characterize a hypertrophied heart with costopericardial adhesions were positive. There were marked damming-back symptoms (*Stauungserscheinen*), ascites, a moderate general anasarca, etc. The patient was placed in the hospital and in three weeks' time compensation was restored, the heart action became regular, the murmur disappeared, and the heart sounds became clear. A few days later, March 13, 1912, cardiolysis—boning of the thoracic precardial wall—was performed, with the double purpose of easing the heart by doing away with the adhesions to the chest wall, and of giving the enlarged organ more room. Convalescence was uneventful, and to-day the man is in good health, although, of course, not sound. From the literature which is all foreign, the most favorable cases and the only ones in which one can speak of the real, lasting relief, are those which it is possible to keep under observation for a fairly long time after the operation, as in this instance; in all cases, however, in which the symptoms point positively to operation, there is no question that amelioration takes place immediately, or shortly after the operation. The study of the failures is important because it serves to establish the exact indications and contra-indications for operation; in all these, either the index for operation was not positive, or there were other complications.

Current Medical Literature

AMERICAN

Titles marked with an asterisk (*) are abstracted below.

American Journal of Urology, New York

December, VIII, No. 12, pp. 607-652

1 Anatomy of Kidney. C. W. Bonney, Philadelphia.
2 Limitations of Cystoscope. G. S. Whiteside, Portland, Ore.
3 Surgery of Kidney: Based on Case Records of Ten Years. J. F. Baldwin and H. A. Baldwin, Columbus, Ohio.
4 Hypernephroma in Horseshoe Kidney. T. R. Wolff, Helsingfors, Finland.
5 Sexual Impotency in Male. V. Blum, Vienna.

Annals of Surgery, Philadelphia

January, LVII, No. 1, pp. 1-144

6 *Gastrocoloptosis. T. Rovsing, Copenhagen.
7 New Principle in Esophagoscopy and Gastroscopy. R. Lewisohn, New York.
8 *Intratracheal Insufflation Anesthesia. F. J. Cotton and W. M. Boothby, Boston.
9 *Anesthetic Effects of Intravenous Injection of Paraldehyd. H. Noel and H. S. Souttar, London.
10 Traumatic Rupture of Spleen (Complete); Splenectomy. A. M. Fauntleroy, U. S. Navy.
11 Spontaneous Rupture of Malarial Spleen. L. Noland and F. C. Watson, Panama, Canal Zone.
12 *Use of Murphy Button to Effect Duodenojejunostomy After Gastrojejunostomy. W. Bartlett, St. Louis.
13 Ileus Due to Meckel's Diverticulum. A. B. Eustace, Chicago.
14 Extrasaccular Hernia. A. J. Walton, London.
15 *Instrument for Establishing Fecal Drainage. W. C. Lusk, New York.
16 Rupture of Sprain Fracture of Ligamentum Patellae. W. H. Luckett, New York.
17 Method of Focusing Several Electric Lights on Field of Operation. W. Bartlett, St. Louis.

6. Appeared in The Journal, August 3, p. 334.

8. **Intratracheal Insufflation Anesthesia.**—Intratracheal insufflation respiration, according to Cotton and Boothby, is the only artificial method that absolutely provides for a sufficient aëration of the lungs, regardless of the respiratory movements of the patient, and that properly administered and safeguarded can be rendered devoid of intrinsic danger. In consequence, anesthesia by this method is held to be indicated whenever the operation is about to interfere in any way with the ability of the patient to respire voluntarily. Therefore it ought to be used in all intrathoracic work and in extensive operations about the head, neck and mouth. Of the various anesthetics to be used with this method, ether with air, preferably applied by a foot pump, is regarded by the authors to be the most applicable for general use; however, nitrous oxid-oxygen with minimal quantities of ether may occasionally be the anesthetic of choice. To prevent deaths from emphysema, no matter what form of apparatus is used, the same must be provided with a safety-valve by means of which the intrathoracic pressure cannot exceed 15 mm. mercury.

9. **Anesthetic Effects of Paraldehyd.**—The authors mix 5 to 15 c.c. of paraldehyd with an equal amount of ether and dissolve the mixture in 150 c.c. of a cold 1 per cent. solution of sodium chlorid in sterile distilled water free from dead bacteria, or, in default of this, in ordinary boiled tap water. The solution should be perfectly clear after shaking. It is placed in a sterile bottle with a rubber stopper through which pass two glass tubes. To one of these tubes a bellows is attached. The other reaches to the bottom of the liquid and leads off by a long rubber tube to a fine hypodermic needle. The solution may be injected cold or at a temperature not exceeding 25 C. The patient's arm being surrounded with a light tourniquet

bandage, a prominent vein is selected, the skin is cleansed with ether and the needle inserted. A back flow of blood through the needle into a glass tube in the rubber connection shows that the vein has been entered. The tourniquet is removed, the bellows worked and the fluid is steadily driven into the vein at the rate of 5 to 10 c.c. per minute.

The following phenomena are observ d: In five seconds the patient tastes paraldehyd. In ten seconds it can be detected in the breath. The patient has a sensation of general warmth. In twenty seconds the patient has a sensation of floating and perhaps of slight dizziness. In thirty seconds consciousness is disappearing. In forty seconds unconsciousness is complete. In sixty seconds the patient is deeply unconscious. In ninety seconds the corneal reflex is absent and anesthesia is complete. Reflex movements may, however, occur. Up to this point about 5 c.c. to 10 c.c. of paraldehyd will have been given and small operations, such as removing teeth or suturing wounds, may be performed. The drug is, however, excreted by the lungs with great rapidity, and for a lasting effect the whole 15 c.c. will usually be required. The latter effects of the drug depend largely on the amount given. The dosage is under absolute control, and hence there is never any danger from an overdose. The moment injection ceases the effect of the drug begins to pass off as the drug itself pours out through the lungs. The authors, therefore, consider the use of intravenous paraldehyd to be practically safe, and have ventured to use it as a hypnotic in cases of grave cardiac and pulmonary disease with perfect success.

12. **Duodenojejunostomy After Gastrojejunostomy.**—Being forced to devise a method of short-circuiting the duodenum, Bartlett exposed the stomach and made an incision in the anterior wall of this structure, allowing access to the gastroenterostomy opening in the posterior wall. With a hysterectomy clamp, one-half of a Murphy button was introduced through the opening in the posterior wall into the duodenum, then the other half of the button was introduced into the jejunum. Two small incisions were made through the intestinal wall, exposing the neck of each half of the button. Then the two portions of the bowel contiguous to the gastroenterostomy opening in which the halves of the Murphy button had been placed were brought together and a short circuit established by telescoping the two halves of the button. The method was extremely easy to accomplish, the only difficulty experienced being in protecting the field with packs. Following the operation, the patient vomited only once before leaving the hospital, and that a few hours after operation.

15. **Instrument for Establishing Fecal Drainage.**—The principle employed by Lusk in the construction of the instrument consists in the mechanical compression of the whole thickness of the bowel wall in a circle around a perforation in the bowel, between a ring introduced within the bowel and a cap closing over the ring from without, which maintains a watertight joint around the perforation a sufficient length of time for protecting adhesions to take place between the bowel outside the area grasped by the instrument and the abdominal wall, before the instrument cuts through the tissues it compresses. This mechanical device does away with suture of the intestine to the abdominal wall, the bowel being held in position instead by tying the instrument grasping it, into the wound. The instrument has been tested in five normal dogs and in one case of intestinal obstruction in man. The operations were all performed under general anesthesia. In every instance adhesions formed between the bowel outside the area grasped by the instrument and the wound in the abdominal wall, without any infection of the peritoneal cavity.

Archives of Pediatrics, New York

December, XXIX, No. 12, pp. 881-951

18 *Treatment of Hemorrhagic Disease of New-Born. B. Vincent, Boston.
19 *Pyloric Obstruction With Comparative Study of Normal Stomach of Infants. G. R. Pisek and L. T. Le Waid, New York.
20 Objective Method of Teaching Food Values and Food Requirements. C. B. Farr, Philadelphia.
21 Method of Scoring Viability of Infants Under Care of Hospitals and Infants' Welfare Organizations. H. L. Coit, Newark, N. J.

18 and 19. Abstracted in The Journal, January 4, p. 74.

Boston Medical and Surgical Journal

January 9, CLXVIII, No. 2, pp. 37-72

22 *One Hundred and Ten Cases of Renal and Ureteral Calculi and Ten Cases Simulating These Conditions. F. S. Watson, Boston.
23 Some Results of Dispensary Work in Control of Tuberculosis. C. Floyd, Boston.
24 Sacrifice to Asklepios: A Mime of Herondas. R. M. Green, Boston.
25 Treatment of Hypospadias. H. A. Lothrop, Boston.

22. **Renal and Ureteral Calculi.**—The following is a summary of the medical treatment mentioned by Watson: For renal colic the combined use of ether inhalations and moderate doses of morphin. Heat to the affected side. An abundant supply of water to be drunk. Liquid or milk diet.

To aid in expulsion of calculus from the kidney the treatment far the most successful in the writer's experience is: Spirits turpentine in 10 minim doses in gelatine capsule t.i.d. Diet of milk, each tumbler diluted one-quarter part with water, milk to be slightly warmed and drunk slowly. Fish and dry toast may be taken once daily. Patient is to rest recumbent during the regimen and to take occasional hot sitz baths. Treatment to last six days consecutively, then after a two-days' interval it is repeated once or twice, if necessary. After one month or six weeks of this treatment at most, if the stone has not passed, it should be removed by surgical operation. In every case in which the patients were freed from their calculi by medical treatment, cure was absolute and in twenty of them the patient's subsequent history was followed from three to twenty years subsequently. In but a very small number of these—six—was there any recurrence of the trouble. These patients got rid of their recurring calculi under the same treatment as was employed in the first instance. In seven of the cases treated medically there was failure to cause the calculus to pass. These patients were operated on successfully later. In 87 per cent. of Watson's fifty-four patients thus treated, in which the calculus was small enough to pass through the ureter, it was spontaneously expelled, while the patients were under medical treatment.

		Deaths	Cures
Number of patients operated on........	56	..	..
Nephrolithotomies	36	2	34
Subsequent nephrectomies	2	0	2
Ureterolithotomies	8	0	8
Nephrectomies in cases simulating renal calculus	3	1	1
Nephropexy in same class of case....	1	0	1
Freeing ureter of adhesions..........	2	0	2
Splitting capsule—nephralgia	2	0	2
The same for acute congestion........	2	0	2
	56	3	53

Operative mortality for total number is 5.3 per cent.

California State Journal of Medicine, San Francisco

January, XI, No. 1, pp. 1-38

26 Tolerance of Vitreous to Dislocated Lenses, as Index to Reclination in Given Cases. P. de Obarrio, San Francisco.
27 Neuroses of Mouth and Throat. M. W. Frederick, San Francisco.
28 *Urinary Tract Infections in Women. D. Hadden, Oakland.
29 Gastrotomy With Removal of 1,149 Foreign Bodies. Recovery. A. C. Matthews, Napa.
30 Milk Supply of San Francisco and Its Bacterial Content. E. E. Hutshing, San Francisco.
31 Importance of Non-Diabetic Acidosis. E. C. Fleischner, San Francisco.
32 Transfusion. N. H. Chamberlain, Oakland.
33 Epidemic Poliomyelitis. P. K. Brown, San Francisco.
34 Diagnosis of Tuberculosis of Skin. D. Friedlander, San Francisco.
35 Post Operative Acidosis. C. G. Levison, San Francisco.

28. **Urinary Tract Infections in Women.**—Hadden believes that urinary tract infections in women are usually associated with improper drainage on account of ptosis in some part of the tract or a relative ptosis produced by the displacement of an adjacent organ. The infection must occur in many cases autogenously, as mechanical interference can be frequently excluded. Any operation that weakens the bladder supports, or which may produce adhesions between the bladder and uterus gives a favorable condition for a chronic uro-sepsis, and consequently offers a serious objection to any anterior plica-

tion operation. In many cases a bacteriologic examination only will give the diagnosis, as albumin and pus are variable constituents, but it must be made from a catheterized specimen when no urinary antiseptics are present in the urine. When vaccine treatment has cleared up or improved the infection, operative work is necessary to correct the sag and cure the patient's symptom habit, as well as to prevent further auto-infection. In some cases operative work alone will increase the patient's resistance and result in a cure of the infection.

Cleveland Medical Journal

December, XI, No. 12, pp. 859-938

36 Persistent Priapism in Splenomyelogenous Leukemia. H. O. Ruh, Cleveland.
37 Surgical Management of Certain Cases of Calculous Obstruction of Common Duct of Liver. W. D. Hamilton, Columbus, Ohio.
38 Eugenics: Rearing of Thoroughbred. H. E. Jordan, Charlottesville, Va.
39 *Pills and Other Drugs Versus Drugless Medication. N. Rosewater, Cleveland.
40 Three Cases of Foreign Body in Eye. C. C. Stuart, Cleveland.
41 Orthostatic Albuminuria. V. C. Rowland, Cleveland.

39. **Drugless Medication.**—This paper is a defense of drug treatment. Rosewater says: "I have no desire to place the use of drugs before anything and everything. All physicians agree in letting well enough alone, as they feel assured that the patient will accomplish just as much or more alone. But I enter this protest against our own colleagues prejudicing their patients and friends against those of us who prescribe drugs, by telling them, as I have heard they often do, that they had been drugged almost to death, that their systems are saturated with drugs, etc. When the public later on learn to know the truth, they will see behind such expressions prejudice, ignorance or malicious 'knocking.' Let us teach, rather, the true value and almost universal harmlessness of medication when properly directed by a competent physician, its shortness of stay in the body, etc. Let us teach, rather, the antidotal or eliminative nature of medicines to poisons either already in the body or being daily taken in but insufficiently antidoted; their use to replace substances natural or necessary to the body, but deficient or absent during disease, such as the internal organic secretions, hormones, antibodies, ferments, iron, calcium, etc. In other words, instead of a false, malicious dogma, teach the truth. Of late again this false cry is raised against drugs by those protesting that Nature provides her own defenses and antidotes, but in our study of Nature we find her both efficient and inefficient according to each individual situation. Just as a plant, which in time of drouth droops and fails, although ordinarily well able to grow and prosper, requires the gardener's hose intelligently applied to keep it from withering; just as a young sapling bent by the winds or by some abnormal defect can be made to grow straight and strong by propping it up until it grows stronger; just as certain soils require fertilizers, so does the human plant require the specific aids its defects demand. The plant needing fertilizers or water will not be saved by prayer or massage or Christian Science; nor will the human plant, needing calcium or iron, find a substitute in electricity or in jolly disposition or wish. As to those who do not like to give drugs (usually from ignorance of their value or application), faith curists, Christian Scientists, osteopathists and other 'pathists,' who start out prejudiced against any other treatment than their own exclusive pathy, they have indeed a very narrow point of view from which they study Nature. The physician of to-day, trained as a true student of Nature, recognizes no exclusive road or pathy; every new instrument, drug, application or method, psychic or otherwise, is only one more weapon in his great armamentarium; nothing is so insignificant as to be despised if it can aid. The unfortunate sick are indeed to be pitied if they fall into the wiles of one of these one-sided 'ists' who boasts of the greater value of his 'ism' and fails properly to appreciate Nature's harmonious forces used with intelligence to suit each case. A physician graduating from our modern medical schools, where he is trained in all the sciences and taught the relative value and place for each, has an effectiveness compared to one of these pathists as the music of a full orchestra compared to that of the single string of a fiddle. There are times when a specialist is required—one skilled in one of the branches of our art. He should, however, not be credited with greater knowledge or skill than his attainments warrant. I say this not in disrespect to any 'ism' or 'ist,' but because it is necessary to show the comparative merits of regular physicians whom some of these pathists aim to discredit and displace."

Journal-Lancet, Minneapolis

January 1, XXXIII, No. 1, pp. 1-32

42 Appendicitis With Symptoms of Diseases of Urinary Tract. J. D. Whiteside, Aberdeen, S. D.
43 Review of 150 Cases of Appendicitis. S. M. Hohf, Yankton, S. D.
44 Diagnosis of Kidney Tuberculosis. A. C. Strachauer, Minneapolis.
45 What Not to Expect of Medical School Inspection at This Time. C. H. Schroder, Duluth, Minn.

Journal of Biological Chemistry, Baltimore

January, XIII, No. 4, pp. 393-532

46 Intensity of Urinary Acidity in Normal and Pathologic Conditions. L. J. Henderson and W. W. Palmer, Boston.
47 *Enzyme Synthesis. I. Lipase and Fat of Animal Tissues. H. C. Bradley, Madison, Wis.
48 Idem: II. Diastase and Glycogen of Animal Tissues. H. C. Bradley and E. Kellersberger, Madison, Wis.
49 Idem: III. Diastase and Starch of Plant Tissues. H. C. Bradley and E. Kellersberger, Madison, Wis.
50 Idem: IV. Lactase of Mammary Gland. H. C. Bradley, Madison, Wis.
51 Action of Yeast on Yeast Nucleic Acid. S. Amberg and W. Jones, Baltimore.
52 *Animal Calorimetry: Metabolism of a Dwarf. F. H. McCrudden and G. Lusk, New York.
53 Refractive Indices of Solutions of Certain Proteins: Globin. T. B. Robertson, San Francisco.
54 Sulphatid of Brain. P. A. Levene, New York.
55 Sugar Tolerance in Pig. A. J. Carlson and F. M. Drennan, Chicago.
56 *New (Colorimetric) Method for Determination of Uric Acid in Blood. O. Folin and W. Denis, Boston.
57 New Colorimetric Method for Determination of Epinephrin. O. Folin, W. B. Cannon and W. Denis, Boston.
58 Nephelometry in Study of Proteases and Nucleases. P. A. Kober, New York.
59 Preparation and Properties of a Compound Protein; Globin Caseinate. T. B. Robertson, San Francisco.
60 Nucleases. P. A. Levene and F. B. La Forge, New York.
61 *Biochemistry of Female Genitalia. II. Lipins of Ovary and Corpus Luteum of Non-Pregnant Cow. J. Rosenblood, Pittsburgh.
62 Fate of Prolin in Animal Body. H. D. Dakin, New York.
63 *Seasonal Variation in Iodin Content of Thyroid. A. Seidell and F. Fenger, Washington, D. C.

47. **Lipase and Fat of Animal Tissues.**—Bradley holds that no broad correlation exists between the fat and lipase content of tissues. Homologous organs in allied species, such as teleost livers, fish muscles, etc., show no parallelism between fat and enzyme. Some of the most active fat-producing tissues are relatively poorer in lipase than many other tissues which never normally contain or produce more than a small percentage of fat. Active mammary tissue affords the most striking example of this when compared with lung, kidney and muscle tissues. Quantitative comparison of fat and lipase in animal tissues gives no positive evidence in support of the theory of enzyme synthesis.

52. **Metabolism of a Dwarf.**—A dwarf, suffering from infantilism, 17 years old and weighing 21.3 kilograms, was found to have a basal metabolism of 77 calories per square meter of surface in twenty-four hours which may be contrasted with 759 and 784 in two dogs of different weights. The basal metabolism was increased 6.6 per cent. as a result of the ingestion of food and this again was increased by 14.7 per cent. when the boy was reading illustrated periodicals in bed. The protein metabolism yielded the normal proportion of 15 per cent. of the total calories of heat production. Nothing abnormal could be detected in the metabolic process of the individual, as determined from these calorimetric observations.

56. **Determination of Uric Acid in Blood.**—The new method described in this paper is based on the highly delicate color reaction with "uric-acid reagent," a phosphotungstic acid solution by means of which one part of uric acid in one million parts of water gives a positive test. The color obtained from a quarter of a milligram of uric acid is quite adequate for a quantitative determination. Normal human blood, as they have discovered, contains about that much uric acid in from 15 to 25 c.c., so that on the basis of such volumes they are

now able to make quantitative determinations of the uric acid in blood. The method is described in detail.

61. **Lipins of Ovary and Corpus Luteum.**—Data are presented by Rosenbloom showing the percentages of lipins, phospholipins, neutral fat, fatty acids and cholesterol in the ovary and corpus luteum of the cow in the non-pregnant state and in the pregnant state. The results indicate that there is practically no increase in the above-mentioned substances during pregnancy in the cow.

63. **Seasonal Variation in Thyroid Iodin.**—It is shown by the authors that a very marked seasonal variation exists in the percentage of iodin present in the healthy normal-sized thyroid of the sheep, beef and hog. There is in general about three times as much iodin present in the glands in the months of June and November as in the months between December and May. A seasonal variation in the size of the fresh glands was observed in the case of the sheep and beef, but not with the hog. The glands were found to be larger during the months in which the lower iodin content was observed. The maintenance of a standard of 0.2 per cent. iodin in desiccated thyroid prepared for use in medicine, the authors point out, will require the use of glands other than those of the sheep, and, in addition, the mixing of the product obtained at the high and low seasons of the year.

Journal of Cutaneous Diseases, New York

January, XXXI, No. 1, pp. 1-70

64 *Speculations as to Causation of Eczema. J. C. Johnston, New York.
65 *External Origin of Eczema, Particularly Occupational Eczemas, as Based on Study of 4,142 Cases. F. C. Knowles, Philadelphia.

64. **Causation of Eczema.**—By a process of exclusion, Johnston narrows down the causation of eczema to: derangement of the nitrogen metabolism neither anaphylactic nor a defective synthesis of urea, but occurring where for the moment biochemistry cannot demonstrate it. He believes that color is lent to the theory by the appearance in its course of allergic phenomena and urinary evidence of incomplete desamidation. He suggests that perhaps the fault lies in a failure of protein-splitting in the intestinal wall or the blood-stream before the tissues select their store of amino-acid nitrogen.

65. **External Origin of Eczema.**—As a result of his investigations, Knowles states that fully one-quarter of all cases of eczema are of definite external origin. Almost one-sixth of all cases of this affection are caused by the occupation of the individual. Microorganisms are apparently not the cause of eczema, but probably play a secondary rôle in the affection. The largest number of cases of the so-called occupation eczemas are seen in the workers in the household and next most frequently in laborers. Practically every occupation and every irritant may produce an eczema. The portions of the skin exposed to the irritant determines the site of the outbreak. The eruption not infrequently extends beyond the irritated areas, at times being noted on distant parts of the cutaneous surface. The usual type of eruption noted is the vesicular or the squamous. The eruptions mentioned in this paper have lasted for weeks, months or years and show a marked tendency to relapse. It is rather hard to explain the susceptibility of some individuals to certain irritants, while others are not affected, excepting on the theory of a pure idiosyncrasy, an anaphylactic tendency causing sensitization of the skin. As dermatitis and eczema of external origin have the same clinical and microscopic pictures, Knowles says, they should be classed under the heading of dermatitis.

Journal of Medical Society of New Jersey, Orange

December, IX, No. 7, pp. 329-382

66 Ivory Exostosis of Skull. R. C. Newton, Montclair.
67 Public Conservation of Human Lives. H. W. Kice, Wharton.
68 Treatment of Acne by Bacterins. E. B. Rogers, Collingswood.
69 Pregnancy in Diabetes. R. H. Dieffenbach, Newark.
70 Social Evil and Social Diseases. A. H. Lippincott, Camden.
71 Laboratory Diagnosis of Typhoid. W. F. Gutherson, Paterson.
72 Full Diet in Typhoid. C. H. Scribner, Paterson.
73 Treatment with Restricted Diet. J. M. Stewart, Paterson.
74 Prophylaxis or Typhoid a Preventable Disease. J. O'Donnell, Paterson.
75 Necessity of Scientific Training of Midwives. S. Husserl, Newark.
76 Medical Subjects of Interest in South, Especially at Hot Springs and Mountain Valley Springs, Arkansas. C. S. Heritage, Glassboro.

January, IX, No. 8, pp. 383-436

77 Premature Arterial Senility. W. B. Stewart, Atlantic City, N. J.
78 Alcohol Inebriate: What Can We Do for Him Under Existing Conditions in New Jersey? C. A. Rosenwasser, New York.
79 Postoperative Complications of Abdominal Section. R. S. Fowler, Brooklyn.
80 Teeth and Disease. S. A. Cosgrove, Jersey City.
81 Value of Salvarsan in Syphilis. A. B. Jailin, Jersey City.
82 Topical Use of Cod-Liver Oil in Feeding Marasmatic Infants. T. N. Gray, East Orange and Newark.
83 Medical Supervision of Schools as State-Wide Proposition. E. A. Ayers, Branchville.
84 Function of Medical Inspection in Checking Retardation. G. J. Holmes, Newark.

Journal of Oklahoma State Medical Association, Muskogee

December, V, No. 7, pp. 291-338

85 Alcoholic Insanity. J. W. Duke, Guthrie.
86 Differential Diagnosis and Treatment of Influenza. H. Breese, Henrietta.
87 Extrauterine Pregnancy. S. N. Mayberry, Enid.
88 Puerperal Infection: Its Prevention and Treatment. G. A. Wall, Oklahoma City.
89 Treatment of Hemorrhoids with Introduction of a New Pile Clamp. W. D. Berry, Muskogee.
90 Extrauterine Pregnancy: Case Report. J. A. Bowling, Alva.
91 Chronic Gonorrhea Treated with Phylacogen. W. E. Stewart, Norman.

Journal of Pharmacology and Experimental Therapeutics, Baltimore

November, IV, No. 2, pp. 97-165

92 *Therapeutic Action of Cresotinic Acids. R. Stockman, Glasgow.
93 *Action of Hydroxy-Codein. J. R. C. Greenlees, Glasgow.
94 *Emetic Action of Digitalis Bodies. R. A. Hatcher and C. Eggleston, New York.
95 Pharmacologic Action of Coriamyrtin. C. R. Marshall.
96 Destruction of Epinephrin and Constrictor Substances of Serum by Oxygenation in Presence of Blood-Vessel Walls. A. L. Tatum, Madison, Wis.
97 *Action of Quinin on Leukocytes. G. B. Roth, Ann Arbor, Mich.

92. **Therapeutic Action of Cresotinic Acids.**—According to Stockman, the sodium salts of o-m- and p-cresotinic acids have a powerful specific action in acute rheumatic conditions. They are for practical purposes inferior to sodium salicylate: (1) the orthocresotinate, even in comparatively moderate doses, slows and depresses the heart; (2) the paracresotinate is not nearly so efficacious; (3) the metacresotinate, while very similar in strength, has no advantages over the salicylate. So far as Stockman tested them, they have no therapeutic actions which are not possessed by sodium salicylate.

93. **Action of Hydroxy-Codein.**—Hydroxy-codein, Greenlees found, has practically the same action as codein, but is somewhat less active. As a therapeutic agent it is inferior in efficacy to codein.

94. **Emetic Action of Digitalis Bodies.**—A number of experiments were performed by Hatcher and Eggleston to determine the emetic action of the digitalis bodies. They found that the digitalis bodies vary widely in the degree of the direct irritant action which they exert on a given mucous membrane; and the mucous membranes of different areas in the same animal, or those of corresponding areas in different animals, vary even more widely in the degree of their susceptibility to the irritant action of any given member of the digitalis group, so that one of these agents may be intensely irritant to the mucous membrane of one area in a certain animal and yet without appreciable influence on the mucous membrane of another area in the same animal. Ouabain is intensely irritant to the mucous membrane of the nose and to the subcutaneous tissues in man, but it is borne in large amounts without signs of gastro-intestinal irritation when administered to rats by the mouth, and this drug may fail to induce emesis in man, as well as in the cat and dog, after the oral administration of considerable amounts unless absorption occurs. All of the digitalis bodies which they have tested induced emesis in cats more promptly and in smaller doses after intravenous administration than when they were given by stomach; and digitalis, digitoxin, true digitalin, strophanthus, amorphous strophantalis, ouabain and adonis (and probably other members of the group) induce emesis promptly after their intravenous injection into dogs from which the gastro-intestinal tract from the

esophagus to the lower part of the rectum has been removed, leading irresistibly to the conclusion that the emetic actions of these drugs is exerted on the vomiting center in such cases. The purgative action is also obviously of central origin. The doses of digitalis bodies required to produce emesis in eviscerated dogs are strictly comparable to those used therapeutically, and the average emetic dose of ouabain or strophanthus for eviscerated dogs is actually far less in proportion to the weight than the doses of those drugs which have been administered to patients by the mouth within the period of one day. In the face of the evidence existing that the emetic action of therapeutic doses of the digitalis bodies is exerted on the vomiting center in man, the authors claim that the burden of proof to the contrary certainly rests on those who would contend that the emetic action is of peripheral origin.

97. **Action of Quinin on Leukocytes.**—Quinin, says Roth, when given to animals in single doses, produces changes in the number of leukocytes which can be divided into three phases. The first, or stage of preliminary leukocytosis, appears shortly after the drug is given, and is no doubt caused by the contraction of the spleen and other tissues acted on by the drug, the increase affecting the lymphocytes for the most part. An hour or two later the second or leukopenic phase appears in which there is a reduction of both lymphocytes and polynuclears, but mainly of the former. This phase is subsequently followed by the third stage, a phase of secondary leukocytosis which is quite marked, the polynuclears being increased, while the lymphocytes remain low or continue to decrease in number. When the drug is administered to the dog continuously for weeks death results and the blood picture is essentially the same, namely, a leukopenia followed by a leukocytosis, the period of leukopenia showing a great decrease in lymphocytes and eosinophils while the period of leukocytosis affects the polynuclears.

Journal of South Carolina Medical Association, Seneca

December, VIII, No. 12, pp. 312-339

98 Plea for More Familiarity with Upper Respiratory Organs. W. P. Porcher, Charleston, S. C.
99 Middle Ear Inflammations. L. O. Mauldin, Greenville.
100 Conservatism in Treating Affections of Ear, Throat and Nose, Including Accessory Sinuses. C. W. Kollock, Charleston.

Maryland Medical Journal, Baltimore

January, LVI, No. 1, pp. 1-26

101 *Necessity of Direct Examination of Lower Bowel for Diagnosis and Treatment of Diarrhea. G. M. Linthicum, Baltimore.
102 Prophylactic Value of Vaccines in Typhoid. J. C. Clark, Sykesville.

101. **Examination in Diarrhea.**—Linthicum emphasizes the fact that diarrhea should be regarded as a symptom of disease. All chronic or subacute diarrheas, he holds, are due to some form of a pathologic lesion. The character of the diarrheal discharge, while helpful in making the diagnosis, cannot be depended on either to indicate the nature or location of the lesion. Pain as a symptom is very misleading as it is frequently absent in the most serious and present often to a marked degree in lesser lesions. The necessity of direct examination is of the utmost importance, as early recognition in malignant growths gives the only hope of permanent relief. The treatment of diarrheas locally in conjunction with systemic is essential. The pain one finds in malignant growths, Linthicum says, is not present until the tissues and adjacent viscera are involved, or until the growth has attained a size sufficient to produce more or less obstruction symptoms which dam back the fecal stream. The diarrhea which results from the presence of malignant growths oftentimes occurs long ahead of the pain symptoms because of the presence of the growth acting as an irritant, increasing the blood-flow to the parts with increased water elimination and, at the same time, stimulating peristalsis so as not to give time for intestinal contents to remain long enough in the colon for absorption of liquid elements by the blood-stream. An inspection can be made by direct examination in nearly 65 per cent. of all intestinal carcinomas at a time when the removal of the growth offers a fair hope of permanent relief, for it is generally felt by operators that there is less tendency to metastases in the lower bowel than in the other parts of the tract. The cure of these ulcers may later prevent secondary degeneration into carcinomata and strictures of non-malignant character are often the resultant of ulcers. Of the symptoms of ulceration of any variety, the one of paramount importance is the diarrhea, which is usually of the early morning variety, appearing first on rising, again after eating and frequently during the forenoon, after which there is comparative comfort. The probability is that the ulceration exists below the cecum and ascending colon. The location of ulcers in the small intestine, cecum or ascending colon, unless complicated with catarrh of the intestine or some form of infection to stimulate exaggerated peristalsis, will rarely evidence diarrhea. The treatment of ulcerative cases can be made directly to the parts effected through the tube, either by probangs or by the atomizer. Small growths of a benign nature may be removed with a snare. Growths suspected of malignancy may have a bit snipped off for examination.

Medical Record, New York

January 11, LXXXIII, No. 2, pp. 47-92

103 Jan Palfyn. J. B. Stein, New York.
104 Case of Pellagra in New York State. F. C. Robbins, Hornell, N. Y.
105 Diseases of Labyrinth. J. S. Greene, New York.
106 Subcutaneous Rupture of Kidney. F. C. Beall, Fort Worth, Tex.
107 *New Method of Treating Toxemia of Pregnancy. G. P. Shears, New York.
108 Case of Sinus Thrombosis; Operation; Recovery. I. Grushlaw, New York.

107. **Treatment of Toxemia of Pregnancy.**—The clinical symptoms, from the subjective dyspnea, so common in pregnancy approximately normal, to the headache, edema and final convulsions of profound toxemia, in Shears' opinion, are strongly suggestive of lack of oxygen. Acting on this theory, he has recently treated his toxemic patients by the free use of oxygen. Four of these cases were of severe type. Improvement and eventual recovery were noted in all. In one, that of a very intelligent patient, the relief afforded was so prompt and complete that it seemed difficult to ascribe it to mere coincidence. The oxygen was given freely, either by inhalation or subcutaneously.

Mississippi Medical Monthly, Vicksburg

January, XVII, No. 9, pp. 171-189

109 Fee-Splitting. E. L. Robertson, Belzona.
110 Prescription Writing. J. C. Noah, Clarksdale.
111 Oral Hygiene. E. E. Brister, Gulfport.
112 Gonorrhea. E. R. McLean, Cleveland.
113 Tubal or Extra-Uterine Pregnancy. J. H. Carter, Memphis, Tenn.
114 Different Effects of Purgatives. S. W. Glass, Lyon.

New Mexico Medical Journal, Las Cruces

December, IX, No. 3, pp. 51-81

115 Need for a Vital Statistics Law in New Mexico. C. G. Given, Silver City.
116 When One of the Family Develops Tuberculosis. J. W. Laws, Lincoln.
117 Esophageal Diseases. E. C. Prentiss, El Paso, Tex.
118 Colonic Dilatation (Congenital and Acquired) as Factor in Chronic Intestinal Obstruction (Obstipation). S. G. Gant, New York.
119 Anti-Typhoid Vaccination. F. Finney, La Junta, Colo.

Surgery, Gynecology and Obstetrics, Chicago

January, XVI, No. 1, pp. 1-116

120 Dystopic Kidney. S. C. Plummer, Chicago.
121 Pregnancy in Adenomyoma Uteri. T. O. Doederlein and M. Herzog, Chicago.
122 Hernia Through Pelvic Outlet. E. E. Montgomery, Philadelphia.
123 *Ovarian Tumors Complicating Pregnancy, Delivery and Puerperium. C. W. Barrett, Chicago.
124 *Unilateral Kidney Hemorrhage with Reference to So-Called Essential Hematuria. H. L. Kretschmer, Chicago.
125 *Successful Removal of Over Eleven Feet of Small Intestine. E. R. McGuire, Buffalo, N. Y.
126 Protein Metabolism of Normal Pregnancy and Normal Puerperium. J. R. Murlin, New York.
127 *Classification of Arthritis. J. M. Berry, Albany, N. Y.
128 Etiology, Pathology and Treatment of Ovarian Cysts in Relation to Child-Bearing, with Special Reference to Hemorrhage into Cysts. W. C. Jones, Chicago.
129 Meckel's Diverticulum, with Report of Four Cases. J. R. Wellington, Washington, D. C.
130 Carcinoma of Bladder Controlled by High-Frequency Current. E. L. Keyes, New York.
131 *Clawfoot, and How to Relieve It. A. M. Forbes, Montreal.
132 *Tendon Transplantation Operations. H. P. H. Galloway, Winnipeg.

133 *Technic of Tubal Sterilization. F. J. Taussig, St. Louis.
134 *Immediate Closure in Perineal Prostatectomy. A. E. Hertzler, Kansas City.
135 Tuberculous Cyst, Probably of Pancreatic Origin. J. M. Mason and E. M. Mason, Birmingham, Ala.
136 Self-Inverting Suture for Appendix Stump. W. Bartlett, St. Louis.
137 Umbilical Cord Clamp. F. L. Adair, Minneapolis.

123. **Ovarian Tumors.**—Reviewing the literature, Barrett found that pregnancy frequently takes place in the presence of ovarian tumors, even though both ovaries be involved. The growth of the ovum produces such changes in position and structure of the ovarian tumor as to make it a menace to the child and mother during pregnancy, that extra hazards occur during labor and are at their height for the mother during the puerperium. Induced abortion with its 100 per cent. of child mortality is unjustifiable, in that it offers no corresponding improvement in the condition of the mother. The early removal of the tumor as soon as possible after its discovery, gives a high percentage of good results in both mother and child and removes the hazard during labor and the puerperium. Tapping or puncture of the tumor shows too large a mortality to make them justifiable procedures, except as preliminary expedients in rare cases. The danger of abortion after double ovariotomies is not sufficiently great as to call for other treatment than that accorded the single tumor. The results during the latter half of pregnancy are such as to warrant removal of the tumor rather than to let the patient continue to term, the increased percentage of abortion being due largely to increased damage previous to or during operation. A patient in labor with a complicating tumor should be placed in the most favorable surroundings possible, and labor allowed to terminate, if unobstructed. This should be facilitated by the use of forceps, if labor is at all difficult and the tumor located well above the pelvis; position and manual efforts may change a pelvic obstructing tumor into an abdominal nonobstructing one. Tumors interfering with labor pains, or located so as to obstruct the outlet or presenting torsion, hemorrhage or suppuration, thus offering immediate abdominal complications, may be operated on with cesarean section accompanying, or, if the outlet is adequate, as shown by previous easy labors, or by liberal measurements, and the soft parts well dilated, labor may be allowed to continue, after the removal of the tumor. On account of the great risk of torsion and degenerations during the puerperium, Barrett advises removal of the ovarian tumor as soon after labor as the patient's condition and surroundings will warrant. If delay is necessary, the tumor should be closely observed.

124. **Unilateral Kidney Hemorrhage.**—Kretschmer points out that unilateral renal hematuria does not always mean unilateral disease, as one may be dealing with a bilateral lesion, although only one side may be bleeding at the time of examination. Absence of albumin and casts in the urine does not exclude the presence of nephritic changes in the kidney. Cystoscopy and ureteral catheterization must be employed in each case to determine definitely the renal origin of the blood. Histologic examination of several pieces of excised tissue or preferably of the entire kidney must be made in every case before a diagnosis of essential hematuria can be made. Cultures of catheterized specimens of urine from each kidney, to determine a possible bacterial cause for the hemorrhage, must be made in all obscure cases.

125. **Successful Removal of Small Intestine.**—McGuire's patient suffered from a mesenteric thrombosis due to an infected thrombus originating from his infected throat. He found extensive gangrene of the ileum, extending within a few inches of the cecum upward for a considerable distance. At the cecal end the black color of the bowel faded into a purple, showing that the circulation of the lower end was only partially occluded. The mesenteric vessels were thrombosed to such an extent that even the veins were full of clots. Excision was made at the base of the mesentery, well beyond the involved area. Both ends were closed and a lateral anastomosis was made, with suture, between ileum or jejunum and cecum. The intestine removed measured slightly over 11 feet; to be exact, 336 cm. The patient left the table in good condition and enjoyed an unusually quiet convalescence, with the exception of a hemorrhage which occurred, per rectum, on the tenth day. On the fourth day he had seven stools, without catharsis, and varying from six to eight on succeeding days. For a time he was placed on a diet rich in starches and sugars, with bismuth and even opium to control diarrhea. About one month later he was given the usual hospital diet and much less disturbance followed. At the present time he is gaining in weight, having gained three pounds in the last week. He has one large formed stool in the morning, and usually two small fluid stools during the rest of the day.

127. **Classification of Arthritis.**—The classification of arthritis based on etiologic and anatomic changes in which Berry believes all forms of arthritis and osteoarthritis can be placed, is as follows: I. Traumatic: 1. Traumatic arthritis. (a) Simple traumatic inflammation, synovitis. (b) Villous arthritis. 2. Traumatic osteo-arthritis: (a) Bony spurs. (b) Proliferative osteo-arthritis in hallux valgus, in joints subject to irritation of foreign bodies, etc. (c) Heberden's nodes. (d) Proliferative osteo-arthritis of the knees. (e) Malum coxae senilis. (f) Spondylitis deformans. II. Infectious: 1. Infectious arthritis caused by organisms. 2. Infectious osteo-arthritis caused by organisms. III. Trophic: 1. Trophic arthritis. Metabolis arthritis (Nathan). 2. Trophic osteo-arthritis. (a) Charcot joint. (b) Gout. (c) Syringomyelia. (d) Rheumatoid arthritis (Jones); atrophic arthritis (Goldthwait); metabolic osteoarthritis (Nathan).

131. **Clawfoot.**—The operation which Forbes advocates is performed through a horseshoe-shaped incision on the dorsal surface of the foot. This incision is, however, preceded by a subcutaneous plantar fasciotomy, with wrenching if necessary. The incision is carried to the extensor tendons and a flap containing all the tissues superficial to these is turned back onto the dorsal surface of the tarsometatarsal articulation. The long extensor tendons are then detached from the phalanges and transplanted into the necks of the metatarsals in either of the methods suggested. The silk attachments are then buried as deeply as possible by means of fine catgut sutures and the skin flap returned and sewed into place by means of horsehair. If, on first examination of the patient, it is felt that the arch of the foot has been so greatly increased that the transplantation of the extensors cannot be expected to undo the damage done, by possibly years of malposition, it may be wise to perform a wedge-shaped osteotomy through the dorsal surface of as many of the metatarsal bones as have caused callosities on the plantar surface of the foot. The removal of such wedges, with their bases situated on the dorsal surface of the metatarsal bones, if accompanied by a careful plantar fasciotomy, and especially if followed by careful after-treatment, cannot fail to lengthen the foot and to remove all sources of pressure if a transplantation of the extensor tendons has already been performed.

132. **Tendon Transplantation Operations.**—Galloway records some of the conclusions arrived at from his personal experience with various applications of the operation of tendon transplantation in the treatment of paralytic deformities, particularly those due to poliomyelitis and spastic paralysis and describes and illustrates the technic followed in performing them. While in unusual cases exceptional procedures may with advantage be devised and carried out, there are not, in Galloway's opinion, more than six or eight tendon transplantations in the lower extremity and two or three in the upper extremity that can be regularly employed with benefit. A few general principles are given: 1. Perfect asepsis is indispensable for success. 2. Attachment of the transplanted tendon to the bone or periosteum is always more satisfactory than attaching it to another tendon or other soft tissues. 3. The tendon must be stretched moderately tight before being secured. 4. It must be fastened with suture material that will maintain its hold for several weeks. 5. A covering of subcutaneous tissue should be brought over it before the skin is sutured. 6. Ample time (about six weeks) should elapse before the transplanted tendon is allowed to functionate, so that its new attachment may become sufficiently strong; further, the muscle should be systematically developed by massage and exercises and carefully

protected by mechanical means from overstrain for several months after the patient begins to use it.

The following operations are described and illustrated: Transplantation of extensor proprius pollicis to neck of first metatarsal. Transplantation of peronei to inner side of os calcis. Transplantation of outer half of tendo achilles to inner aspect of heel. Transplantation of tibialis anterior to outer side of tarsus. Transplantation of biceps or semimembranosus to patella. Transplantation of pronator radii teres to convert it into a supinator. Conversion of flexor carpi radialis and flexor carpi ulnaris into extensors of the wrist. In connection with all ordinary tendon transplantation, Galloway says, elongation with silk is quite unnecessary if care be taken to secure all the length possible by detaching the tendon directly from its insertion. The unnecessary introduction of a foreign body like silk is to be deprecated; but in replacing a partly destroyed tendon, as for example a destroyed ligamentum patellae, Lange's method of using silk so as to form a kind of framework about which nature can construct a new tendon will be found of immense service. It has also a limited application in the creation of artificial ligaments about flail joints.

133. **Technic of Tubal Sterilization.**—The technic of Tanssig's operation is as follows: The abdomen is opened by a small median incision in the usual manner and the uterine end of one fallopian tube seized with forceps. The uterus is thus pulled into view so that a suture can be passed through the uterine horn at the tubal insertion. Before tying this suture, the interstitial portion of the tube is cut away by a V-shaped incision. Next, the tube is freed from its peritoneal attachment for a distance of about one inch and, a ligature having been thrown around the distal end, this free portion of the tube is resected. With an artery forceps or Mayo dissecting scissors the layers of the broad ligament are separated from each other at the point where it has been opened up. Catching the end of the tube with an extra suture to prevent it from slipping, the threaded needle is now passed through the open space in the broad ligament, and emerges just anterior to the round ligament near the attachment of the vesical peritoneum to the uterus. An extra suture is passed through the peritoneum at this point so as to completely bury this end of the fallopian tube in the broad ligament. The third step in the operation consists of sewing the round ligament by one or more sutures to the upper posterior surface of the uterus, thus closing over the point of the tubal insertion and the small open space in the peritoneum of the broad ligament. The abdomen is closed in the usual manner.

134. **Immediate Closure in Perineal Prostatectomy.**—When the enucleation of the prostate is completed, Hertzler removes the packs from the cavities previously occupied by the lateral lobes and obliterates the cavities with a No. 2 catgut mounted on a medium size full-curved round needle. The sides of the cavities are brought together, thus obliterating the space and checking any tendency to oozing that may still be present. Either after or before the obliteration of the cavities a drainage tube is passed through the incision into the urethra to just within the bladder. The incision into the urethra is now closed snugly about the tube so that the urine cannot escape. The tube should be fastened to the skin by means of a suture in order to prevent it from slipping too far within or without the bladder. After the tube has been securely sutured into the urethral opening the incision into the superficial soft parts is closed by deep silkworm gut sutures. No drain other than the tubular drain into the bladder is used. A dry pad is used over the wound, perforated to permit the passage of the drainage tube. After the patient is returned to his bed, a longer tube is attached by means of a short glass tube, and the urine conducted to a receptacle at the side of the bed. Hertzler has allowed the tube to remain in from four to six days. The advantage of this method of operating has been the definite abandonment of all gauze packs and drains in the perineal wound. Less blood is lost because the large vessels are caught up and definitely ligated at once. The bed has been kept clean and the patient dry for four or five days during his severest illness, when the drain is through the perineum, or permanently when the catheter is used. There is far less abscess formation about the stitches and in the superficial parts and fat necrosis is less likely. The final closure of the perineal incision is hastened and complete closure is much more certain.

Texas State Journal of Medicine, Fort Worth

January, VIII, No. 9, pp. 229-254

138 Public Sanitation. O. Dowling, Shreveport, La.
139 Auto-Intoxication in Relation to Eye: Report of Cases. H. L. Hilgartner, Austin.
140 Optometry and General Practitioner. L. G. C. Buchanan, San Angelo.
141 Management of Puerperium. A. M. Jones, Anson.
142 Responsibilities of Obstetrician and Ultimate Results of Faulty Technic. E. S. Gordon, Dallas.
143 Case of Uterine Myofibromata, Accompanied by Pregnancy. A. L. Hathcock, Palestine.

FOREIGN

Titles marked with an asterisk (*) are abstracted below. Single case reports and trials of new drugs are usually omitted.

Australasian Medical Gazette, Sydney

November 23, XXXII, No. 21, pp. 525-548

1 Surgical Impressions of Trip Round World. C. E. Todd.
2 Complete Detachment and Dislocation of Left Os Coxae "Innominatum" in Boy. T. Fiaschi.
3 Use of Mucus Extractor in Asphyxia Neonatorum. H. B. Oxenham.

November 30, XXXII, No. 22, pp. 549-574

4 Case of Keratodermia Blenorrhagica. H. Swift.
5 Psychotherapeutics. R. Arthur.
6 Medical and Surgical Practice During Recent Trip Abroad. L. Cooper.

December 7, XXXII, No. 23, pp. 575-598

7 Points in Connection with Examination of Trainees: University Training School. A. G. Butler.
8 Idem: Compulsory Training Scheme. A. Marks.
9 Fulminant Toxemia of Pregnancy. S. H. Harris.

British Medical Journal, London

December 28, II, No. 2713, pp. 1741-1776

10 *Pre-Operative Diagnosis of Appendicitis; Demonstration of New Method by Dorsal Examination. W. Ewart.
11 Theories with Regard to Secondary Growths in Carcinoma of Breast. M. Thorne.
12 Foreign Body in Abdominal Cavity. L. B. Green.

10. **Preoperative Diagnosis of Appendicitis.**—The dorsal field of percussion, the region which, Ewart states, supplies physical signs in many cases where they are wanting, includes the resonant sacral and iliac surfaces, and between them two "posterior iliac patches" of subresonant dulness. The latter are localized by feeling for the crest of the posterior iliac tuberosity. The right "patch" is rather duller than the left, presumably owing to the airlessness and thickness of the appendix. But the main dulness of the two patches is due to the common iliac blood-vessels. The normal standard which has been obtained in a series of tracings from healthy subjects during the last two and a half years, consists of those features, and of an absence of any adventitious dulnesses, whether sacral or iliac. These were almost invariably present in the large number of declared or of suspected cases which Ewart was able to examine. An adventitious dulness may encroach more or less on the right patch; but its site of special frequency is the right iliac surface. Less often it occurs at the right sacral, and sometimes, though rarely, it involves the left sacral surface also. The normal postoperative standard is characterized by a general resonance, due to a remarkable disappearance of the "normal patch" dulness, as well as of any adventitious dulnesses. A "clean" result implies that there are no remnants of dulness.

Ewart says his method presents no difficulty, entails little disturbance and no pain for the patient, and claims only five minutes all told, including taking a permanent record on tracing paper. When the examination is made in the consulting-room, in normal or in ambulant suspected cases, the patient can be seated on a high stool, or sideways in a chair on a firm cushion. If standing—and this is the most convenient—he should be made to lean forward, resting with both hands on a table or some other support, in as level an attitude as possible. The iliac crests are traced with a dermographic pencil, beginning from below where the crest of the tuberosity is easily felt, and guides deeper palpation for the upper iliac crest. Percussion is then made for the outline of the normal patch on both sides, starting preferably with the left patch, and noticing that it is rather less dull than the right one. In more acute cases the preoperative examination (and likewise the postoperative when it is undertaken in early convalescence) may have to be conducted in bed—for worst cases in the left lateral decubitus, for others in the sitting attitude. For the latter suitable arrangements should be made by removing the obstruction of the bolster, and if possible by raising the patient from the trough of the bed on a folded sheet or a firm pillow. If well enough he can be moved to the corner of the foot of the bed, where he can sit comfortably with legs overhanging; the back is then much more accessible for careful percussion—an important matter when the signs are not so obvious as those of a large retrocecal abscess which might easily be detected in any position. For a successful percussion the only requirement is the use of a Sansom's pleximeter. The technic is the same in all cases, namely, to keep the flange of the pleximeter from lying across the boundaries which have to be determined, and to resort to an alternate use of the short flange whenever the unknown outlines of any adventitious dulness have to be accurately worked out.

Clinical Journal, London

December 11, XLI, No. 10, pp. 145-160

13 Modern Treatment of Phthisis. H. W. Gardner.

December 18, XLI, No. 11, pp. 161-176

14 Selection of Cases of Pulmonary Tuberculosis for Sanatorium Treatment. J. E. Squire.
15 Neurology. C. M. H. Howell.
16 Craniocerebral Surgery. L. B. Rawling.

December 25, XLI, No. 12, pp. 177-192

17 Neurology. C. M. H. Howell.
18 Physiology of Bathing. R. F. Fox.
19 Points in Connection with Urinary Tuberculosis. S. G. MacDonald.

Indian Medical Gazette, Calcutta

December, XLVII, No. 12, pp. 461-504

20 Surgery at David Sassoon Hospital, Poona. A. F. Hamilton.
21 *Present Position of Permanganate Treatment of Snake-Bite. L. Rogers.
22 Radio-Activity of Some Wells and Thermal Springs in Bombay Presidency and in Baroda State. A. Steichen.
23 *Influence of Monsoon on Incidence of Eclampsia. G. C. Fraser.
24 Diagnosis of Sand-Fly Fever and Its Differentiation from Malaria. E. C. Taylor and M. H. Khan.
25 Cases of Spirillar Fever in Darjeeling District. A. M. Jukes.

21. **Permanganate Treatment of Snake-Bite.**—Rogers has investigated this method of treatment very thoroughly and as a result believes that it has saved a number of valuable human lives, and further that it is the only practical method of treating snake-bites under ordinary conditions of practice in India; although it should always be supplemented by the intravenous injection of antivenin in efficient doses in the rare cases in which this is possible, always bearing in mind that to neutralize the full amount of venom that may be injected by a cobra about three-quarters of a pint of serum is required (probably containing a lethal dose of horse serum), so that it is not likely to be of much service unless most of the venom has first been destroyed locally by the application of permanganate.

23. **Eclampsia and Monsoon.**—The overwhelming incidence of eclampsia during the wet seasons of the year as compared with admissions from that disease in the dry months, Fraser believes, has not as yet received any attention whatever in literature. During a wet spell in 1911, the large number of eclamptic patients admitted to the Government Maternity Hospital in Madras compelled itself on his attention and when commenting on the fact he was informed that it was usual for admissions to increase during a wet spell. When the skies were clear, the air dry and crisp and the temperature high, few cases were admitted. The true cause he thinks is to be sought for in the decreased output of the sweat glands. In a dry, hot temperature, the sweat evaporates as fast as it is secreted and so the sweat ducts are kept continually cleared, capillary attraction playing a great part in bringing the sweat to the surface via the minute ducts. On the other hand, if the sweat accumulates on the skin, the capillary action will cease and the ducts will be hopelessly water-logged. As a natural consequence a great accumulation of waste-bodies toxic to a degree, which would otherwise have been got rid of, collect in the deep layers of the skin and are sooner or later carried off into the blood stream, there to be carried to and act as powerful excitants of the higher centers or to set up acute inflammations of the kidneys and other organs. A recognition of the causes gives a clue to the treatment; increase the output of the sweat glands, but what is as important, to get rid of that already secreted, so as to clear the ducts and allow secretion to go on at a greater pace. This can be done by subjecting the patient to a dry, hot atmosphere. The method Fraser proposes is to place the patients in a ward of special construction, the air in which has been filtered through apertures or tubes containing hygroscopic bodies such as calcium chlorid, asbestos or lime so as to remove all moisture. An electric warmer would be used to raise the temperature to about 90 F. The ventilation would have to be forced by electric fans and the general scheme should present no insuperable difficulties. Acute cases suffering from convulsions or those requiring delivery or other operative measures, would be treated first of all in a labor ward or theater, and then subsequently be removed to the dry-air ward.

Lancet, London

December 28, II, No. 4661, pp. 1771-1846

26 Obstetrics and Gynecology, 1887-1912. E. Malins.
27 *Complete Removal of Pleural Effusions by Regulation of Intrathoracic Pressure During Aspiration (Oxygen Replacement). H. M. Davies.
28 Empyema in Infant Aged Five Weeks, with Operation and Recovery. F. G. Chandler.

27. **Complete Removal of Pleural Effusions.**—As the chest is a closed chamber Davies suggests that it is obvious that if fluid is withdrawn, either a rapidly increasing negative pressure must be produced or the fluid must be replaced by some other substance. The recognition of these facts suggests that if it were possible, during the process of withdrawing fluid, to modify the intrathoracic changes produced by the increasing negative pressure, by introducing from without some non-irritating sterile substitute, the whole of the fluid could be withdrawn. The most obvious substitute is air, but it is found of the three principal gases of the atmosphere, oxygen, when in contact with the pleura is absorbed rapidly, while the nitrogen and carbon dioxid are absorbed at a much slower rate. Since, however, it is desirable that the pneumothorax produced should be absorbed as quickly as possible, Davies has used oxygen instead of air for the replacement of the fluid in all his cases.

He has found Kornmann's apparatus extremely convenient and easy of control, using a needle and cannula which, as regards the shaft and its connections, resemble in many ways an aspirating needle and cannula, but the lumen of the cannula is 1 mm. in diameter and the point of the needle lies flush with the oblique and sharpened end of the cannula in the same manner as in a spinal needle and cannula. The patient lies in a semi-recumbent position well propped up in bed, turned slightly on to the south side with the arm on the affected side well forward. The skin between the anterior and posterior axillary lines is painted with iodin, and the fifth and eighth intercostal spaces are marked in the mid-axillary line. With local anesthesia the needle connected with the aspirating bottle and vacuum pump is passed through the anesthetized area into the fluid; while the needle connected with the oxygen apparatus is passed through the upper anesthetized area. When the needles have been introduced it is absolutely essential that the manometer connected with the upper needle should show respiratory movements and until and unless these are obtained no oxygen must be allowed to escape through the needle. Fluid is now aspirated from the chest and the aspiration continued until the patient either coughs or experiences the slightest pain. The aspiration is then immediately stopped, and 50 c.c. or 100 c.c. of oxygen are allowed to run in slowly.

Davies says that the pain or cough will at once disappear and the aspiration is continued until the recurrence of some symptom demands the introduction of more oxygen. This process is continued until no more fluid can be withdrawn. Toward the end of the process oxygen will be found to escape with the fluid and the proportion of oxygen introduced to fluid withdrawn must be increased. Davies finds that if this procedure is carried out efficiently the patient experiences practically no distress, either during or at the end, and a skiagram taken at the conclusion will show the almost complete disappearance of the fluid and a small pneumothorax, while the lung, no longer obscured by the fluid, permits of complete radioscopic and radiographic examination.

Medical Press and Circular, London

December 11, XCIV, No. 3840, pp. 619-646

29 Some Therapeutic Points. H. French.
30 Neurology of Visual System. H. Campbell.
31 Reflex Stimulation of Vagus Center in Treatment of Disease. A. T. Brand.
32 Cane Versus Beet Sugar. A. S. Dutton.

December 18, XCIV, No. 3841, pp. 647-672

33 Bulbar and Pseudobulbar Paralysis. F. C. Purser.
34 Neurology of Visual System. H. Campbell.
35 Present Position and Prospects of Medical Practice. H. C. Cameron.
36 Triumph of Quackery. H. Sewill.

December 25, XCIV, No. 3842, pp. 673-698

37 Selection of Cases of Pulmonary Tuberculosis for Institutional, Domicilliary and Dispensary Treatment Under National Insurance Act. H. E. Symes-Thompson.
38 Neurology of Visual System. H. Campbell.
39 Intestinal Stasis. R. M. Leslie.
40 Cases Illustrating Difficulty and Importance of Early Diagnosis in Acute Intestinal Obstruction. E. W. H. Groves.

Sei-I-Kwai Medical Journal, Tokyo

December, XXXI, No. 12, pp. 249-264

41 Investigation of Portio Vaginalis of Uterus in Relation to Conception. J. Kimura.

Archives des Maladies du Cœur, etc., Paris

December, V, No. 12, pp. 753-840

42 Paroxysmal Tachycardia. E. Savini. Commenced in No. 11.
43 A Case of Complex Arhythmia. (Pulsation sus-claviculaire d'origine cardio-pneumatique et arythmie complexe.) G. Clarac and C. Pezzi.
44 The Reduplication of the Sound in Mitral Stenosis in Connection with the Third Sound. (Bruit de dédoublement mitral et troisième bruit du cœur.) L. Gallavardin.
45 Hemophilia Developing in Course of Gastric Cancer. (Etat hemophilique survenu au cours d'un cancer de l'estomac à forme anémique.) H. Lemaire.

Lyon Chirurgical, Lyons

December, VIII, No. 6, pp. 553-650

46 Case of Richter's Hernia. (Pincement latéral de l'intestin.) E. A. Delfino.
47 *Nerve Grafting. (Résultats cliniques des greffes nerveuses.) E. Duroux.
48 *Black Urine with Melanomas. (Mélanurie dans les tumeurs mélaniques.) P. Bonnet.
49 Facial Paralysis from Mastoid Lesion. (Paralysie faciale d'origine otique et son traitement par l'anastomose hypoglosso-faciale.) G. Cotte and G. Sigaux.

47. **Nerve Grafting.**—Duroux reviews the history of nerve grafting, stating that the first successful work of the kind was done in France in 1870 (Philipeaux and Vulpian), but Albert in 1876 reported the first successful nerve graft in man. Duroux then gives an illustrated account of a case in which he successfully bridged a gap of 15 cm. in the median and ulnar nerves with a graft from the sciatic nerves of a dog. This was the third operation that had been done on the nerves after they had been severed by a deep transverse cut in an affray a year before the grafting operation. He tabulates the details of twenty-two cases of nerve grafting from the literature. In his own case sensibility returned in the hand and fingers within a month. The motor functioning, however, although satisfactory, is far from perfect, probably on account of the months of atrophy of the muscles before the operation, the inflammation of some of the joints, and the results of the ligation of the brachial artery which had compromised the nourishment of the tissues to a certain extent. As a rule, grafts from the same species are preferable. The slowness with which the sensibility and motor functioning return is striking; in very few of the cases on record was the interval so brief as in his own case. From the sensory point of view the outcome is almost perfect. He ascribes his success to his care to preserve and implant with the graft all its surrounding cellular and vascular tissue. The nerve graft was thus nourished by its own tissues until it had taken root in its new home by adhesions and newly formed vessels. The continuity of the nerve was realized by the side-to-side juxtaposition of the different segments of the nerve, with consequent formation of actual neuromas at the central and peripheral points of junction.

48. **Black Urine with Melanomas.**—Bonnet states that melanuria is a symptom common to various affections, but he found it only in 20 per cent. of fifteen cases of melanomas—on the heel (3), toe (3), back (2), leg (3), breast (2), and one each on the cheek or anus. He noted pronounced melanuria also in five cases of secondary cancer of the liver, in one of old gall-bladder disease and one of liver disease.

In the cases of melanoma with melanuria, involvement of the liver was very pronounced, while the liver seemed to be normal in all the cases of melanoma without black urine. In one case in which there was no melanuria, although the melanosis was general and extreme, necropsy showed that the liver was the only internal organ which had escaped the melanosis. Melanuria, therefore, may be regarded as a sign of involvement of the liver in case of a tumor with black pigment, and it may thus serve to determine the operability of the tumor, if Bonnet's conclusions are confirmed by others.

Presse Médicale, Paris

December 4, XX, No. 100, pp. 1013-1020

50 *Effect of Compression of the Spinal Cord on Albumin Reaction in Spinal Fluid. (Dissociation albumino-cytologique au cours des compressions rachidiennes.) J. A. Sicard and C. Foix.
51 Facial Neuralgia. (Considérations sur les rapports des états névralgiques, en particulier des migraines et des névralgies faciales.) F. Lévy.

December 7, No. 101, pp. 1021-1032

52 Hemiplegia from Scarlet Fever in Puerperium. (Hémiplégie après scarlatine chez une femme en couche.) I. Duseiau.

December 11, No. 102, pp. 1033-1040

53 *The Adrenal Factor in the Uncontrollable Vomiting of Pregnancy. (Du rôle de l'insuffisance surrénale dans les vomissements gravidiques incoercibles.) E. Sergent and C. Lian.

December 14, No. 103, pp. 1041-1052

54 Pleximeter Auscultation. C. Fernet.
55 *The Urea Index in the Blood. (La constante uréo-sécrétoire.) L. Ambard. (Sur une modification d'uréomètre en vue du dosage de l'urée sanguine.) L. Ambard and Hallion.

December 18, No. 104, pp. 1053-1060

56 *Special Indications for Squill as a Diuretic. (La scille. Médicament diurétique azoturique.) A. Pic and S. Bonnamour.
57 Sedative Action of Sodium Iodid in Small Doses. J. L. Champion.

50. **Dissociation of Albumin and Cells in Spinal Fluid as Sign of Compression.**—Sicard and Foix found that the cerebrospinal fluid in cases of active Pott's disease always contained a large proportion of albumin, while it was almost entirely free from cellular elements. Over fifty patients with tuberculous spinal disease were examined with concordant results in this line in every instance. In sixty cases of sciatica of the low type, that is, below the great sciatic notch, the albumin and cell reactions were normal. In the cases of sciatica for which some trouble in the intervertebral foramina was responsible, there was more albumin than normal; scoliosis is the rule in this class of cases of sciatica. In twelve cases of neoplasm compressing the spinal meninges there was a large proportion of albumin with very few, if any, cells and as the tumor progressed the albumin increased in amount. In this class of cases the dissociation between the albumin and the cells has great diagnostic importance, as, for instance, when sciatica develops in a person who has had a spinal tumor removed a few months or years before, it is a question whether the sciatica is simple or a symptom of metastasis in the spine. Their research shows that an abnormal proportion of albumin in the spinal fluid must not be regarded as necessarily a sign of derangement of the spinal roots or meninges in every instance. When it is accompanied by abnormal proportions of cells it is a sign of a reaction on the part of the pia mater or roots. When the abnormal amount of albumin is observed without cellular elements in the fluid, this is a sign of reaction to compression outside of the dura, in the epidural space or intervertebral foramen. Their comparative research on the different tests for albumin has demonstrated that the nitric acid technic is the most reliable. About 6 or 7 drops of nitroso-nitric acid are allowed to flow down the wall of a narrow test-tube containing 2 c.c. of the cerebrospinal fluid. A precipitate is thrown down in case of positive findings and the promptness with which this occurs and the amount after two or three minutes are the criteria. Four degrees of the reaction may be

observed, slight opalescence (normal); slight turbidity; turbidity turning to a dirty gray, or a yellowish tint of the fluid with massive coagulation.

53. **Epinephrin in Uncontrollable Vomiting of Pregnancy.** – Sergent and Lian report six cases in which the uncontrollable vomiting of pregnancy was accompanied by signs of insufficiency on the part of the adrenals, and the patients were promptly cured by administration of epinephrin, as is described in detail. When the adrenals are insufficient from any cause, the ordinary auto-intoxication of pregnancy may entail the most serious results, all of which may be averted, they say, by prompt administration of adrenal extract. The pregnancy should never be interrupted for uncontrollable vomiting, they insist, until epinephrin has been given a thorough trial. The signs of adrenal insufficiency are asthenia ranging from lassitude to almost complete inability to move; digestive disturbances, vomiting, diarrhea or constipation; pain in the lumbar region and abdomen, and finally circulatory disturbances, low blood-pressure, the adrenal white line, and a tendency to syncope or even syncope and sudden death.

55. **The Urea Index in the Blood.**—Ambard and Hallion describe some modifications and improvements in the technic for the urea index described in The Journal, 1912, lix, 229 and 818.

56. **Squill as a Diuretic.**—Pic and Bonnamour discuss the history of the therapeutic use of squill and the mechanism of its action, which is still mostly conjecture. Their research has shown that diuretics can generally be classed under three headings, those which promote the output of water, of chlorids or of nitrogen; that is, as they express it, the hydrurics, the chlorurics and the azoturics. Squill is the model specimen of the third class; it displays an elective action on the elimination of urea by the kidney cells. The knowledge of this simplifies very much the therapeutic indications for it and explains the contradictory results obtained with it by the older investigators and empiricists. Luquet's Lyons thesis, 1912, contains the clinical record of years of its use as an "azoturic" diuretic and a few peculiarly instructive cases are reported here, with the clinical charts. They show that with retention of urea, 0.45 gm. of pulverized squill, fractioned, promptly increases the output of urine and the amount of urea eliminated rapidly runs up. In the first case reported a woman with chronic kidney disease had only 4.05 gm. of urea per liter and 600 gm. of urine in the twenty-four hours. Under the influence of rest and restriction to milk, the amount of urine transiently increased but then dropped to 400 gm. and declined to 300 after 1.5 gm. of theobromin had been taken. The patient complained then of severe headache and ringing in the ears which she attributed to the drug. Then 4 gm. of adonis vernalis was given and the output of urine increased but the total output of urea declined still further, dropping to a fraction over 5 gm. in the twenty-four hours. Then 0.45 gm. of squill was given, fractioned, and at once the diuresis increased to 1,500 gm. and the proportion of urea excreted ran up at the same time, finally totaling over 13 gm. in the twenty-four hours. To test the actual influence of the squill on this elimination of urea, all medication was suspended for four days, and both the amount of urine and the percentage of urea dropped materially, but were promptly restored to the preceding figures by resumption of the squill while the edema subsided and the general health showed marked improvement. In another case a man with chronic nephritis and anasarca had taken theobromin for years and it had always kept up the diuresis but had no effect on the dropsy which totally incapacitated the patient. Finally the urine was examined for urea and extreme retention of nitrogenous waste was discovered, the urea in the twenty-four hours totaling only 4.63 gm. Squill was then given and the output of urine increased to 2.5 liters while the urea output ran up to 21.6 gm. and the dropsy rapidly vanished and the general health improved. The squill was then suspended and digitalis given as there was some arhythmia, and the amount of urine and of urea declined. Then theobromin and squill were given together and the diuresis increased and as much as 27.34 gm. of urea was excreted, which is above the normal average (26 gm). With the dropsy the dyspnea also disappeared, and the patient was able to be up and out of doors for the first time in years. Persons with heart disease sometimes have retention of urea, and squill has proved its usefulness also in this class of cases. Even in the healthy, squill increases the output of urea. Analysis of the urine to determine whether there is retention of urea, salt or water is indispensable as a guide for proper therapeutics nowadays.

Revue de Chirurgie, Paris

December, XXXII, No. 12, pp. 869-982

58 *Immediate Cholecystectomy in Acute Gall-Stone Cholecystitis. R. Leriche and G. Cotte.
59 *Bile Peritonitis Without Perforation of Biliary Apparatus. (Périhépatite bilieuse avec epanchement biliaire dans le péritoine sans perforation de l'appareil biliaire.) S. Johansson.
60 *The Veins in Collateral Circulation. (Du rôle des veines dans la circulation collatérale artérielle.) E. Ney.

58. **Cholecystectomy in Acute Gall-Stone Cholecystitis.** – Leriche and Cotte are in favor of treating acute gall-bladder infection like acute appendicitis by an immediate operation, and support their advocacy of the measure by seven typical cases of the kind. These seven acute cases were encountered in a total of thirty operations for gall-stones in the last six years.

59. **Bile Peritonitis Without Perforation of Biliary Apparatus.**—Johansson reports a case of this kind and compares it with four others from the literature. No perforation or even suggestion of one could be detected at the necropsy in three cases and in another case at the operation the bile could be seen oozing through the wall of the gall-bladder.

60. **Importance of the Veins for Development of Collateral Arterial Circulation.**—Ney states that ligation of the vein corresponding to the arteries of the collateral circulation has a remarkable effect in raising the pressure in these arteries and thus promoting further development of the collateral circulation. He has reproduced analogous conditions in an apparatus, and has found his assumptions confirmed in experiments on dogs. Compression of the vein trunk starts up the collateral arterial circulation.

Archiv für Verdauungs-Krankheiten, Berlin

December, XVIII, No. 6, pp. 701-876

61 *Hypersecretion After Test Meal in Diagnosis of Gastric Ulcer. (Beitrag zur Pathologie und Therapie des Magengeschwürs. Die Hypersekretion nach der Probemahlzeit.) S. Kemp.
62 Indications for Operative Treatment of Gastro-Intestinal Tract. (Indikationen für Operationen bei Erkrankungen des Verdauungstraktes.) M. Einhorn (New York).
63 Comparison of Findings with Roentgenoscopy and Illumination of the Stomach from Within. (Vergleichende Untersuchungen über die Röntgenphotographie des Magens und die Gastrodiaphanie.) K. Hofius.
64 *The Stool with Hyperacidity and Anacidity. (Ueber das Verhältnis zwischen Stuhlbild und Darmmotilität und die wechselnden Stuhlbilder der Hyperacidität und der Achylie.) S. Jonas.
65 Hemorrhagic Erosions in the Stomach in Connection with Melena Neonatorum. (Ueber hämorrhagische Erosionen und Magengeschwüre und ihre Beziehungen zur Melaena neonatorum im Anschluss an 4 Fälle bei Säuglingen.) I. Zadek.
66 Duodenal Mucus in Vomit. (Erbrochener Duodenalschleim im Migräneanfall.) F. Schilling.

61. **Hypersecretion After Test Meal with Gastric Ulcer.**—Already summarized in The Journal, Oct. 26, 1912, p. 1586.

64. **Relations Between Motor Functioning of the Intestines and the Stools.**—Jonas presents evidence to prove that the stomach is responsible for the motor functioning of the intestines to a great extent, as hypermotility of the stomach is accompanied by an abnormally rapid passage of the contents through the intestines, and hypomotility by the reverse. The stools may pass at the normal tempo through the upper intestines and yet present the picture of severe constipation by delayed passage through the lower segment of the large intestine. As this may be secondary to disease of the stomach, as well as of the small or large intestine, the presence of diarrhea does not justify any conclusions as to the hypermotility of the whole intestinal tract. Achylia generally entails diarrhea as the achylic hypermotility extends throughout the intestinal tract unless the lower segment of the large intestine escapes. In this case normal or hard stools may be observed and even constipation, so that constipation does not justify the assumption of lack of achylia. On the other hand, if in spite of known achylia the stool passes slowly through the upper large intes-

tine, not reaching the splenic flexure in at least six hours, some obstruction in the stomach or intestine should be suspected. With hyperacidity constipation is the rule, as this checks the evacuation of the stomach on account of the exaggeration of the pylorus reflex. In exceptional cases, however, the hyperacidity may be the result of a primary hypermotility and thus diarrhea may be observed. These conclusions are based on a number of cases described in detail. They explain the variations in the stools liable with hyperacidity. (A previous communication by Jonas on this subject was summarized in The Journal, July 15, 1911, p. 257.)

Berliner klinische Wochenschrift

December 16, XLIX, No. 51, pp. 2393-2440

67 *Pathogenesis of Appendicitis. G. Pascale.
68 *Congenital Dropsy. (Zur Kenntnis der angeborenen allgemeinen Wassersucht.) W. Fischer.
69 Stenosis of the Esophagus. A. Rethi.
70 Vaccine Pustule on Tongue. (Autovaccination der Zunge.) W. Lublinski.
71 Present Status of Hematology. A. Pappenheim.
72 *New Leg Sign. (Neues Unterschenkelphänomen.) A. Piotrowski.
73 *Nine Cases of Neurorecurrence in Syphilis After Salvarsan and One Fatality. (Ueber Störungen des Nervensystems nach Salvarsanbehandlung unter bes. Berücksichtigung des Verhaltens der Cerebrospinalflüssigkeit.) H. Assmann.

67. **Pathogenesis of Appendicitis.**—Pascale calls attention to the peculiar conditions in the appendix in regard to the circulation. The arrangement of the vessels nourishing the appendix differs from that of all other segments of the intestines, and any slight interference with the circulation blocks it at once so that even a minimal disturbance is liable to have dire consequences here. The appendix also differs in its structure from other segments of the intestine as it contains such numbers of lymph follicles. The chemistry of the appendix is also peculiar to it, owing to the arrest here of fecal matters and the conditions favoring symbiosis of microorganisms. These special features of the appendix explain why one attack of appendicitis leaves a predisposition to recurring attacks, and each one leaves the appendix in worse shape than before.

68. **Congenital Dropsy.**—Fischer reports the case of a woman of 32 who had borne five children, four now in good health, and then had been delivered nine times in succession of a stillborn and macerated fetus. There was no history of syphilis and the Wassermann reaction was negative. Fischer delivered the last one and noted diffuse dropsy in the child as also in a second case reported, the mother a v-para of 28 with four living children and no signs of syphilis. In these as in two other cases previously reported by Fischer, the children with the dropsy were delivered prematurely, at the seventh or eighth month, there was much ascites and the placenta was unusually large and edematous. There were considerable deposits of pigment in the spleen, liver and kidneys and the blood-count showed excessive number of nucleated cells, mostly red corpuscles. The whole picture in all the cases alike suggested injury from the action of some toxin.

72. **The Anticus Leg Sign.**—Piotrowski has found a phenomenon which he thinks may prove useful in the diagnosis of organic disease of the central nervous system. It is elicited like the knee-jerk, the muscle struck being the tibialis anterior at its point of origin, between the tuberosity of the tibia and the head of the fibula or by percussion of the belly of the muscle. This induces a reflex dorsal flexion and supination of the foot, corresponding to the motor effect of the physiologic function of the muscle. It assumes pathognomonic importance only when the reflex response is excessive or when it can be elicited only or predominantly on one side. This abnormal reflex may be the only sign of organic disease, or it may instructively corroborate other findings, especially a dubious Babinski sign. Piotrowski has tested this anticus reflex, as he calls it, in 115 cases and found it symmetrical, that is, alike on both sides, in numbers of nervous or debilitated patients. In patients with organic lesions of the central nervous system, especially those of a spastic character, the reflex occurred in an abnormal form, varying on the two sides, asymmetrical, the response excessively lively even to a slight touch. In a few cases the reflex elicited was exactly the reverse of what was expected, an antagonistic reaction being observed. This occurred apparently only in the cases in which some lesion in the lumbar portion of the spinal cord interrupted the stimulus so that the stimulus applied to the periphery was prevented from completing its reflex arc.

73. **Nervous Relapses After Salvarsan.**—Assmann reports nine cases of neurorecurrence after salvarsan. Examination of the cerebrospinal fluid confirmed him in the belief that the neurorecurrences are merely a manifestation of the disease and that the salvarsan has nothing to do with them. This assumption is justified, he says, by the prompt subsidence of the symptoms under continued cautious use of salvarsan. In one case an intravenous injection of 0.2 gm. salvarsan transformed in two days the alarming clinical picture; convulsions, unconsciousness, vomiting, pulse 96 to 118, temperature normal, negative Kernig sign, no rigidity of back of neck. This syndrome developed suddenly two months after two injections of salvarsan. The first day there were eight attacks of convulsions and on the diagnosis of true status epilepticus 4 gm. of chloral was given by the rectum, which put an end to the convulsions. By the second day the patient became more conscious and the mind was quite clear by the third day, but there was severe headache. The cerebrospinal fluid showed 260, 456, 307 and 100 cells, with the Nonne reaction strongly positive; the Nissl 9.5 and 6. The apparatus of hearing was the seat of the neurorecurrence in the other cases except in one in which intense headache was the only symptom. All these patients recovered under continued use of the salvarsan or under mercury. In another case severe convulsions developed the third day after a second injection of salvarsan, and the convulsions returned at intervals with unconsciousness, deviation of the eyeballs, clonic and tonic muscular spasms and abolition of the pupil reflex. In the intervals the mind was clear and the reflexes normal, but the man of 30 complained of intense headache. He died in coma the second day after the onset of the convulsions. The necropsy findings indicated a severe acute action on the central nervous system and kidneys of some toxic agent. The salvarsan seemed to have contributed directly or indirectly to bring about the fatality in this case, while in the neurorecurrences, Assmann says, the trouble seemed to be of a purely syphilitic nature, the salvarsan evidently having merely started or exaggerated it. In the fatal case the symptoms did not resemble those of arsenic poisoning; there were no gastro-intestinal disturbances, but the syndrome was identical in every respect with that in the "salvarsan fatalities" on record. The necropsy findings also showed manifold analogies with those of arsenic poisoning, likewise the interval of two or three days between the salvarsan and the onset of the convulsions.

Deutsche medizinische Wochenschrift, Berlin

December 12, XXXVIII, No. 50, pp. 2345-2392

74 The Foundations of Psychotherapy. O. Veraguth.
75 *Tubercle Bacilli in the Blood of the Non-Tuberculous. (Ueber "sekundäre" Tuberkulose.) Baemeister and Rueben.
76 Antitoxin in the Blood of Diphtheria Patients After Serotherapy. (Antitoxinuntersuchungen bei Diphtheriekranken die mit Heilserum behandelt wurden.) W. Beyer.
77 *Diphtheria Bacilli in the Urine. (Diphtheriebazillen im Harn.) R. Koch.
78 Antianaphylaxis in Research on Toxicity of Urine in Acute Infectious Diseases. (Harngiftigkeit und Anaphylaxie.) A. Uffenheimer.
79 Treatment of Fracture of Upper Jaw. (Oberkieferfrakturen.) Hagedorn.
80 Blastomycetes in Conjunctivitis Resembling Trachoma. A. Stiel.
81 Saprophytic Bacterium in Hog Pathogenic for Man. (Menschenpathogenität eines saprophytisch im Schweinedarm lebenden paratyphusähnlichen Bakteriums.) H. Bontemps.

75. **Tubercle Bacilli in the Blood.**—Baemeister and Rueben state that they found bodies in the blood which were apparently tubercle bacilli in patients with minimal tuberculosis and, in fact, in every person examined, healthy or with nontuberculous affections. They also found them constantly in the blood of rabbits which they knew to be entirely free from tuberculosis. Analyzing these surprising findings has convinced them that the only criterion to determine the identity of the bodies thus found is inoculation of animals. This always gave negative results when the supposed tubercle bacilli had been derived from persons or animals free from tuberculosis.

77. **Diphtheria Bacilli in the Urine.**—Koch made 111 examinations of the urine of twenty-six diphtheria patients. In four instances the bacilli from the urine of two of the patients proved pathogenic for laboratory animals. Diphtheroid bacteria were found in ten examinations of the urine from five other patients, and also four times in nineteen tests of the urine from scarlet fever patients, but no diphtheria bacilli pathogenic for animals were found in the cadavers except of those who had succumbed to cardiovascular complications early in the disease.

Medizinische Klinik, Berlin

December 8, VIII, No. 49, pp. 1975-2016

82 *Medical Certificates in Regard to Insanity. (Aerztliche Bescheinigungen über geistige Krankheit oder Gesundheit.) A. Mercklin.
83 Disease of the Central Nervous System of Syphilitic Origin. (Syphilogene Erkrankungen des Centralnervensystems.) E. Schultze. Commenced in No. 48.
84. Chemical Treatment of Cancer. (Zur Chemotherapie des Krebses.) H. Ribbert.
85 Technic for Removing Stone in the Kidney. (Die Pyelotomie als Methode der Wahl bei der Steinniere.) Baum.
86 Research on the Coagulation of Blood. (Blutgerinnung.) E. Unger.
87 General Principles for Treatment of Heart Disease by Physical Measures. M. Kahane. Commenced in No. 47.

December 15, No. 50, pp. 2018-2056

88 *Stricture of the Esophagus. (Die Speiseröhrenverengerung.) C. A. Ewald.
89 *The Respiratory Disturbances in Uremia. (Die Atmungsstörungen der Urämischen.) J. Pal.
90 *Migrating Myelitis. R. Bing.
91 Deposits of Iodipin Interfering with Roentgenoscopy Findings. (Ueber die Möglichkeit der Täuschung durch Jodipinreste bei der Röntgenuntersuchung der Lungen.) H. Arnsperger.
92 Improved Technic for the Radical Operation for Inguinal Hernia. H. H. Dreesmann.

82. **Certificates in Regard to Insanity.**—Mercklin comments on the appearance of a new periodical, *Irrenrechtsreform*, the organ of an association formed for protection against being adjudged insane and having a guardian appointed. This journal is another manifestation, he remarks, of the profound lay distrust of psychiatrists in the exercise of their profession. And this in spite of the brilliant progress and development of humane care of the insane and the most zealous research in the field of psychiatry. He gives a number of wise suggestions for the guidance of physicians called on to testify to the mental condition of a patient and to the necessity for institutional care. He warns that it is not necessary to attempt to give the correct diagnosis in the certificate. More important is it to give the summary of the observations on which the conclusions as to the existing mental disease are based. In particular is it desirable to specify the given circumstances which render institutional treatment indispensable. It is often wise to add that improvement, remission of the symptoms, is possible with proper care or is not to be anticipated. It is well to be wary with the statement that the individual is a public danger, but it must not be forgotten that in the course of two recent years 111 children were killed by insane persons committing suicide. The certificate should always distinguish between possible and actually proved sources of danger to the community, and the fact should always be stated on which this assumption is based. There is too often a tendency to obtain information from the persons around while neglecting to examine the supposed insane himself. Some physicians fear to bring on a maniacal attack by a medical examination, but Mercklin thinks this fear is exaggerated. A comprehensive examination is seldom possible but brief personal intercourse will prove very illuminating. A certificate testifying to the restoration of health after mental disease is a very responsible task. The physician should never be content with a single examination but should always demand time and the examination should not be done in the hurry of the office hours. It is important to examine the individual not only in the physician's house but in his own home where much that is useful may be learned. One advantage of this double examination is the liability to rapid change in the psychic behavior and the ability of some insane to repress their morbid phenomena for a time. The greatest stress should be laid on the previous history; in testing the intelligence it should not be forgotten that the mind may be apparently intact when the emotions and impulses are extremely morbid. If the individual has been in the care of an institution, the physician should ask to see the records before delivering a certificate. A flagrant instance is cited where a physician with paranoic dementia had escaped from an institution and was able to obtain a certificate from two physicians, stating that he had entirely recovered and that there was nothing to hinder his resuming practice, when in fact his ideas as to treatment were erratic beyond belief. Mercklin remarks in conclusion that the law makes no provision for the recall of the right to practice medicine when a physician has become insane.

88. **Stricture of the Esophagus.** Ewald reviews his experiences in 308 cases of cancerous stricture of the esophagus and seventy-four non-malignant cases. The history of the case and examination with simple instruments soon clear up the diagnosis, but little can be done in treatment. A gastrostomy affords but temporary relief although this spares the cancer the irritation from passage of food and thus has a marked palliative influence in addition to its permitting feeding. But the general toxic action of the malignant disease is not checked and it is seldom possible to keep the patient alive for more than two or three years although Ewald had one patient who had a cancer in the stomach successfully removed, then the right arm was exarticulated for a metastatic tumor in the humerus, the patient finally succumbing to metastasis in the right pleura. His experience with a retention cannula suspended in the stricture has not been favorable; gangrene from pressure is liable and the growth of the tumor pushes the tube up out of the stricture. The same objections apply to Senator's and Schreiber's dilators. Better results are obtained with the cautious use of ordinary sounds. Local application of radium has not given good results in his hands. When the weight begins to drop systematically he advises an operation rather than to let the patient drift away with nothing done except giving sedatives and nutrient enemas; an operation is amply justified by the exceptional and not to be foreseen cases in which the operation gave the patients a longer lease of life.

89. **Respiratory Disturbances in Uremia.**—Pal discusses the respiratory disturbances directly dependent on the uremia, the characteristic loud and deep breathing and the Cheyne-Stokes phenomenon—both subacute—and the disturbances from the action of the toxemia on the cardiovascular functioning—the acute form of respiratory disturbance. The latter includes the paroxysmal cardial and the paroxysmal cerebral dyspnea, both products of the acute, excessively high blood-pressure. The cardial form appears when the left ventricle has become relatively insufficient, while the cerebral form appears when, with the excessively high pressure, the heart is still able to do its work. The subacute forms are the least amenable to treatment. They can be influenced only by measures against the underlying trouble. The acute forms are more alarming, at the time, but as they are the results of mechanical causes they can be influenced by lumbar puncture, venesection and other means to reduce the arterial pressure. He has never encountered asthma in his patients with uremia, and he thinks that if they occur together it is merely a coincidence and that there is no causal relation between them. A nephritic patient likewise may have dyspnea and pulmonary edema from some primary heart disease but in this case there is not the characteristic acute high pressure in the arteries characteristic of acute uremia and which can be relieved by venesection or drugs to reduce the blood-pressure. Pal cites a few instances to illustrate the two types and the prompt efficacy of venesection or lumbar puncture.

90. **Migrating Myelitis.**—Bing reports a case in which the symptoms of the myelitis changed, showing that the lesion had migrated. He has not been able to find in the literature any similar case. The patient was a robust mechanical engineer of 30, who ran a rusty nail into one toe and a month later had to work in icy water all one night. The motor paralysis, motor irritation, disturbances in sensibility and in the reflexes were at first those typical of myelitis in the lower spinal cord, but then these subsided and others developed indicating transference of the lesion to a region higher up. Among

the most disturbing symptoms in the later phase were the unbearable itching from axillae to ears, including the arms, and also the headache. The bladder and rectum symptoms had all disappeared by this time. Invasion of the medulla oblongata was momentarily expected, but under intramuscular injections daily of 10 c.c. camphorated oil, with strychnin and aspirin, a marked turn for the better was noted and with continued galvanization, strychnin injections and carbonated baths a clinical cure followed, even the cremaster and abdominal reflexes returning. In less than three months from the first symptoms the patient felt entirely well and had returned to work. The symptoms indicated that the myelitis in the lumbosacral region with which the trouble began, was more or less transverse and diffuse, but as the lesions here healed and the upper segments of the spinal cord became affected the anterior and posterior horns were the only parts involved.

Monatsschrift für Geburtshülfe und Gynäkologie, Berlin

December, XXXVI, No. 6, pp. 637-758

93 *Perforation of Uterus During Treatment of Abortion. (Ueber Uterusperforation bei Ausräumung von Aborten und Vorschläge zu deren Verhütung.) W. Rühl.
94 Pregnancy in a Diverticulum of the Uterus. Barchet.
95 Angioma of the Placenta. (Das Placentarangiom eine echte Geschwulst.) M. Elten.
96 *Shorter Lying-in Period Recommended. (Zur Frage über das frühe Aufstehen nach der Geburt.) W. Stroganoff.
97 Theory in Regard to the Development of Sex. (Beitrag zur Entwicklungsmechanik des Geschlechts.) Weill.
98 Effects of Secretion of Corpus Luteum and Ovary. (Glandula lutea und Ovarium in ihrem Verhalten zu den normalen physiologischen und pathologischen Vorgängen im weiblichen Organismus.) N. A. Below.
99 Origin of Dermoid Cysts. (Zur Entstehung von Dermoidkugeln.) W. Plenz.
100 Intra-Abdominal Myorrhaphy of Levator Ani for Anteversion of the Uterus. (Intra-abdominale Myorrhaphie der Musc. levator ani bei Uterusvorfällen.) A. Jianu.

93. **Perforation of the Uterus During Treatment of Abortion.**—Rühl discusses Puppe's recent work on the medicolegal aspect of instrumental perforation of the uterus by physicians. Puppe cited 264 cases reported between 1907 and 1910, and described in detail two fatal cases in which the attending physician did not know that he had perforated the uterus. Rühl thinks that the emptying of the uterus by surgical means should be discouraged among general practitioners. It should never be done except by surgeons in hospitals. In many cases it would have been possible to manage without surgical treatment by tamponing or the use of the finger instead of the curet. He declares that the physician should be held legally responsible if he has not the necessary skill and experience to perform such operations in the most skilled scientific way; also if he operates without assistance and without the use of the most careful antiseptic and aseptic precautions.

96. **Shorter Lying-in Period Recommended.**—Stroganoff bases his conclusions on a study of 8,000 cases in his hospital at St. Petersburg. He has found that his patients do better when they get up on the third day or sometimes, in the case of primiparae, on the fifth. The upright position favors the discharge of the lochia, stimulates the action of bowels and bladder and prevents fecal absorption. Gain in weight begins quicker on account of better appetite, and the involution of the uterus is hastened and backward displacement is prevented by the erect position. It may be added that large numbers of his patients were Russian peasant women accustomed to hard labor.

Münchener medizinische Wochenschrift

December 10, LIX, No. 50, pp. 2713-2768

101 The Crescendo Murmur of Mitral Stenosis. D. Gerhardt.
102 Mechanism of Action of Opiates on Defecation. (Wirkung von Morphium, Opium und Pantopon auf die Bewegungen des Verdauungstraktus beim Menschen und beim Tier.) E. Stierlin and N. Schapiro.
103 Peristalsis in Large Intestine. (Zur Kenntnis der normalen Dickdarmbewegungen.) F. Meyer-Betz.
104 Atrophy of Optic Nerve with Steeple and Pointed Skulls. (Genese der Sehnervenatrophie bei Oxyzephalen.) K. Eskuchen.
105 *Detection of Simulation in Alleged Sciatica. (Zur Beurteilung der Ischias bei Unfallverletzten.) M. v. Brunn.
106 *Operative Treatment of Elephantiasis. (Die chirurgische Behandlung der elefantiastischen Oedeme durch eine neue Methode der Lymphableitung.) E. Kondoleon.
107 *Experimental Hemoglobinuria from Ingestion of Distilled Water. (Zur Schädlichkeit des destillierten Wassers.) R. Oehler.
108 Precipitation of Fibrinogen in Ascitic Fluid Differentiates It from Cyst Content. (Einfaches Hilfsmittel zur Differentialdiagnose zwischen Aszites und schlaffen Ovarialzysten.) A. Dienst.
109 *Typical Street-Car Accident. (Strassenbahnverletzung.) Frank.
110 Disappointing Experiences with Mesbé in Treatment of Tuberculosis. Zink.
111 Chemical Action of Karbenzym. M. Winckel.
112 Gynecology in Psychiatry. P. Mathes.
113 Advantages and Technic of Ethyl-Chlorid General Anesthesia. (Zur Technik der Chloräthylnarkose.) E. Borchers.
114 Color Tests of Kidney Functioning. (Ueber einige kolorimetrische Bestimmungsmethoden: die nierendiagnostische Methode von Rowntree und Geraghty, die Bestimmung des Rhodans im Speichel und die des Jods im Harn.) W. Autenrieth and A. Funk. Commenced in No. 49.
115 Cumulative Roentgen-Ray Burn. (Schädigungen der Haut durch Röntgenlicht nach Tiefenbestrahlung—Aluminum. Kumulierende Wirkung.) H. Iselin. Commenced in No. 49.

105. **Detection of Simulation in Alleged Traumatic Sciatica.**—The comprehensive industrial insurance legislation in Germany has made the question of simulation a vital one there. In case of true sciatica, the pain is always increased when the patient, lying on his back with flexed hip joint, has the knee drawn out straight. Turning the patient on his face, the hip straight, Brunn flexes the knee—this relaxes the sciatic nerve and reduces the pain. In case of simulation the patient, feeling the knee moved, thinks that this movement must necessarily induce pain and consequently complains of pain, which stamps the case at once as suspicious of malingering. The suspicion is confirmed if the patient replies affirmatively to the question whether he feels pain on pressure of certain points along the nerve, the pressure being applied at points remote from the true course of the nerve.

106. **Operative Treatment of Elephantiasis.**—Kondoleon encountered eight cases of disfiguring elephantiasis at Athens in the course of a recent year, and reports his successful operative treatment in six. The measures applied varied according as the trouble was merely stasis of lymph or sclerosis of the tissues or both combined. In the very mild cases, it suffices to provide a means of communication between the superficial lymphatics and the muscles by working strips of fascia into the muscle tissue. This proved all that was needed in one case. In the others the years of elephantiasis had changed the fascia into a hard inelastic shield between the subcutaneous tissue and the muscles. Nothing will help in such a condition except incision of patches of fascia. In one case of thirty-five years' standing he cut out fully half the fascia in the leg, restoring the man to active life free from all disturbances except a feeling of heaviness in the legs and some hardness still left in the tissues. There were no functional disturbances in any instance after excision of the fascia, and the multiple nodules disappeared in two days afterward in one of the cases and the skin became comparatively soft and flexible in a few days in all the patients.

107. **Harmfulness of Distilled Water.**—The experimental research reported emphasizes the necessity for examining the blood and kidney functioning in studying the injurious action of chemically pure water. It induced hemoglobinuria in mice drinking it.

109. **Typical Street Car Accident.**—The accident to which Frank refers is a contusion of the genitals from sitting down hastily or being thrown back on the low iron railing that separates the seats in certain street cars. Both the women in the two cases reported recovered without serious injury although the sudden profuse hemorrhage from the laceration in the vulva was very alarming in one of the cases. The laceration was superficial and only 1 cm. long and the bleeding stopped at once on compression but started again each time as soon as the compression was removed. This profuse hemorrhage from wounds in the vicinity of the clitoris is an old experience, but a couple of sutures arrested the hemorrhage at once.

St. Petersburger medizinische Zeitschrift

December 14, XXXVII, No. 23, pp. 339-352

116 Treatment of Gunshot Wounds of the Skull. (Indikationen zur primären operativen Behandlung der Schädelschüsse im Frieden und Kriege.) O. Holbeck.
117 Prevailing Theories in Regard to Vitalism. (Welche Naturanschauung ist die der heutigen Medizin gemässeste?) K. Dehio.

Therapie der Gegenwart, Berlin

December, LIII, No. 12, pp. 529-552

118 *Bone and Joint Tuberculosis. (Behandlung der Knochen- und Gelenktuberkulose.) G. Perthes. Commenced in No. 11.
119 Bromids in Epilepsy. (Die Brombehandlung der Epilepsie.) R. Ammann.
120 *Late Forms of Inherited Syphilis. (Ueber die Spätformen der Erbsyphilis.) F. Bering.
121 The Physician in Epidemics and Wholesale Poisonings., etc. (Das Verhalten des Arztes bei Epidemien und Massenerkrankungen.) K. Hoffmann.

118. **Treatment of Bone and Joint Tuberculosis.**—Perthes states that he has never obtained as good results with Bier's method of stasis hyperemia as Bier has reported, but he thinks that Bier's recent reports of the fine results obtained by combining this method with large amounts of potassium iodid internally open new prospects in the conservative treatment of surgical tuberculosis. This permits much more intensive hyperemia treatment, as long as up to twelve hours a day, with potassium iodid in daily doses totaling from 1 to 8 gm. The main point in hyperemia treatment is to apply the constriction in such a way that the limb keeps warm, the pulse palpable. Perthes discusses the indications for operative treatment, emphasizing that the bones and joints of children display a much greater tendency to heal than in adults; at the same time the results of resection of a joint are particularly unfavorable in children. The special joint involved also points to the special treatment; for the knee resection may be considered more readily than for the hand or hip in which a good outcome is generally possible with conservative measures. Roentgenoscopy is a valuable aid in determining whether to operate or not, as also the general condition, the results of previous conservative measures and the social standing of the patient, whether he can submit to a tedious course of conservative measures.

120. **Tardy Development of Inherited Syphilis.**—Bering regards congenital tardy syphilis as the saddest form of the disease, and here discusses its usual manifestations. The infection is acquired in the uterus but does not manifest itself for years. The Wassermann reaction was positive in 75 per cent. of his cases of this kind. The knee was usually the seat of the first symptoms, both knees swelling at the same time. Roentgenoscopy shows some roughness in the ends of the bones and the puncture fluid always gave a positive reaction in his cases. The course is more acute than that of a tuberculous process, and there was always enlargement of lymph-nodes. Parenchymatous keratitis is another frequent primary manifestation, and is often the only acute process. It usually runs a stormy course, sometimes bilateral, befalling first one and then the other eye. Gumma in the muscle was also occasionally observed and syphilids in the skin. The first symptoms were observed about the eighth year in most of his cases, but in some as early as the first year and in one not until the twenty-sixth. He never was able to transform the Wassermann reaction to negative, even although years may have elapsed without manifestations of the disease.

Wiener klinische Wochenschrift, Vienna

December 12, XXV, No. 50, pp. 1965-1996

122 *Care of the Mentally Unbalanced in War. (Psychiatrische Fürsorge auf dem Kriegsschauplatze.) B. Revesz.
123 Determination of Uric Acid in the Blood. F. Obermayer, H. Popper and E. Zak.
124 *Improved Technic for Ligation of Blood-Vessels. (Vorläufige Mitteilungen über eine neue Möglichkeit Blutgefässe zu unterbinden.) H. Bardach.
125 Successful Resection of Gastric Sarcoma. (Ein primäres endogastrisches Lymphosarkom.) L. Ruppert.

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126 *Aseptic Surgery. (Zur Keimprophylaxis in der Chirurgie.) Jaklin.
127 Scleroma in Russia. (Zur Skleromfrage in Russland.) A. Jürgens.
128 The Scaphoid Scapula as Sign of Physical Inferiority. (Das skaphoide Schulterblatt und seine klinische Bedeutung für die Prognose der Lebensdauer.) V. Kollert.
129 Technic for Radio-Active Therapy. (Eine neue Methode zur Einverleibung grösserer Emanationsmengen.) E. Kühnelt.
130 *Treatment of Abscess in the Outer Ear. (Zur Therapie der Otitis externa furunculosa.) A. Zografides.
131 Wilm's Tecinic for Prostatectomy. (Zu den Ausführungen von Zuckerkandl über die Prostatektomie nach Wilms.) M. Wilms.

122. **Psychiatry in War.**—Revesz remarks that the history of psychiatry on the battle field is of recent date, the Russo-Japanese war first bringing it into prominence. The Russians have had military psychiatric institutions since 1869, while the Japanese summoned specialists to care for the insane combatants for the first time during this campaign. It is now well recognized how important is a branch of the medical service for the mentally unbalanced on the firing line. In the Russian force there was an average of one insane to each 250 soldiers; of the 275 Russian officers who developed insanity over a third were of the delirium-tremens type and a third of the insane soldiers were inclined to epilepsy or hysteria. The alcoholic psychoses developed much less frequently when the forces were unable to obtain liquor, and Revesz thinks that absolute abstention from liquor is a strict indication for an army in the field. He suggests various technical points, urging the necessity for trained psychiatrists and attendants skilled in the care of the insane. He adds that the care of the wounded and sick being sent back to reserve hospitals and institutions might wisely be entrusted to psychiatrists, leaving the surgeons temporarily at the front.

124. **Improved Technic for Ligation of Vessels.**—Bardach expatiates on the advantages of using a very fine rubber tube for tying blood-vessels. His tube is of the softest, finest rubber, the diameter not over 1.7 mm. It spreads out to form a ribbon 2.5 mm. wide; once crossing the ends ties it firmly enough on account of the elasticity of the rubber. The flattened lumen allows a certain play in the compression, and his experiments with vessels thus ligated in laboratory animals showed that the compression by the tube did not cause any damage to the vessels, even when left on for twenty-four hours. Another advantage is that it is so easy to remove the ligature; one end is cut close to the knot when at once the whole comes undone. The walls of the vessel stick together at first, so that the flow of blood is only gradually restored—a still further advantage.

126. **Prophylaxis of Wound Infection in Surgery.**—Jaklin insists that the only way to ensure absolute asepsis in surgery is to avoid having anything to do with septic cases. Ordinary saprophytic and other germs are not virulent enough to do harm unless they come from a septic process or have passed through a septic organism. He has acted on this conviction for fifteen years, absolutely refusing to have anything to do with septic processes, and in his 4,175 aseptic operations he has had infection in only 0.31 per cent. of all the cases, and in these it was merely a stitch-hole abscess. Before that he had infection in 5.1 per cent. of his 1,276 operations. By declining all operations on septic material he is able to dispense with gloves, masks, etc., and his hands do not require such unmerciful sterilization as under other conditions, and operations can be done in a clean house as successfully as in a hospital. Total abstinence is his rule, and the fine results of its application through fifteen years have confirmed him more and more in the wisdom of the rule.

130. **Treatment of Suppuration in the Outer Ear.**—Zografides remarks that few affections are so painful as an abscess in the outer ear, but he has found it possible to abort and cure the trouble by the simple means of making three to five lengthwise incisions in the passage at the point where the pain is most severe. He does not wait for the abscess to ripen, but makes the incisions at once when the patient complains of pain. The meatus and outer ear are thoroughly disinfected to begin with; then the incisions are made where the probe shows that there is most painfulness. Then he covers the incisions at once with strips of gauze dipped in a 10 per cent. solution of phenol, with or without preceding application of cocain. The phenol has an anesthetic as well as a sterilizing action, and it is absorbed promptly through the raw surface of the incisions. The pain subsides in the course of an hour or two and has entirely disappeared by the fifth hour. The method is not new, only he does not know that any one else makes the incisions at such an early stage or applies the phenol so promptly.

Zentralblatt für Chirurgie, Leipsic

December 21, XXXIX, No. 51, pp. 1729-1760

132 Technic for Local Anesthesia. (Ueber Pantopon-Skopolamininjektionen bei Operationen mit lokaler Anästhesie.) L. A. Diwawin.
133 One-Hand Syringe. (Eine Saugspritze zum Betriebe mit einer Hand.) G. Nyström.

Zentralblatt für Gynäkologie, Leipsic

December 21, XXXVI, No. 51, pp. 1721-1752

134 Etiology of Placenta Praevia. R. Lumpe.
135 *Sterility the Rule After Classic Cesarean Section. (Möglichkeit einer erneuten Schwangerschaft nach dem klassischen Kaiserschnitt.) P. C. T. v. d. Hoeven.
136 Necrosis of Fat Tissue After Suturing. (Ueber Nekrose des Fettgewebes durch Naht.) F. Eberhart.
137 Very Little Change in External Aspect and Size of Fetus in Last Month Before Term. (Frühgeburt oder ausgetragenes Kind?) W. Nacke.

135. **Sterility After Cesarean Section.**—Hoeven states that an average of 5 per cent. of the children do not survive the classic operation for cesarean section. the proportion ranging from Richter's 0.9 to Frigyesi's 16 per cent. mortality in fourteen maternities cited. Adhesions between the uterus and adjoining tissues develop in from 67 to 84 per cent. of the cases and naturally interfere with future pregnancies. He found that of seventeen married women in the child-bearing age who had had cesarean section done in his service between 1896 and 1910. only eight have borne viable children since, and five of the seventeen women required cesarean section anew and only one of these bore a child after the second operation. This comparative sterility. over half of the women having no further children after the first cesarean section, is very discouraging, he remarks. It warns that the classic technic should be discarded for one that promises a better ultimate outcome.

Gazzetta degli Ospedali e delle Cliniche, Milan

December 17, XXXIII, No. 151, pp. 1585-1592

138 *The Prognosis in Typhoid Relapses. (La prognosi delle recidive da ileotifo.) G. Malan.

December 19, No. 152, pp. 1593-1600

139 Paralysis of the Bladder in Poliomyelitis. (Caso di paralisi vescicale da poliomielite.) G. Campora.

138. **Prognosis of Typhoid Relapse.**—Malan reviews the epidemics of typhoid at Turin in the last thirteen years, and states that he has been impressed by the large number of relapses, especially when the spleen persisted large, and by the mild character of the disease in general. He tabulates the details and calls attention to the fact that in the years showing the largest proportion of relapses, the mortality was always the lowest. The mortality in 552 cases without relapse was 11 or 12 per cent., while it was only 3 per cent. in ninety-seven cases with relapse. His experience has thus been that relapses run a comparatively harmless course, probably owing to the active immunization already induced and to the fact that in the malignant cases the patients die before reaching the relapse stage. At the same time. he warns, the intestines have been probably damaged to such an extent that they are peculiarly fragile and vulnerable, and hence the vigilance and care in regard to the diet must be redoubled in case of a relapse.

Policlinico, Rome

December 15, XIX, No. 51, pp. 1857-1892

140 Effusion of Blood in Spinal Cord from Indirect Trauma. (Caso di ematomielia centrale da trauma indiretto.) A. Allegri.

Riforma Medica, Naples

December 14, XXVIII, No. 50, pp. 1373-1400

141 *Subcutaneous Injection of Camphorated Oil. (Sull'olio canforato per via ipodermica.) L. Fornaca and R. Lanza.
142 Sarcoma of Male Breast. (Caso di sarcoma della mammella maschile.) F. Putzu.
143 Bilharziasis. (Contributo allo studio della bilharziosi venosa.) I. Bandi.

141. **Camphorated Oil in Subcutaneous Injection.**—Fornaca and Lanza conclude from their experimental research and clinical observation that camphor in therapeutic doses has no bactericidal or antitoxic action, its sole efficiency being as a tonic and stimulant for the heart. It has a prompt pronounced action on the blood-pressure and the viscosity of the blood, when given in doses not over 0.2 or 0 4 gm. in substance in 1 or 2 c.c. of olive oil. The action grows less as the dose is increased beyond this. The above small doses, repeated at need. they say, have the sanction of theory, tradition and practice.

Hospitalstidende, Copenhagen

December 18, LV, No. 51, pp. 1525-1548

144 Multiple Mesenteric Chyle Cysts in Girl of 7; Volvulus and Perforation. Recovery After Resection of Ileus. K. Poulsen.
145 *Gonorrheal Hyperkeratosis. (Om de saakaldte "gonorrhoiske Hyperkeratoser" med Beretning om et nyt Tilfælde.) O. Haslund.

145. **Gonorrheal Horny Eruption.**—Haslund cites various authors who have reported purpura. exanthems, herpes, urticaria and erythema as manifestations of gonorrheal infection. The first report of a horny crust eruption or hyperkeratosis was published in 1898, and Arning in 1911 had compiled twenty-three cases of this kind. Haslund adds another to the list, although in his case the correct diagnosis was not made until after the patient had recovered. He was a man of 37 with recurring gonorrheal urethritis and reddish pinhead spots scattered over the hands. Then some vesicles formed; some suppurated and others dried up. Then small papules developed on the legs and body and on the penis patches resembling psoriasis. The cutaneous affection and urethritis subsided for a year. but then flared up again for two months, and staphylococci were isolated from the confluent vesicles. Again it subsided, but returned a few months later with urethritis. The Wassermann reaction was constantly negative. The patient suffered most of the time with pains in some of the joints. and this subacute arthritis. not entailing ankylosis. is part of the clinical picture in these cases, along with the endogenous conjunctivitis and the keratosis. The latter generally develops as a balanitis hyperkeratotica; more rarely it involves the hands and feet, and only exceptionally other parts of the body. The keratosis passes first through a vesicular stage, and this is followed by a hard crust formation. The affection may also blend into other forms of a gonorrheal exanthem.

Norsk Magazin for Lægevidenskaben, Christiania

December, LXXIII, No. 12, pp. 1693-1820

146 Hernia of the Diaphragm. (Hernia og eventratio diaphragmatica.) K. Motzfeldt and H. Wille.
147 Operative Treatment of Talipes. (Om operativ behandling av medfødt klumpfot.) V. Bülow-Hansen.
148 *Acute Dilatation of the Stomach. (Et tilfælde av akut ectasia ventriculi.) B.- Jensen.
149 *Camphor Poisoning. (Kamferforgiftning.) N. B. Koppang.
150 Sodium Nitrite Poisoning. (Litt om forgiftninger med natrium-nitrit, $NaNO_2$.) G. R. Krogh.
151 Traumatic Appendicitis. (Epityphlitis traumatica.) G. Benestad.

148. **Acute Dilatation of the Stomach.**—Jensen's patient had previously borne ten children and had just been delivered of twins, requiring various maneuvers to arrest the serious hemorrhage. The severe anemia was combated by stimulants and raising the foot of the bed. The next morning there was sudden collapse and signs of acute dilatation of the stomach. With the stomach tube a little fluid was evacuated and a very large amount of gas. The booming escape of the enormous amount of gas relieved the patient at once and the stomach subsided to its normal size. He ascribes the trouble to the extreme anemia and toxic action of the small amount of chloroform used; there was no mechanical obstruction.

149. **Camphor Poisoning.**—Koppang reports the case of a clerk. 23 years old, who took one afternoon 1.2 gm. of pure camphor to cure insomnia. An hour later nausea, vertigo, congestion in the face and a general condition of "tipsiness" developed, the patient becoming finally unconscious, but there were no signs of convulsions. The breath smelt strong of camphor. The pulse was 100, temperature 36.5 C., knee-jerk lively and pupils dilated, but reacting well. The urine seemed normal. Lavage of the stomach brought away lumps of pure camphor. By the next day he was entirely restored. Koppang discusses other cases of camphor poisoning on record. The smallest dose causing symptoms of poisoning was 0.7 gm. The lethal dose for adults is not known; camphor has been taken with suicidal intent in doses up to 15 gm. with survival. Children have succumbed to a dose of from 0.75 to 1 gm. camphor. The features of the chemical action of camphor in the body are also discussed.

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MEDICAL SECTARIANISM*

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The existence in the community of various schools and sects, flourishing and popular, each claiming to present a complete system of medical practice, is a vexatious condition constantly confronting the medical profession. The regular profession feels that scientific medicine, being grounded on rational and comprehensive principles, while far from perfect, possesses an entirely different status from that of the sects, and has unimpeachable claims to acceptance. The point of view of the scientific physician makes him unable to perceive any rational basis for sectarian dogmas, and the credence and support which they receive arouse his indignant amazement and exasperation. It brings a shock to our self-esteem when we discover that the public does not accept us at our own valuation, but that in many quarters exist misunderstanding, distrust and antagonism against the medical profession. The experience of the profession in connection with legislative propositions on medical matters has brought a keen and mortifying realization of the extent and fervor of the opposition to medicine.

When, however, we contemplate the zeal, enthusiasm and faith of the devotees of the pseudomedical sects; when we consider the large numbers of their adherents; when we appreciate that their following comes from the most reputable, most substantial and most intelligent sections of the community—from the better rather than the lower classes of society—then we should begin to realize that these popular beliefs are not the product of perversity or wickedness or ignorance, but result from powerful causes deeply rooted in human nature. To ignore these causes, to deny whatever merit or justification the sects may possess, is to meet the situation ineffectively. In view of its manifest powerful hold on human nature we should look on medical sectarianism as a psychologic phenomenon presenting a definite scientific problem, and study its causes, nature and manifestations in precisely the same dispassionate way as we would investigate any other pathologic condition.

PSYCHOLOGY OF MEDICAL BELIEFS

A consideration of the psychologic processes involved in the formation of human beliefs, especially medical beliefs, is essential to an adequate understanding of medical sectarianism.

Theoretically the formulation of beliefs is a function of the intellectual side of the mind. With perfect operation of the mental faculties truth would be elaborated with the unerring and unfeeling mechanical accuracy of an adding or calculating machine. That is the ideal method to be aimed at in the attainment of knowledge; beliefs so formed may be relied on as embodying truth.

Unfortunately, however, the emotional side of the mind is apt to interfere with the proper working of the intellect, and disturbing influences are brought into action which pervert the judgment and lead to error in the conclusions arrived at. There are a number of powerful natural propensities inherent in human nature which influence and dominate human activities, such as the love of life, the sexual instinct, the love of action, the love of knowledge, the love of pleasure, and the love of beauty. These propensities also influence belief, those most potent in affecting the medical beliefs of mankind being the love of life and the thirst for knowledge.

The love of life is one of the most fundamental and powerful instincts of man and animals. "Self-preservation is the first law of Nature;" as a race indifferent to existence might easily become extinct, the instinct for self-preservation and the intense desire for life constitute a biologic character of the highest potency in the perpetuation and evolution of the race. This somatic instinct—manifested as pathophobia, the fear of disease, the dread of pain, the horror of death—is a primal element in human nature, constant and insistent in its action in normal persons and in its exaggeration one of the commonest manifestations of mental disorder. All our thoughts and actions are influenced by this instinct. Everything relating to disease and its treatment is of the utmost interest to people in general, and invested with mysterious fascination; and the disproportionate and excessive concern of man in his somatic well-being is apt to have a disturbing effect on the formation of his medical beliefs. In his terror at the dangers threatening life and health man will grasp at straws, and in his desperate eagerness for help and comfort may form too hasty judgments and put misplaced confidence in specious and fallacious ideas.

A similar influence is exerted by man's concern and anxiety for the well-being of his loved ones, by humanitarian impulsions and by the sexual instinct.

An insatiable thirst for knowledge is another dominant trait in human nature. Just as a superabundance of physical energy or "animal spirits" leads to exuberant physical activity, so does man's superabundance of mental energy lead to exuberant intellectual activity. The human mind confidently aspires to mastery and comprehension of the entire universe, and is reluctant to admit that anything is beyond its powers. Human nature is not satisfied with merely miscellaneous information, but demands a complete scheme of universal knowledge. It is impatient with gaps in knowledge, and insistent for completeness, certainty and finality. Our patients, for instance, demand of us immediate and definite diagnoses and prognoses. This eagerness for knowledge and impatience with the unknown is a powerful incitement to premature generalization and ill-founded assumption, and is a potent cause of error and fallacy.

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* From the Presidential Address before the Medical Society of the District of Columbia

Taken in conjunction with the intense concern of man in his physical well-being, this demand for knowledge becomes preeminently potent in that particular field, and we have a concurrence of influences which by leading to premature and uncritical judgments has always been a source of incalculable error and fallacy in the medical beliefs of mankind. There is no branch of knowledge in which error is so wide-spread and deep-seated, or looseness and superficiality of thought so prevalent, or theorizing, amateurism, faddism and mysticism so general, as in the field of medicine. The generality of mankind are powerfully controlled by these influences in their medical and therapeutic ideas.

On the intellectual side of the mind we can differentiate two distinct methods by which beliefs are arrived at, which may be termed the speculative and the scientific methods.

The speculative method, by deduction, introspection and hypothesis, erects elaborate structures of belief or philosophy on slight foundations of fact. In this method the processes are essentially subjective, deductive and *a priori;* the mind works from assumed cause to effect, from subjective thought into the objective world. Great thinkers in all ages have thus formulated complete schemes covering whole departments of knowledge or the entire universe, and have taken such pride in these brilliant creations of their own intellects, and have regarded them as so complete and perfect, that observation of Nature was regarded as superfluous and unnecessary.

The scientific method works in the opposite direction from the speculative. It is objective, empiric, inductive, *a posteriori* in character. It begins with a study of external phenomena, and from them as a basis works out general laws. Rigidly suppressing preconceived notions and bias, this method by painstaking observation and investigation collects an adequate mass of objective data as a prerequisite to generalization.

Of these two methods, the speculative is far more attractive, and has a much stronger hold on human nature than the scientific method; it is the primitive and natural method of the untrained mind; it the more easily satisfies the innate thirst for knowledge. Uncritical theorizers can easily bring themselves to believe what they wish to believe; scientists can believe only what the evidence permits or forces them to believe. The scientific method is tedious and laborious, and leaves many gaps in knowledge; it does not come naturally, but is a product of training, discipline and culture.

The history of medicine is a convincing demonstration of the utter inability of speculative methods, and of the brilliant competency of scientific investigation, to produce effective knowledge. For thousands of years, during the ancient and middle ages, medicine was completely under the influence of speculative methods of thought; and the sterility, stagnation and inefficiency of medicine during that long period is a convincing proof of the utter futility of those methods. On the contrary, within the brief span of the past hundred years, solely by the employment of the scientific method, medicine has undergone a wonderful transformation and made stupendous advances

While the medical profession has been emancipated from false methods of thought, the medical conceptions of the great mass of mankind are still dominated by the speculative spirit, futile as it is. It is this spirit that actuates medical sectarianism, and its attractiveness to human nature explains the strong hold which medical sects and systems have on the public. The sole distinctive characteristic of regular medicine, which alone gives it an unimpeachable status above and entirely different from that of the medical sects, is its rigorous employment of the scientific method.

PSYCHOTHERAPEUTIC RESULTS

Abundant evidence indicates that in some measure the medical sectarians obtain successful therapeutic results. This we may as well admit, and without reluctance; we need have no fear of the truth. A multitude of witnesses whose intelligence and sincerity cannot be impeached have given appreciative testimony of relief obtained from the application of the various medical systems. If we thoughtlessly or incautiously deny the possibility of benefit being derivable from sectarian practice, we stultify ourselves and weaken our own credibility, since persons perfectly competent to judge of their own relief from symptoms will, if that relief is disputed, regard other opinions of the objector as equally untrustworthy.

Each sect attributes the cures wrought by it to the operation of its own particular principle. As each sect claims to be of exclusive and universal verity, if any one of them be true the theories of all the others are false. The presumption therefore is that they are all false, and that we must seek the cause of the cures effected by such a variety of methods not in the virtues of any one of them but in some other principle brought into action by all of them in common.

This therapeutic agency common to all curative systems is manifestly the healing power of the mind—the *vis medicatrix mentis*—psychotherapy. All forms of medical treatment of sentient patients necessarily bring this principle into operation; and in its action we have a simple and powerful agency which in the main, along with hygienic treatment, explains whatever therapeutic efficacy the medical sects and all other forms of irregular treatment possess.

Psychotherapy is of course likewise largely responsible for results achieved in regular medical practice; and the Christian Scientists and other sectarians at present are giving the medical profession a useful demonstration of its potency. Much that we have credited to the action of our drugs has in reality been due to psychotherapy. The rational physician should feel no hesitation or humiliation in recognizing the large part mental factors play in his work; he should feel called on to study exactly the applicability and methods of psychotherapy, and instead of employing it blindly and unwittingly, utilize it knowingly, purposely and systematically. Nor should we hesitate to acknowledge whatever debt we may owe to the sectarians for bringing to us a realization of the potency of psychotherapy, since what we seek is the truth, regardless of its source, even if in gaining it we have to acknowledge and reject previous error.

It is obvious that the accomplishment of cures in itself alone is no proof of the truth of any theory of healing. The most ignorant persons and the most indifferent methods may be efficient vehicles of psychotherapy. The psychic efficiency of a system may indeed be quite proportionate to its falsity, since ignorance may engender an enthusiasm and fervor which the materialistic and skeptical physician is unable to evoke. Some persons are natural healers, endowed with innate ability to inspire fervid psychotherapeutic faith. Many such are in the ranks of the regular medical profession, and may have a vogue and popularity disproportionate to their scientific attainments. Others arise from the laity, achieve an enormous influence and following, found schools with multitudes of adherents, and in spite of the error and harm in their systems bring much relief and comfort to humanity.

If psychotherapy comprised the entire healing art, it would not much matter if the systems conveying it were based on erroneous theories; the main object having been achieved, sufferers gaining relief would not be disposed to analyze or criticize the source of their relief. Psychotherapy is not, however, of universal applicability, but has its limitations. In the employment of this or any other single agency in that class of cases in which it is not applicable, to the neglect of the methods that would be effective, lie great possibilities of harm and the fatal objection to dogmatic medical systems. The conditions amenable to psychotherapy cause much mental and physical discomfort and unhappiness, but little mortality directly, while the conditions not adapted to mental treatment include the graver disorders that menace life, and therefore call for the most expert treatment possible.

GENERAL CHARACTERISTICS OF MEDICAL SECTS

From a comprehensive consideration of existing and extinct medical sects and systems we can form a general judgment of their common characteristics.

All of them alike are the products of theorizing and speculative methods of thought, and have therefore appealed strongly to human nature. Usually on a slight foundation of fact, sometimes of pure fancy, is erected an elaborate system covering the entire field of medicine. A principle more or less true in a limited field is taken to be of universal applicability, with disregard and rejection of other principles also included in the aggregate of truth. The attempt is made to reduce all medical principles and methods to one or a few general propositions, to force all facts into accordance with a narrow preconceived dogma. All the systems have accomplished some beneficial results, chiefly through psychotherapy, partly from hygienic treatment and the operation of the *vis medicatrix Naturae*, a few to a certain extent directly from the virtue of their particular therapeutic technic. All of them have caused harm by neglect of really effective methods of treatment in those cases in which their special methods were not applicable, and some by the positive viciousness of their methods.

The general tone of the sectarian literature and thought is one of shallowness and superficiality, generalities and mysticism. The fervid and wide-spread acceptance of sectarian systems evidences an amazing lack of the critical faculty in medical matters among great numbers of people otherwise intelligent. No doctrines are too ridiculous, no practices too pernicious, to be greedily accepted by the undiscriminating public. In scientific medicine it requires wealthy endowments and patient laborious work of many trained investigators to delve out one by one little fragments of truth; and yet the laity without hesitation accepts systems covering the entire field of medicine founded by the most ignorant, illiterate and unqualified persons.

Abundant experience has shown that the speculative methods which characterize medical sects are incapable of yielding effective knowledge. Medicine cannot be reduced to a few general principles; there is no single method of treatment of universal applicability. Every disease is a problem by itself, which must be worked out in all its aspects independently of other diseases. There is no royal road to medical knowledge or practice. Of the great variety of therapeutic measures available, the most effective combination for each particular morbid condition must be determined by exhaustive scientific research and rigorously analyzed clinical experience. The exclusive application of any one method of treatment indiscriminately in all cases of disease causes vast harm through the non-use of methods that might be effective. The deliberate and ignorant waste of opportunities for saving and relieving distressed humanity involved is just ground for the utter condemnation of medical sectarianism, and must cause inexpressible grief and sorrow in the hearts of all humane persons.

Mercenary motives also play a large part in inducing practitioners to adopt sectarian affiliations. The popularity of sectarian designations in some communities is a commercial asset. The less prolonged and less exacting courses of education required in most sectarian schools also lead many would-be practitioners to take that easier and cheaper road to practice.

All the medical systems of the past have had but a transient existence. Widely accepted for a time, they have invariably declined and died out, to be replaced by others. There is no reason to expect that any existing or future sects will have any different life-history. At present, in sects that have had a flourishing existence we can perceive evidences of decline and approaching dissolution, while new sects are springing into existence and developing with great vigor.

Being deeply rooted in human nature, the spirit of medical sectarianism and quackery is not a local phenomenon, nor (as often asserted) is it peculiar to the United States. Quackery is rampant in other countries,[1] such as England and Germany; and while sectarianism as such is less prevalent there, homeopathy and Christian Science are still represented. In France the practice laws are to a certain extent disregarded. In Germany over a third of the medical practice is in the hands of irregulars; and a cure-freedom spirit exists there like our own self-styled medical freedom league.

EXISTING MEDICAL SECTS

Only a brief individual consideration of existing medical sects will be undertaken.

Physiomedicalism, a sect with a small following in a few states, is a survival of the Thomsonian and botanic medical systems, which were founded by a New Hampshire farmer about a hundred years ago and for a few decades had considerable following. Physiomedicalism is moribund, its last college having become extinct in 1911.

The eclectic medical system, which now has six colleges and some following in certain parts of the country, was originated about 1830, chiefly by a group of Thomsonian and botanic practitioners who set out to reform medical practice. The claim that the great revolution in regular medicine effected in the nineteenth century was due in any material degree to the efforts of the eclectics or other sects that arose about that time cannot be substantiated, as the history of the great movements in medical science then taking place in Europe does not reveal any influence exerted by a few obscure American schismatics. Many of the principles professed by the eclectics are quite admirable; but they have nothing to offer in the way of resources, methods or principles that regular medicine does not possess; and the continued existence of the eclectic sect seems simply the perpetuation of a name and organization after the reasons that may have originally called it into being have ceased to operate. Its schools are rapidly diminishing in number. Several of them have recently dropped their sectarian character and become regular; and many eclectic graduates have joined the regular ranks.

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[1] See Abraham Flexner's Report on Medical Education in Europe, 1912.

Homeopathy, first promulgated by Hahnemann in 1810, before the great renaissance of scientific medicine took place, is a survival of the medical thought of the middle ages. Some of the doctrines advanced by Hahnemann, such as his denial of the healing power of Nature, his teaching that chronic diseases are due to the itch, his belief that shaking drugs increases their power to a dangerous extent, his method of administering infinitesimal doses by smelling sugar pellets, were too fantastic even for his followers to accept. Two cardinal doctrines, however, continue to form the distinctive features of the homeopathic system, the use of similars and the infinitesimal potentized dosage. A careful examination of the original literature constrains me to the judgment that the evidence on which the doctrine of similars was based is utterly unconvincing. The infinitesimal dosage, the centesimal dilutions, the idea that diluting and shaking medicines develop a mysterious potency—all these are stupendous nonsense. A simple calculation shows, for instance, that a single drop of medicine stirred up in the Atlantic Ocean would yield a strength about equal to only the twelfth centesimal dilution; and yet the standard homeopathic dose was the thirtieth dilution, while dilutions running into the hundredths, thousandths and even millionths have been largely used. Of all the medical systems of present or past times, there is none which in my opinion has a scantier basis of fact or reason, a poorer excuse for existence, or a more fantastic set of principles and methods, than homeopathy. Except among a minute remnant, homeopathy as a system of practice at the present time is practically extinct. For the sake of consistency homeopathists still profess nominal adherence to homeopathic doctrine, or reduce the extravagant centesimal dilutions to the three lowest decimal dilutions, which, forming strengths of from 1 to 10 to 1 to 1,000, brings many drugs within the range of effective dosage. When, however, they desire real physiologic results they employ regular practice; for psychotherapeutic purposes homeopathic methods will answer as well as any. Though the practice is abandoned, the name and organization have continued, through force of habit or for pecuniary advantage. As individuals the practitioners of homeopathy in general are excellent and likable men; but the general attitude of the school, in professing to follow one system while really practicing another, smacks of insincerity.

Osteopathy, founded by Still in the seventies of the last century, is at present the growing and flourishing sect. It makes a universal application of a single assumed etiologic factor (obstruction of nervous and vascular channels by bony and other displacements) and a single therapeutic method (manipulation). It is of real merit in offering a method—massage—which is perhaps too much neglected by the regular profession, and not adequately available from regular practitioners. It doubtless effects much good directly from the application of this technic, and much through psychotherapy; but it also causes harm through the non-use of effective measures in cases in which those two therapeutic agencies have no utility.

Chiropractic, recently introduced by Palmer, who disclaims having studied medicine, is in the incipient stage, but shows evidence of carrying a strong appeal to the uncritical. It is similar to osteopathy, its theory being that all diseases are caused by pressure of vertebrae on the spinal nerves.

Christian Science is at present a conspicuous object of the wrath of the medical profession, and yet to my mind it presents features that are interesting and instructive. The basic doctrine of Christian Science, the negation of matter, has a strong metaphysical foundation. Reduced to the last analysis, the only entities in the universe whose existence is absolutely certain and unquestionable are mental ideas; how to prove that objects in the external material universe actually do exist as in the mind they seem to exist is a proposition that the keenest philosophers have attempted to solve in vain. Nevertheless the universal feeling of mankind is that matter exists substantially as it seems to exist; all men invariably act accordingly, and for all practical purposes the existence of matter must be postulated as the basis of all action and all thought. The cult of Christian Science is an interesting attempt to conduct life according to the idealistic philosophy. Whatever its inconsistencies and errors, in many respects the Christian Science philosophy of life is a helpful one. It is a philosophy of optimism—a philosophy that seeks to minimize or ignore the discomforts, the troubles and the evils that beset us. It is not strange that such a cult should have attained a great vogue.

In its medical application Christian Science and its allied cults afford a pure example of the operation of psychotherapy. To a certain extent its basic dogma is true; a multitude of morbid conditions are due to mental error, or, as we express it, are psychogenetic. Just this large class of cases is specifically adapted and amenable to psychic treatment, and Christian Science often affords that treatment in an effective form. But there are limitations to the proper application of the Christian-Science method; and the sad havoc wrought by its attempt to treat all kinds of morbid conditions indiscriminately, to the neglect of the appropriate measures, brings on the cult merited reprobation and condemnation.

REGULAR MEDICINE

The general public to a large degree regards regular medicine merely as one of several schools competing for business, and puts it on exactly the same plane as its rivals, not conceding to it any title to special consideration or recognition.

To the many who look on the practice of medicine solely as a means of making money, one method of extracting dollars from the public must seem as legitimate as any other. It is often charged that the opposition of the medical profession to sectarianism arises from mercenary motives—resentment at loss of patronage and effort to monopolize business. It is doubtful, however, if the profession feels financial deprivation from sectarian practice to anywhere near the extent imagined by our opponents. Much of the practice that goes to the sectarians is of a psychic character, irksome and uninteresting to the average practitioner, which he is glad to be rid of. There are, indeed, business considerations in the practice of medicine that are perfectly legitimate and proper; and there are individual practitioners who are excessively actuated by sordid motives. Yet to the true physician there is much more in the practice of medicine than the mere making of money, and the general spirit of the medical profession and its attitude toward sectarianism are determined far more by intellectual and humanitarian considerations than by mercenary influences. Certainly men who regularly render a large part of their services gratuitously and are constantly striving to eradicate their own means of livelihood cannot be convicted of being altogether mercenary.

Another ground for misunderstanding arises from the use of the term "medicine" in different senses. Many understand the practice of medicine to mean the use of drugs or medicines solely, to the exclusion of other measures of treatment; such persons take the expression "medical treatment" to be synonymous with "medicinal treatment." Certain sects style themselves "non-medical" or "antimedical," meaning "non-medicinal" or "antimedicinal." We use the term "medicine" in a much larger sense, under the common figure of speech whereby the name of a part is used to designate the whole. To us the practice of medicine means the practice of the healing art, by any and every method or combination of methods—medicinal, hygienic, physiologic, biologic, physical, mechanical, surgical, psychic, prophylactic—most effective for each particular condition. There has been much irrational and wholesale condemnation of drug therapy. While the use of drugs to a considerable extent may be of indifferent utility, yet the efficiency of much drug treatment is beyond contradiction. Scientific medicine is by no means, however, limited to the use of drugs, but employs any and every agency that may be of use. The whole field of therapeutic technic is open to us; any physician is free to follow any method of practice that he may wish. No sect has the exclusive monopoly of any diagnostic or therapeutic technic; no sect has any resource or agency that is not equally at the command of the regular profession. If we employ those methods with skill and judgment, the sects are left without any reason for existence. Under these circumstances, our opponents endeavor to restrict the definition of the practice of medicine to the use of drugs, and thereby they gain an excuse for existence; they thus emasculate and render ineffective our medical-practice laws. Legislative or judicial definitions, however, cannot deprive us of any of our resources or limit the universality of our therapeutic methods.

The one and only factor which gives medicine a standing entirely apart from all medical sects is its scientific character. Of the great body of science at present medicine is an integral component, and has precisely the same standing as any other department of science, as chemistry, geology or astronomy. In the national scientific associations and learned bodies medicine has the same affiliations as other sciences. The medical sects have no scientific character or standing, no connections with scientific bodies.

There are no sects in science, no schools of truth. While facts of Nature are being studied out and until final certainty is attained, there may be legitimate and amicable differences of opinion in the scientific fold; but in ultimate truth there is an essential unity, and no contradictions are possible. The existence of conflicting sects and schools, for instance, of chemistry or astronomy or any objective science, is unthinkable; it is equally incongruous in medicine. The unenlightened public is unable to appreciate the solidarity of truth or to perceive the incongruity of conflicting divisions in medicine or other sciences.

Not being founded on any general theory, scientific medicine objects to being designated by any appellation implying adherence to any dogma. The most objectionable of such designations is the term "allopathy." invented by Hahnemann. It is unjust to attempt to force on us a name to which we object, which does not correctly apply to us, and which simply marks our divergence from a false and decadent system. Every self-respecting physician must resent and repudiate the title. The term "regular" is also awkward and unsatisfactory; it is used only to avoid misunderstanding, and must not be taken to imply recognition of the propriety of any distinctions in the medical body. Even the qualifying designation "scientific" should be superfluous, as it is inconceivable that any competent physician or any effective medical practice could be anything but scientific. The simple term "physician" should be sufficient to comprehend all rational and intelligent practice of the healing art.

It may be frankly admitted that there are many shortcomings and imperfections in regular medicine. The ranks of the profession contain incompetent and unworthy individuals who at heart are quacks, sectarians and fakers. Low standards of medical education in the past have enabled many inadequately trained persons to obtain the legal right to practice medicine. The most competent practitioners make mistakes. There are limitations to our therapeutic resources, and many conditions in which we are unable to render help, in which, of course, our efficiency is no greater than that of the sectarians. All such objections amount to this: that, like other men, we are not perfect and infallible, and our science has not yet attained its complete development. With correct methods and proper motives, scientific medicine alone is in a position to attain the maximum possible of truth and efficiency and the minimum of error and harmfulness.

In its attitude toward sectarianism the medical profession is charged with narrowness and intolerance, and with the intent to abridge the medical liberties of the people. The assurance of medicine rests on the feeling that its scientific foundation is unimpeachable. The scientific method imposes exacting criteria for the acceptance of doctrine; but truths once so established rest on a sure and abiding basis, and we can feel absolute confidence in the validity and permanency of as much of our medical theory and practice as has a thorough scientific foundation. The bacterial causation of infectious diseases, for instance, is now just as firmly established as the law of gravitation or the atomic theory, and it would be a waste of time to give any consideration to eccentric persons who may question it. The medical profession has well-grounded confidence in its methods, is constantly striving for more truth and greater efficiency, and has an abhorrence of error and inefficiency. If this attitude be narrow and tyrannical, so must it be.

REMEDIES

Having discussed the etiology and pathology of medical sectarianism, it remains to consider its therapeusis. What action is to be taken in the matter?

Education.—If the general public could be imbued with a critical scientific spirit, scientific medicine would secure just recognition. Education of the public and general cultivation of that spirit would eradicate medical sectarianism. The prospect of effecting this is remote. Since the beginning of history there has been little advance in the character of popular medical thought. The belief in charms and superstitions has lessened, and the belief in witchcraft died out—though even that has been revived by the Christian Scientists. But the improvement has been slight and slow, and the credulity and gullibility of the people in medical matters is much the same now as it has always been. The radical transformation of the popular mind requisite to the attainment of a truly logical and critical attitude seems hopeless, though the spirit of the renaissance may yet become general.

Argument.—Argumentative attempts to refute the claims and criticisms of our opponents are usually futile. At committee hearings on legislative propositions in which the profession participates, little impression is made. Often each side misses the exact point of view of the other, and the discussion is at cross-purposes. Most faddists are not amenable to reason, as is illustrated in the current controversies on vaccination and vivisection. It is impossible to reason with irrational persons, with persons inflamed by hysteria and totally regardless of evidence and logical principles. Such persons have cunning tricks for confounding straightforward opposition; they may make an impression by unbridled exaggeration or dogmatic reiteration of unproved assertions; but they lack the logical faculty and are incapable of reason. Under such circumstances argument and explanation are a waste of time, energy and dignity.

Suppression.—In view of the possibilities of harm there are many who would favor the prohibition of sectarian practice. The difficulty with this rests in the curtailment of individual liberty; even the fool, within limits, has a right to his folly. Coercion is not a worthy or successful way to establish one's ideas. Only through overwhelming public sentiment, which does not now exist, would prohibitive measures be permissible or successful.

State licensing of physicians to practice after some test of their qualifications has proved a failure in checking irregular practice. Motives not altogether disinterested have probably to some extent promoted the enactment of this legislation, such as the desire of sects to obtain the prestige of legal recognition, the limitation of competition, and the craze for legislation now prevalent. Under the medical-practice laws worthy practitioners are put to much trouble on removing into a new jurisdiction; but fakers, quacks and irregulars thrive unchecked and new medical cults arise and flourish without the slightest hindrance. It is easy enough to license physicians, but in the present state of public opinion it is impossible to suppress practice by unlicensed individuals. Our opponents are sufficiently shrewd and influential to see to it that the legislative definitions of the practice of medicine are too elastic to hold in court. The only great benefit that has been obtained from our practice acts has been that, indirectly, they have been influential in raising the standards of medical education.

The status of scientific medicine is lowered, and that of the medical sects raised, by their association under the law on a common plane. The profession cannot with dignity and honor willingly assent to such an association, but may submit to it only under protest. Any compromise with or partial recognition of established forms of error impairs our position and weakens or nullifies the force of our objections to other forms of irregular practice.

Even a proportionate numerical representation on the licensing boards is denied us; the sects combined can control the boards, though all their practitioners together number far less than ours. For example, the one solitary eclectic practitioner in the District of Columbia has an equal representation on the local board with six or seven hundred regular physicians.

If we must have practice laws, we can consistently assent only to such as ignore or do not specifically recognize any divisions in the medical body.

Absorption.—Whenever reasonably well-educated and qualified sectarian practitioners desire to unite with the regular profession I believe that the sentiment of the profession would be or should be to welcome them to full association, regardless of previous affiliations, provided that distinctive sectarian designations and connections be discarded.

Self-Culture.—It must be admitted that under present conditions the prospect of any material elimination of medical sectarianism is remote. But if an obdurate and perverse world will permit little to be effected through general education and legislation, there is one field for improvement freely open to our efforts—ourselves. When viewing the mote in others' eyes it is always well to look to the possibility of a beam in our own; and it is worth considering if in our efforts to improve the world it is not best to begin with ourselves.

The extent of popular adherence to medical sectarianism might be taken as an indication that the medical profession has to just that extent failed in satisfying the wants of ailing humanity. Possibly the existence of the sects is partly due to our own deficiencies. If we would do away with medical sects we must be prepared to give what the people now receive from those cults. If we would abolish osteopathy, for instance, we must provide the therapeutic technic which that system offers. If we would supersede the Christian Scientists we must practice psychotherapy as efficiently as they. The ancient association of medicine with the priesthood had a profound significance, and medicine must still cultivate the priestly element, the element that reaches the heart of humanity, if it would attain its fullest influence and usefulness. Persuasion, not coercion, is the true way to gain the approval of the public; it will be on our own merits that we are sure ultimately to be judged, and who can say that the final verdict of the people will not be just?

The general interests and resources of the profession are more complete on the physical and material side than on the psychic side, and to a large extent we are deficient in the application of psychotherapy. We lack sympathy with and interest in our numerous patients with psychogenetic disorders; we are impatient with their multitudinous complaints; we have no effective treatment to offer them; we are glad to be rid of them. We cannot blame them if they turn to sectarian practice. These sufferers are just as miserable as if they had organic disease, and if relief is possible they are equally entitled to it. If they derive benefit from the sectarians after looking to us in vain, we have failed in what should be an appropriate field for our activities. If we cultivated that field properly, if we utilized psychotherapy rationally and adequately, or if we developed experts and specialists to attend to that class of practice, we would, by retaining its clientele, go far toward abolishing medical sectarianism.

The first duty of the physician is the care of his patients, and to qualify himself for that care by keeping up with the advances of medical science. Other activities, such as philanthropic efforts, social reform, even some hygienic propaganda, are secondary, and should not be permitted to interfere with the primary functions of the profession. Nor should we narcotize ourselves into stagnation by the pharisaic attitude which in our self-complacency we are prone to assume, that ours is the noblest and most beneficent of all callings, and ourselves the holiest and best of men. Humanitarianism is a noble sentiment, but to be effective it must be grounded on intelligence and knowledge; too much of the philanthropy of to-day, being animated by sentimentality, vanity or well-intentioned ignorance, is barren of results.

Hippocrates said, "He who loves his art loves man." We can best serve mankind by cultivating ourselves and perfecting our science. From every point of view our efficiency and success can come only from knowledge and wisdom, and the key to the whole is the scientific method. This does not mean that we are all called on to engage in scientific research, although those who have the opportunity can do no greater service to medicine and humanity than by contributing new data and ideas through intelligent investigation and observation. To few is it given to make epochal discoveries; the daily work of the great mass of us consists in carrying out the ideas of a few great minds. All of us, however, will attain the greatest efficiency by preserving the scientific attitude, and carrying out every detail of professional work on scientific principles. A receptive attitude, though tempered with healthy skepticism, should be maintained toward all advances in medical science. Some there are who, from intellectual inertia or mental sclerosis, manifest a certain hostility to innovations. This is not the spirit of progress; the therapeutic or diagnostic novelty of one year becomes the commonplace routine of the next.

If, then, we cherish the scientific spirit, if we labor to develop ourselves and advance our art, if we endeavor to meet in full measure the psychic as well as the physical needs of mankind, we shall find ample field for our activities and shall be following the only sure road to efficiency. On this alone depends our professional supremacy, and in this way can we best merit the approval of the public and regain that support which is now given to the sectarians. Confident of the validity of our principles and the sincerity of our motives, we can thus, oblivious to the distrust of the uncritical, the clamor of the hysterical and the malice of our detractors, with patience and serenity labor for the advancement and the glory of our profession.

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A RECURRENT NEUROBLASTOMA OF THE SCAPULAR REGION

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Attention recently has been directed by J. H. Wright[1] to the existence of a malignant tumor the unit of which is to be regarded as an undifferentiated nerve-cell, hence the neoplasmic designation "neuroblastoma," or, less happily, "neurocytoma." The cells of the tumor are associated, as a rule, with delicate fibrils which do not correspond in their staining reactions with neuroglia, collagen or fibroglia, and are provided with rather small, richly chromatic nuclei and scarcely perceptible cytoplasm. The fibrils are arranged in parallel bundles in intimate association with clumps of cells and, in places, the cells are so disposed as to surround tangled masses of fibrils; hence, in equatorial section they give the appearance of rosettes. In the absence of rosettes the tumor might easily be mistaken for a small round-cell sarcoma, under which designation, indeed, most of the cases in the literature have been recorded. The tardy recognition of the growth as an independent tumor would seem to depend on the fact that in certain of the recorded cases the rosettes, though present, were not properly interpreted or the fibrils were absent or overlooked. On the other hand, certain observers, in attempting to interpret the several histologic features, have erred in grouping the tumor with the gliomas. Nevertheless, the fact remains that the neuroblastoma presents features that are characteristic and, once observed, could not readily be mistaken for those of any other known tumor.

That the growth is not an infrequent one is indicated by the fact that Wright saw five instances in a year and, since the publication of his paper in the latter half of 1910, he tells me, in a personal communication, that he has observed still another case. Undoubtedly several typical cases have been described in the literature under false conceptions and misleading titles. On the other hand, I have not been able to find any record of the growth having been recognized during the past seven years in the pathological laboratories at the New York Hospital, except in the case about to be described, and several pathologists to whom I showed microscopic sections of the tumor were unable to identify it.

Thus far the majority of neuroblastomas have sprung from the adrenal capsule in which, in the medulla and deep layers of the cortex, undifferentiated nerve-cells are not infrequently present and are often mistaken for lymphoid cells. But that the recognition of primary neuroblastomas in almost any situation in the body may be safely predicted is signified by the fact that undifferentiated nerve-cells migrate from the embryonal nervous system to form the nerves and ganglia wherever encountered; so that it is not surprising to find that, already, the primary growth has been detected at the root of the lung and in the cerebellum. It will be seen that the tumor I describe here may have originated from aberrant neuroblasts in the soft tissues beneath the shoulder-blade, although its derivation from the adrenal capsule cannot be disclaimed.

The most familiar tumor of adrenal origin, of course, is the co-called hypernephroma, but when it is recalled that the adrenal represents, developmentally, two sets of organs which, in higher forms, are fused, it is not astonishing that pathologists have distinguished a group of tumors of medullary origin and therefore genetically separable from the hypernephromas, or that the two sets of growths should be attended by different clinical manifestations. Thus the adrenal hypernephroma, which is of cortical origin, is often attended, in the young at least, by excessive bodily growth[2] and precocious development of the genital organs and accessory genital glands. These facts harmonize with the now generally accepted view that the adrenal cortex is of companion origin with the testicle and ovary, and tend to explain the remarkable hypertrophy of the adrenal that has been described by Marchand[3] and by Crecchio[4] in so-called hermaphroditism. In the same way it is interesting to recall that Wiesel,[5] Karakascheff[6] and others have drawn attention to the fact that defective development of the genital organs and sexual characteristics is commonly an associated phenomenon in early atrophy or aplasia of the adrenal capsules.

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[1] Wright, J. H.: Jour. Exper. Med., July, 1910.

[2] Bulloch and Sequeira: Tr. Path. Soc., London, 1905, lvi, Part 2.

[3] Marchand: Festschr. f. Rudolph Virchow, 1891, i, 537, 578.

[4] Crecchio: Wien. med. Presse, 1866, No 30 p. 763

In contradistinction to this it is to be observed that the medulla of the adrenal is an integral part of the chromaffin system and develops in connection with the sympathetic. Thus it has been pointed out by Wiesel[7] that, at a certain stage in the development of the adrenal, there appear collections of cells characterized by richly chromatic nuclei, very scanty cytoplasm and delicate fibrils—the so-called formative cells from which all that is cellular in the sympathetic system arises, including ganglion cells and the chromaffin constituents of the adrenal medulla and of other localities. When these formative cells invade the epithelial anlage of the adrenal capsule they dispose themselves frequently in the shape of rosettes. Wiesel is also responsible for the statement that termination of embryonal life does not necessarily denote completion of evolution in the adrenal medulla, but that, on the contrary, the medulla is almost exclusively a product of postembryonal development and that up to, or even beyond, puberty it contains collections of formative cells or neuroblasts. Hence the frequency with which neuroblastomas are associated with the adrenal medulla is explicable on developmental grounds. No doubt future investigation will prove that aberrant formative nerve-cells are of frequent occurrence elsewhere and thus justify what is at present assumed in order to account for the presence of primary neuroblastomas in unusual and unexpected situations, that is to say, beyond the confines of the adrenal medulla.

Several writers, notably Hutchison[8] and Pepper,[9] have described certain clinical features of tumors of adrenal origin. Although most of the growths were primarily regarded as sarcomas many of them may now safely be referred to the group of neuroblastomas for reasons which will later appear obvious. Hutchison's paper includes the description of a clinical syndrome occurring in children from a few months to 9 years of age and is distinguished, among other things, by ecchymosis of one or both eyelids, unilateral exophthalmos, tumefaction of the adjacent temporal area and enlargement of the regional lymph-nodes. Anatomically the condition is associated with an adrenal new growth of variable proportions and is often attended by secondary deposits in the osseous system, especially in the calvarium, but also in the ribs, spinal column, tibiae, etc. Metastases are also noted with frequency in the liver, kidney and lymph-nodes. A typical case of this description has been recorded by Tileston and Wolbach,[10] a summary of which occurs later. In their case, which was originally regarded by them as a round-cell sarcoma, the microscopic sections have since been reviewed by Wright, who declared the growth a typical neuroblastoma and features it as such in his paper. If confirmation of this diagnosis were needed it is abundantly furnished by the illustrations that accompany the original communication.

In Pepper's contribution to the subject of so-called sarcoma of the adrenal capsule he expresses the opinion that there is a type of congenital malignant disease of this organ characterized, clinically, by rapidly increasing distention of the abdomen unattended by ascites, jaundice, pain or elevation of temperature and associated with enlargement of the liver.

Frew,[11] who has reviewed the subject, collating fifty-one cases from the literature, most of which were recorded under the caption of sarcoma, maintains that the growth behaves differently from a clinical point of view, according as it arises from the right or left adrenal. Basing his conclusions on differences in the lymphatic and venous drainage of the respective organs, he attempts to show that a primary growth of the left adrenal is most often followed by secondary deposits in the liver, ribs, cranial bones, etc., while right-sided growths metastasize most frequently to the upper surface of the liver, the lungs and, in rarer instances, to the calvarium.

Whatever may be the anatomic explanation of the clinical features of malignant adrenal tumors of medullary origin, one cannot fail to be impressed by the desirability of a complete revision of the histology of the recorded cases in the light of the newly discovered neuroblastoma, and by the fact that the tumors in question do fall into two great clinical groups, one characterized mainly by secondary exophthalmos and cranial involvement, the other, by rapidly increasing distention of the abdomen without ascites and by enlargement of the liver.

In 1891 Marchand[3] described the case of a female child, 9 months of age, whose death occurred from morbus maculosus accompanied by hemorrhagic infiltration of both adrenals. On the upper surface of the right adrenal was a cherry-sized tumor which, on microscopic examination, was found composed of tissue which Marchand likened to that of the developing adrenal medulla, suggesting that it actually arose from the sympathetic portion of that organ.

Perhaps the first to describe a neuroblastoma, however, was Norman Dalton,[12] although he failed to recognize its true nature. The growth occurred in a male child, 6 weeks of age. At birth it was noted that the child's abdomen was large, the greater part being occupied by a firm mass evidently involving the liver. The mass grew rapidly and by the end of the fifth week the child's abdomen, midway between ensiform and umbilicus, had attained a circumference of 19½ inches. The superficial abdominal veins were engorged and the tissues round the umbilicus were edematous. Necropsy revealed the site of the left adrenal occupied by a tumor the shape and size of a hen's egg. The tumor was yellowish, firm in consistency and studded with minute hemorrhages. The liver was greatly enlarged and almost completely replaced by infiltrating tumor tissue. Microscopically the tumor is significantly described as made up of round cells lying in a finely granular or fibrillated matrix or, in places, arranged around collections of such material, "like the nuclei of a giant cell."

Three years after the appearance of Marchand's paper, Amberg[13] reported the case of a girl, 2 months of age, who was brought to the hospital because of rapidly increasing distention of the abdomen. The superficial abdominal tissues were edematous and the subcutaneous veins were distended. The right side of the abdomen was occupied by a firm, smooth mass which, at necropsy, proved to be the liver, enlarged and extensively infiltrated by yellowish-white tumor tissue. Corresponding to the position of the left adrenal there was a tumor measuring 2.5 by 1.3 by 2.5 cm. The right adrenal showed no noteworthy naked-eye changes, but, on microscopic examination, the liver and both adrenals showed the presence of alveoli occupied by rather small cells provided with deeply staining nuclei and very little cytoplasm. Frequently these cells were disposed in ring-like formation, the center of the rings being occupied by an apparently structureless mass staining pinkish with eosin. Although unable to satisfy himself of the genesis of the tumor cells in his case, Amberg compared them with the cells normally encountered in the adrenal medulla of the fetus and noted the resemblance between them.

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[5] Wiesel: Virchows Arch. f. path. Anat., 1904, clxxvi, 103.

[6] Karakascheff: Zieglers Beitr. z. path. Anat. u. z. allg. Path., 1904, xxxvi, 401.

[7] Wiesel: Anat. Hefte, 1901, xvi, 115; 1902, xix, 481; Virchows Arch. f. path. Anat., 1905, clxxx, 553.

[8] Hutchison: Quart. Jour. Med., 1907, i, 33.

[9] Pepper: Am. Jour. Med. Sc., 1901, cxxi, 287.

[10] Tileston and Wolbach: Am. Jour. Med. Sc., 1908, cxxxv, 871.

[11] Frew: Quart. Jour. Med., 1910-11, p. 123.

[12] Dalton, N.: Tr. Path. Soc. London, 1885, xxxvi, 247.

[13] Amberg: Arch. Pediat., 1904, vi, 582.

Richards' case[14] was that of a male child, 2 months of age. Shortly after birth it was observed that the abdomen was distended and that the lower limbs and superficial abdominal tissues were edematous. The veins around the umbilicus were engorged. At necropsy it was found that the liver was greatly enlarged and so richly infiltrated by new growth that only slight amounts of liver tissue were distinguishable. The glands at the portal fissure were extensively infiltrated, while the left adrenal showed the presence of a tumor measuring 2 by 1½ inches. Microscopic examination of this growth revealed an external layer of preserved cortical cells beneath which were innumerable round cells, some of them "arranged round the edges of small masses of homogeneous substance of uncertain nature." The liver was almost completely replaced by tissue of identical nature.

A similar case has been recorded by Küster[15] in a child, 14 weeks of age, whose abdomen was markedly distended and the lower extremities edematous. Post mortem the liver was found greatly increased in size and diffusely infiltrated by whitish tumor material. Scarcely any liver tissue remained. Attached to the right kidney, corresponding to the site of the adrenal, was a tumor the size of a watch. It was limited externally by a thick, grayish layer and, on microscopic examination, revealed preserved adrenal cortical tissue together with a number of cells with richly chromatic nuclei and scanty cytoplasm. The cells were either distributed diffusely or arranged in rosettes around a delicately fibrillated substance. Microscopic examination of the left adrenal, which exhibited no changes to the naked eye, showed extensive replacement of the medulla by tissue having the same structure as that of the tumor in the opposite organ. The liver was almost completely replaced by tumor tissue of identical nature with that of the primary growth in the left adrenal. In a second case observed by Küster[15] a solitary nodule was found in one of the adrenal capsules in a man dead of pyemia. Microscopically the growth was identical with that of the first case.

In both instances Küster regarded the growths as gliomas, in which opinion he was supported by no less an authority than Ribbert, who suggested that the tumors arose as a result of developmental anomalies. But that this diagnosis is erroneous in the light of the recent acquisition of our knowledge of neuroblastomas is indicated not only by the histologic descriptions but by the illustrations that accompany Küster's paper.

In a case recorded by Lapointe and Lacène[16] the left adrenal was the seat of an enormous tumor which these observers, together with Ribbert, looked on, microscopically, as a glioma. The growth occurred in a 19-months-old female. During life the tumor was palpable in the left upper quadrant of the abdomen and an attempt to remove it was followed by transection of the abdominal aorta and death. At necropsy the left adrenal could not be identified, but in its place was a tumor the size of two fists. The mass was adherent to the posterior part of the corresponding kidney and was firm and pinkish in color. The prevertebral muscles in the region of the diaphragm were infiltrated and metastatic deposits were present in the mediastinum. The histologic description of the growth and the two drawings that accompany the paper leave no doubt that the tumor belongs in the category of neuroblastomas.

In Tileston and Wolbach's case,[10] the patient was a male, 16 months of age. About a month before admission to the hospital there suddenly appeared, without obvious cause, purplish discoloration of both eyelids on the right side. At the time of admission exophthalmos was pronounced and the right temporal region was the seat of a mass measuring 1½ by 2 by 3 inches. The preauricular lymph-nodes and those at the angle of the lower jaw were enlarged. At necropsy the right adrenal presented a large hemorrhagic and necrotic tumor originating in the medulla and partly covered by cortical tissue. Extensive secondary deposits were present in the skull, including the frontal and right parietal bones, the dura was studded with nodules and the soft tissues and lymph-nodes in the immediate vicinity of the cranial deposits were infiltrated.

In addition to the case just mentioned Wright[1] reviews briefly four instances of typical neuroblastomas, one involving both adrenals in a still-born child; one a large tumor at the hilum of the lung and multiple tumors of the liver in an adult male; one a tumor of the cerebellum removed at operation and, finally, multiple tumors of the skull, mediastinum, retroperitoneal tissue, pelvis and liver in a female child, 11 months of age. Wright states, furthermore, that he has "also seen microscopic preparations of two other cases of small-cell tumor of the head, which clearly show the ball-like arrangement of the cells and fibrils."

REPORT OF CASE

History.—The patient was a white man, aged 44, single, who was admitted to the surgical service of the New York Hospital, Oct. 5, 1910, complaining of pain in the right arm and shoulder. The patient stated that two years previously he had sustained an accident which rendered him unconscious, but he did not know whether the shoulder region had been directly injured. Aug. 6, 1910, the patient noticed pain in the upper part of the right arm. The pain was lancinating in character and commenced at the top of the shoulder, shooting down the anterior surface of the arm to the region of the elbow, and was worse with the arm at rest. About a month later the patient became aware of a lump in the right shoulder. The growth increased rapidly, but was not painful or tender. The patient was now losing weight and was subject to cough and drenching sweats.

Examination.—There was a large rounded tumor in the scapular region. The mass extended from the upper border of the scapula downward to the angle and from the vertebral border outward to the posterior axillary line, whence it faded into the axillary space. Thoracic amputation was performed by Dr. Frank Hartley.

Specimen.—As received in the laboratory the specimen consisted of an arm and forearm, the outer half of the clavicle and the whole of the scapula together with attached muscle tissue. In the concavity of the scapula was an oval tumor measuring 18 cm. in length and about 9 cm. in breadth. The mass was loosely attached to the areolar tissues in front of the scapula and extended into the axilla and over the shoulder, infiltrating the tissues around the head and neck of the humerus as far downward as the attachment of the deltoid. The tumor was cream-colored, presented innumerable small reddish points, was moderately firm in consistency, although in places gelatinous or necrotic, and minute gritty particles could be felt in it. It could easily be dissected free of all periosteal structures.

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[14] Richard: Guy's Hosp. Rep., London, 1905, lix, 328.
[15] Küster: Virchows Arch. f. path. Anat., 1905, clxxx, 117.
[16] Lapointe and Lacène: Arch. de méd. expér. et d'anat. path., Par., 1907, lx, 69.

The patient recovered from the effects of the operation, but in time evidences of recurrence were observed in the scar of removal and on four occasions attempts were made to eradicate the secondary growths. The patient finally passed from observation and his present whereabouts and condition are unknown.

Microscopic examination of tissue removed from the original growth, the material having been taken from the tip of the shoulder, revealed the presence of what was believed to be a typical spindle-cell sarcoma, the cells being rather short and plump, richly nucleated, with innumerable mitotic figures and provided with very little intercellular substance. I have since taken occasion to reexamine the microscopic sections on which this diagnosis was based and, from the morphology of the growth, I fail to see that any other conclusion was justifiable in the circumstances.

Microscopic examination of the material removed at the second operation showed the presence of inflammatory tissue, prominent in which were giant cells arranged around fragments of sutures. Examination of the tissue removed at the third and fourth operations presented the histology of a typical neuroblastoma. That is to say, the groundwork of the tumor was composed of innumerable cells with scarcely perceptible cytoplasm and rounded or somewhat oval, richly chromatic nuclei lying in a homogeneous or finely fibrillated matrix staining distinctly with eosin (Fig. 1). Mitotic figures were exceedingly numerous. For the greater part the cells were distributed diffusely and without any serious attempt at orderly arrangement, although occasionally they tended to form in parallel bundles, specially around the thicker and better formed blood-vessels. Scattered throughout the tumor at numerous intervals were rosettes made up, peripherally, of a ring of nuclei arranged radiately to a finely fibrillar or structureless substance staining pinkish with eosin (Fig. 2). In some instances the rosettes were elongated and gave the appearance of alveoli. In numbers of the rosettes the nuclei were arranged around structureless, jagged, bluish-staining bodies suggesting calcium deposits. The tumor was markedly hemorrhagic and was frequently traversed by vascular channels varying in size from that of the most delicate capillary to relatively enormous sinuses. The smaller of these channels were lined by a single layer of endothelium and evidently represented newly formed capillaries, but the larger sinuses were limited externally by compressed tumor cells. Free red corpuscles among the tumor cells occurred in great profusion.

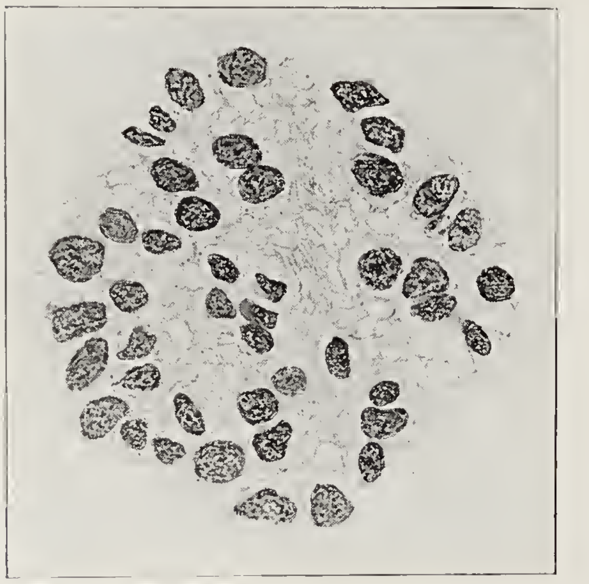
Fig. 1.—High-power drawing, showing tumor cells with scanty cytoplasm, richly chromatic nuclei and delicate fibrils.

SUMMARY

The neuroblastoma is a malignant tumor composed of undifferentiated nerve-cells or neuroblasts and springs most often from nests of such cells lying in the medulla of the adrenal capsule, but occasionally from identical cells existing in other localities. The tumor presents a characteristic histologic picture marked by the presence of delicate fibrils supporting cells with scanty cytoplasm and richly chromatic, rounded nuclei, the cells being arranged diffusely or, in the form of rosettes, around tangled masses of fibrillated or homogeneous material staining pinkish with eosin. In certain cases the fibrils are absent or poorly developed, rosettes cannot be seen and the richly cellular character of the tumor may, in these circumstances, lead to the diagnosis of sarcoma. In deference to its cellular unit the growth in question is most aptly provided for under the designation of neuroblastoma.

Including the case presented in this paper the tumor, as far as I have been able to gather, has been definitely recognized in fourteen instances only.

Of the fourteen cases one of the most striking features consists in the fact that nine occurred in infants ranging from still-born to 19 months of age, and that in eight of the nine cases the origin of the growth was determined in the medulla of one or both adrenal capsules; in the other case the seat of origin is not stated. Of the nine cases observed in infants four were in males and four in females; in the remaining case the sex is not given. Three of the fourteen cases were in adult males; in the other two the sex and age are doubtful. In these five cases the adrenal capsules do not appear to have been primarily at fault, although definite data are wanting.

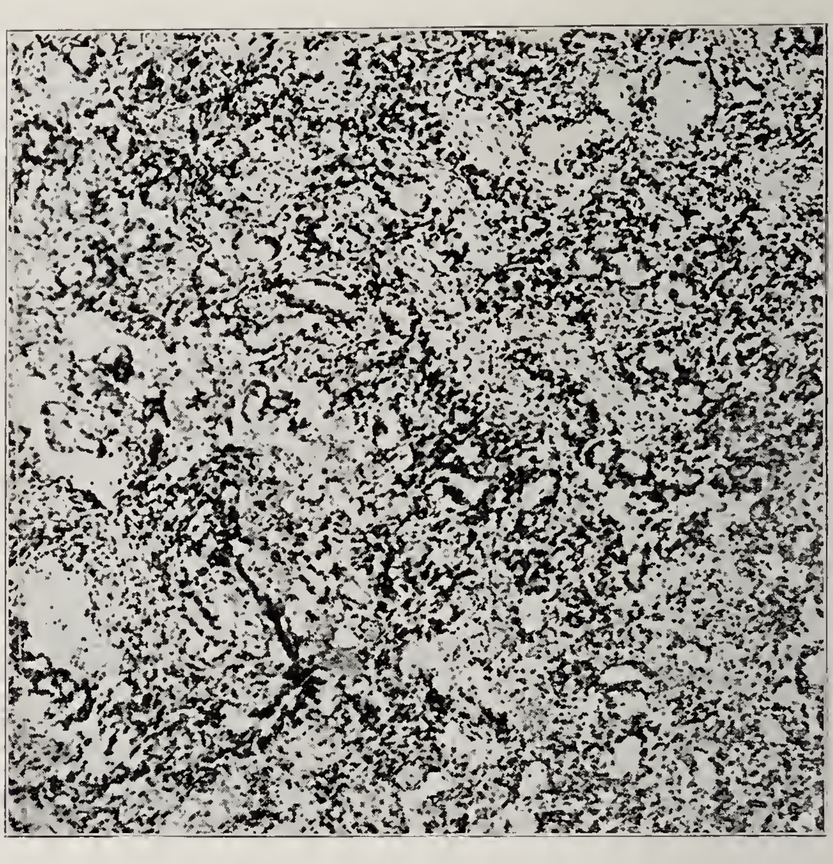
Fig. 2.—Low-power photomicrograph, showing the richly cellular character of the tumor and typical rosettes. The fibrils are not easily distinguishable under this power.

In children it would appear that the growth is divisible clinically into two symptomatic groups, one attended, roughly, by secondary exophthalmos, ecchymosis of the lids, infiltration of the cranium and regional lymph-nodes, the other, by rapidly increasing distention of the abdomen due to neoplasmic infiltration of the liver and unattended by noticeable ascites or jaundice. In adults the number of recorded cases is too small and the clinical manifestations too bizarre to merit more than passing notice at present.

338 East Twenty-Sixth Street.

MELANOTIC SARCOMAS RESULTING FROM IRRITATION OF PIGMENTED NEVI

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It is not my intention to go deeply into the controversy that has waged for so many years as to the origin of melanotic sarcoma, for until the histology of nevi is fully determined, this question will not be settled. From the pathologist's side it is of great interest to determine if the cause be epithelial or endothelial, but to the clinician the chief aim is first, to make a diagnosis and, second, to attempt some form of treatment, which, unfortunately, is rarely successful. I am speaking entirely of the melanotic type of sarcoma appearing externally, not of other organs of the body, and am not considering the non-pigmented or the multiple idiopathic hemorrhagic type of Kaposi, which are both more common than the one under consideration. Long life is not incompatible with the two last named, and it may not be until the disease has made considerable progress that fatal results occur, or perhaps some intercurrent disease is the direct cause of death. But this is not the case of the rapidly spreading, quickly fatal, melanotic type, which, when metastasis has taken place, runs a course of months, or at best a couple of years.

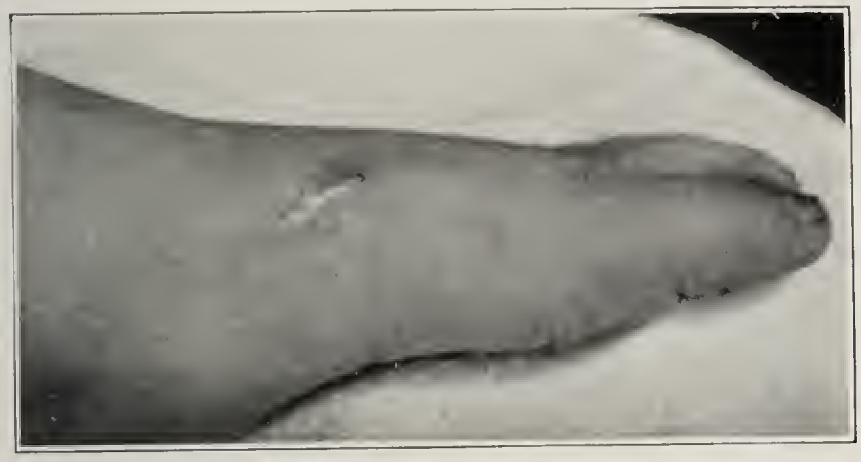

Fig. 1.—Site of original focus. At the upper border can be seen a small glistening dark spot. This was a part of the nevus that had returned after an ineffectual attempt had been made to remove it.

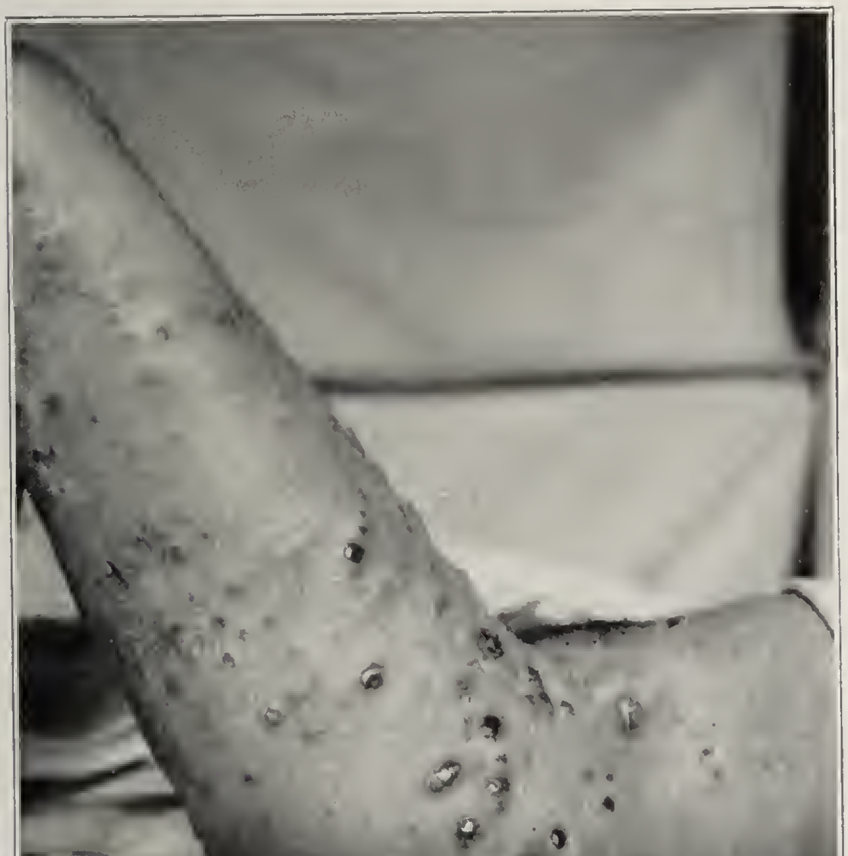

Fig. 2.—Outer aspect of the left leg with the collection of different sized tumors.

Johnston,[1] in a comparatively recent article, presents the following conclusions with reference to their origin:

1. Aside from the natural division into chorioid and skin tumors, melanotic neoplasms, which, from their diversity of origin, are best called melanotic, show several varieties.

2. The commonest, and therefore most important, is that derived from soft nevi which are endotheliomas of lymph-vessel origin. Nevomelanoma, whose histogenesis it is not possible to determine, must be referred to the same origin.

3. A second variety exists with the same histologic picture, which does not spring from nevi, and whose origin is directly traceable to endothelium, probably also lymphatic. This group includes melanotic whitlow and malignant lentigo of the French.

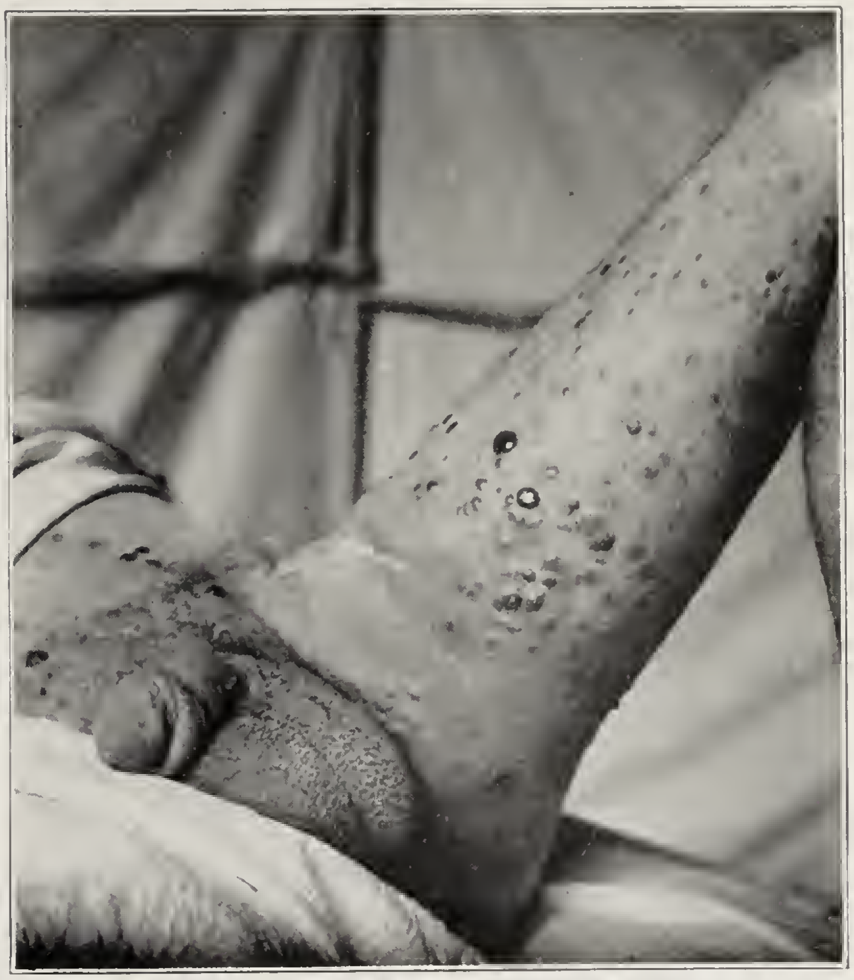

Fig. 3.—Inner side of same leg, with the tumors over the abdomen; penis and scrotum edematous.

4. The third division is truly epithelial in origin, although its existence has been denied. These tumors are of various types and show only a very slight tendency to malignancy, a fact sufficient in itself to determine a cardinal difference from the melano-endotheliomas, whose capacity in this connection can hardly be exaggerated.

5. A histologic diagnosis is the only proper method of differentiation between the two.

Neither is it my intention to do more than simply mention these different types of sarcoma which occur on the skin and which have been most thoroughly studied by many writers, among whom are Hartzell,[2] Gilchrist,[3]

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[1] Johnston: Am. Jour. Cutan. Dis., 1905.
[2] Hartzell: Jour. Cutan. Dis., 1893, p. 21.
[3] Gilchrist: Tr. Am. Dermat. Assn. for 1898.

Schalek,[4] Kaposi,[5] Fordyce,[6] Wende[7] and Sequeira and Bulloch.[8] But in presenting this case I wish to use it as an illustration of the harm that can be done by teasing or irritating this most malignant type of skin cancers. Palliative measures are absolutely contraindicated. The nevi from which metastasis occurs should not be disturbed unless there is a slight irritation or peripheral extension, or unless some signs of ulceration or degeneration are shown. When this occurs wide and deep excision is the only thing to be done, in the hope that it is not too late to prevent the extension of the process.

Gilchrist,[9] in an article to which reference will be made later, reports one case in which the patient cut off the top with a razor. Other cases have been reported in which metastasis has rapidly followed the use of the x-ray. It cannot be too forcibly borne in mind that any irritation to an apparently benign spot may be the cause of a speedy death. Irritation from an ill-fitting shoe, the clothing, a belt, or in fact from any mechanical means on a nevus of this type may be the cause of very rapid dissemination.

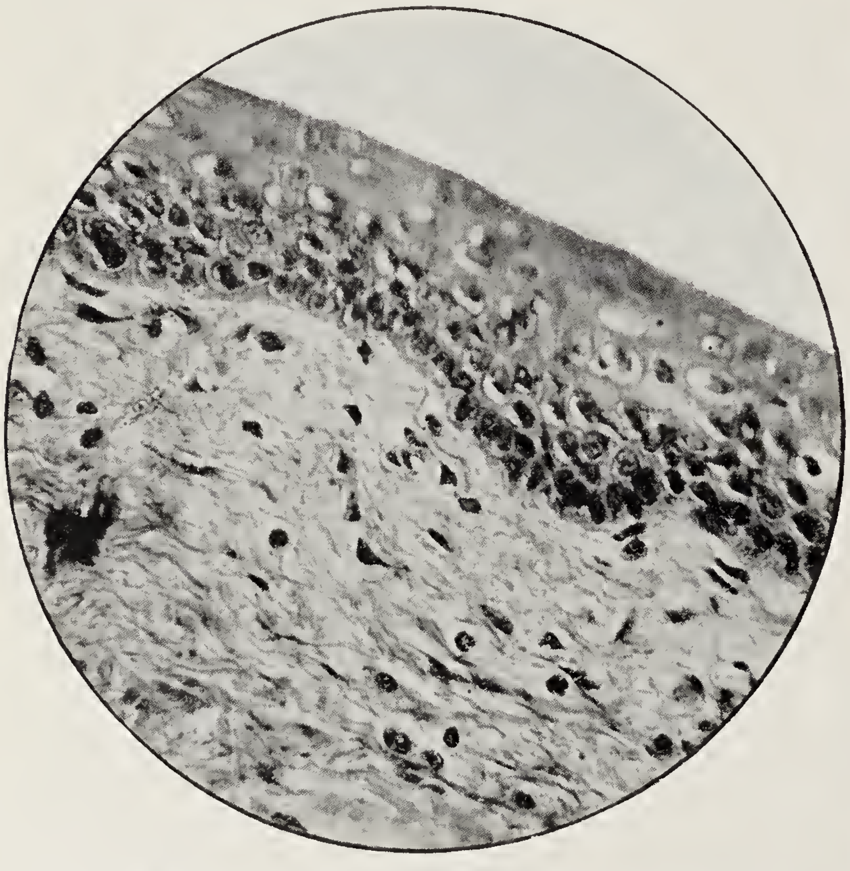

Fig. 4.—Apparent stretching out of the stratum corneum and flattening of the papillary processes. An occasional pigmented round cell is seen near the stratum mucosum, but the larger part of the invasion is in the hypoderm.

There are few persons who cannot show on some part of their bodies at least one mole, and as a rule they are numerous, but fortunately are of the type in which it is rare for malignant degeneration to take place. Moles that are the most common and cause the least trouble are the light brown ones that have either been present since birth or which in some instances occur during early life. These are soft or firm, of a light or of a medium shade of brown, with or without elevation; one has only to examine one's own body to find examples of this type. But the type that is irregular in outline, waxy, smooth, frequently with but very little elevation and of a dark purplish or bluish color should always be regarded with suspicion, especially if so situated that there is any chafing or irritation. A common situation for this type of nevus is the chorioid coat of the eye, the face or extremities, especially the foot; and again I am speaking exclusively of those that are on the skin surfaces, for there have been many cases reported of primary melanotic sarcoma that have developed in other parts of the body. Duval[10] reported one of the gallbladder, Orth[11] of the adrenal, and several others of

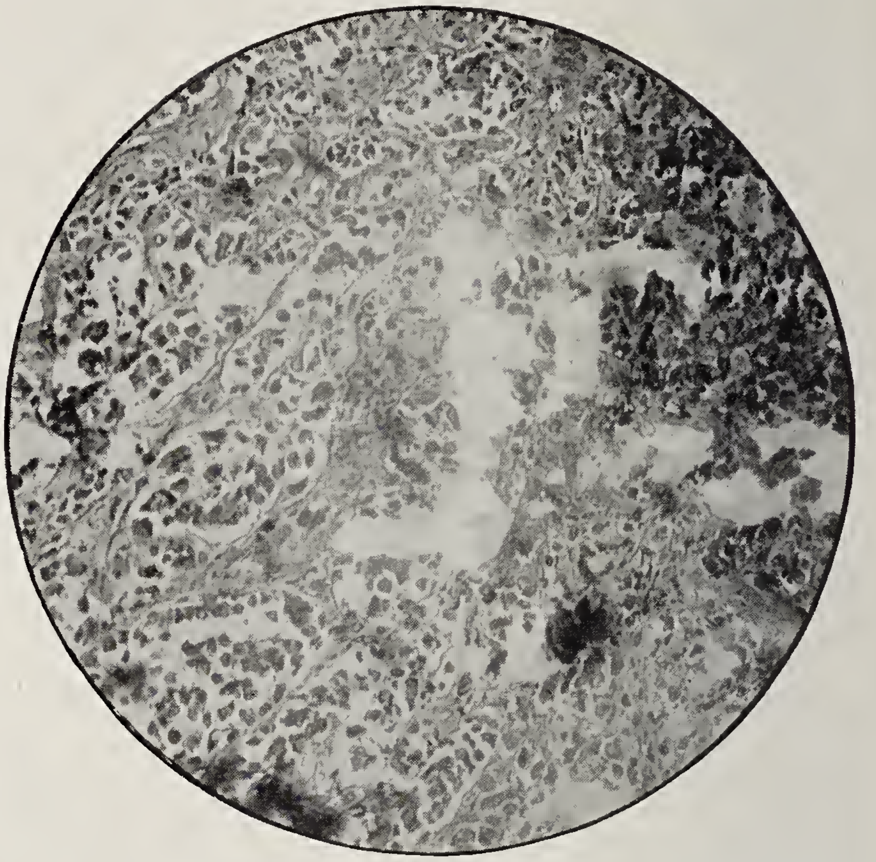

Fig. 5.—Round-cell sarcoma, densely infiltrated with pigment; lymph spaces much enlarged, stroma scanty and to the right an area of degeneration with blood-cells.

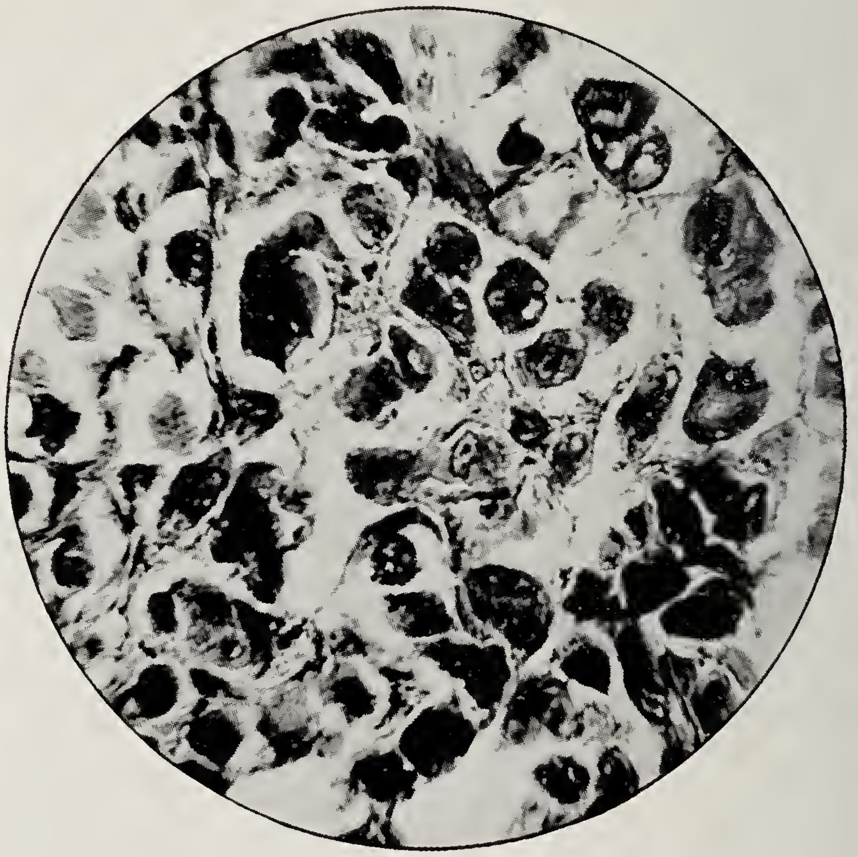

Fig. 6.—Further enlargement of section in Figure 5, showing many of the cells completely filled with melanin.

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[4] Schalek: Histogenesis of Melanosarcoma Cutis, Jour. Cutan. Dis., 1900, p. 147.

[5] Kaposi: Pathologie und Therapie der Hautkrankheiten, Ed. 5, p. 922.

[6] Fordyce, John A.: Melanomas and Some Types of Sarcoma of the Skin, The Journal A. M. A., Jan. 8, 1910, p. 91.

[7] Wende, G. W.: Jour. Cutan. Dis., 1898, p. 205.

[8] Sequeira and Bulloch: Brit. Jour. Dermat., 1901, p. 201.

[9] Gilchrist: Am. Jour. Cutan. Dis., 1899.

[10] Duval: Montreal Med. Jour., 1908.

[11] Orth: Berl. klin. Wchnschr., 1900.

equal authenticity have been reported in different parts of the body and central nervous system.

When these pigmented nevi undergo malignancy they may remain localized, like the pigmented rodent ulcer, which is not so very rare; Kaposi says that he has seen a case of the *non-pigmented* variety develop in a few weeks on the side of a healed furuncle and that the patient was still living twenty-five years after. Or they may extend by metastasis, through the blood-stream rarely, more commonly by means of the lymphatics, until all the internal organs are involved and death ensues either from general cachexia or from mechanical means, as the obstruction of a large vessel by an infarct. If the metastasis takes place through the lymph-stream, the enlargement of the neighboring glands may be the first symptom that will direct the patient's attention to the fact that he has something more than a sore on the skin that will not heal. Edema is present early and naturally is progressive as the invasion continues to block up the lymph-channels.

Gilchrist[9] reports a case of melanotic sarcoma that resembles the case which I report, but differs from it in several respects: first, in that the nodules were very much larger as a rule; second, in their being discrete, there being no grouped lesions; third, in metastasis taking place through the blood-stream, as shown by the lack of glandular enlargement and edema; and lastly, that they were freely movable, whereas only a few in my case possessed any degree of mobility. Gilchrist's second case had a definite starting-point from a pigmented mole, and from his histologic findings follows the teaching of Unna that sarcomas of this type are epithelial in origin and are really nevocarcinomas.

REPORT OF CASE

History.—F. C., adult male, aged 56 years, native of Ireland, with family history negative, had always had good general health; patient had the usual diseases of childhood; denied ever having had any venereal infection; had used alcohol and tobacco to excess at times. In the summer of 1910 the patient noticed on the dorsal aspect of the left foot a little to the inner side an elevated spot, which he described as being "hard, and bluish in color." He stated that as far as he knew it had been there for several years; was not able to say if he had had it since childhood for it had never given him any trouble and he had never had any cause to think of it. About this time it began to spread and became slightly inflamed, the cause of which he thought was due to the pressure from the shoe. He tied a horsehair around it and pulled it so tight that the top was cut off. It returned very rapidly and was treated several times by different local physicians by the means of "acids and powders," and he was told that it was a wart. No doubt the teasing to which the growth was subjected is responsible for the rapidity with which it extended by means of the lymph-streams. The rapid spread of this disease can find its analogy in the lightning-like rapidity with which an epithelioma will spread if "touched up" with phenol (carbolic acid), or, for another example, how quickly one on the tongue will light up if irritated by weak acids, alkalies, or improperly applied *x*-ray current, or fulguration.

In March the "wart" was removed in the dispensary of a neighboring hospital, but not to any great depth, as no stitches were taken, and the operation was performed without either a local or general anesthetic. One month after this the patient noticed that the glands in the left groin were much enlarged and went to another hospital where they were removed. There was evidently great difficulty in healing, as he was confined to his bed for six weeks. About two weeks after he left the hospital he was taken with severe pains on the left side directly over the crest of the ilium; returning to the hospital, he had removed from that situation what he called a "boil," and, while it was decidedly inflammatory, he says that it was not of a purplish color and did not resemble any of the lesions that are present on his body. In a few days he began to notice that there were several "huckleberries," as he expressed it, appearing above the knee. This was the middle of July, 1912. The patient was admitted to Jefferson Hospital, Sept. 12, 1912. Coincident with the appearance of this eruption was an intense itching, which had continued more or less persistently and in localized areas until this time, when it became more or less general. As the patient was very ill when admitted and very nervous about his condition, we were inclined to think the itching more the result of a mental condition than of any actual irritation, for his efforts at scratching were much more marked when physicians or nurses were present.

Examination.—Eyes: Both pupils are clear and react normally to light and accommodation; tongue, clean and moist; chest, well-developed, normal pulmonary resonance; heart, regular in beat but muscular tone is poor; faint systolic murmur heard at apex.

Urinalysis: Color, turbid, reddish; specific gravity, 1.022; reaction, acid; albumin, faint trace; sugar, none; urea, 1.2. Microscopic examination: Crystals, none; amorphous urates, few; epithelial cells, few; pus cells, few; blood, none; tube casts, none.

Present condition: On the dorsal aspect of the left foot is a scar (Fig. 1) about 1¼ inches long and ⅜ inch wide, at one corner of which is a typical pigmented brownish, purplish mole, shining, but slightly elevated, irregular in outline and not more than ⅜ inch long. There are no lesions on the outer side of the leg below the popliteal space, above which there occurs a group of about thirty lesions varying in size from a small pea to a hazelnut. (Figs. 2 and 3.) These are closely grouped and in some instances there is no clear healthy skin between. Some are only slightly elevated above the skin and in color most closely resemble the condition which is occasioned by an attack of pediculosis and which is known as *tache bleuâtre*. Those which are larger and more elevated resemble closely the color and appearance of Hamburg grapes, as has been noted by other observers. This eruption continues up the leg, but not so numerously until the area is reached over the head of the femur, where there are groups of grape-like lesions elevated from one-quarter to three-eighths inch, purplish-red, distinctly glistening, and in places slightly covered with a grayish scale. Here there is healthy skin between each lesion with no inflammation and no telangiectasis. Over the groin there is a perfectly healed scar and to the left of this a large lesion which has apparently undergone degeneration, depressed in the center and covered with a thick crust which is constantly being knocked off and quickly reforming. The appearance on the inner surface of the leg is practically the same, but the lesions are not so numerous or so large. The under surface is distinctly inflamed and has comparatively few nodules, but there is a vesicular eruption which ruptures readily and exudes a clear straw-colored fluid. The pigmented eruption continues on the left side of the abdomen as far as the umbilicus and there are a few to the right of it—no more than six over the entire right side of the body. The penis and scrotum are greatly enlarged and have been so for the last three weeks. Edema is only slightly present on the left thigh and on the lower leg, though the entire extremity is several inches larger in circumference than the right. There are no lesions on the right leg and it is extremely emaciated, as are the upper extremities.

Course of Disease.—Sept. 26, 1912: Over the abdomen have appeared about twenty new lesions, which are only slightly elevated and are about half an inch in diameter. One appears over the third rib and is distinctly movable under the skin, apparently being in subcutaneous fat and not in the dermal tissue. The other lesions are not so movable, but occasionally one can be found here or there which possesses some degree of mobility; but this is not a marked feature. The abdomen is much distended, and percussion reveals a large quantity of fluid in the abdominal cavity. Pitting on pressure can be elicited on the left side only and is very marked. On the right side none is demonstrable. The patient has become very weak and has evidently lost a large amount of subcutaneous fat, as his face is emaciated and has that typical waxy, cachectic look which we associate with cancerous patients. The eyes are sunken, the whites distinctly yellowish. He is able to retain but a very small quantity of food and has had several involuntary movements of the bowels. The tongue is distinctly coated and the odor of the breath offensive.

Oct. 3, 1912: No new lesions have appeared, but the abdomen is much more distended and the percussion reveals the presence of a large quantity of fluid. The edema has extended to the right side and down the right leg to about four inches above the knee. The edema on the under part of this leg is so marked and stops so abruptly that it almost has the appearance of a constricting band being placed around the leg above the knee. There has been no vomiting or purging for two days, and the itching has ceased.

Oct. 10, 1912: Four days previously the patient insisted on returning home, but we still had the opportunity of seeing him, and he died on the ninth. Unfortunately, it was impossible to obtain an autopsy, though every means were employed, and we had to be content with biopsy, microphotographs of the sections of which are shown. (Figs. 4, 5 and 6.)

The history of this case only illustrates that too much stress cannot be laid on the necessity of extensive operative measures in radical cases of this kind. They are not the ones in which palliative treatment may be resorted to, but we must let "the healing touch of the therapeutic knife" go deep and far and wide. It is not at all necessary to remove each nevus for fear that it may become malignant. That would be an endless undertaking. But a nevus of the distinct melanotic type should be watched, and should it show any change in structure or any tendency to extend, the dermatologist, if the patient comes under his care—it is a question to which branch these cases belong—must become the surgeon. This action may save life, but only if taken early.

It must be distinctly remembered that I am confining my remarks to melanotic sarcoma only, for in the other types other treatment may be of avail, as Dittrick[12] reports an apparent cure by the x-ray in the non-malignant variety. This is only one of the many cases that have been treated by this means, which undoubtedly should be tried when the nevi are so situated as to be inoperable, as in the inner canthus of the eye. Cases have been reported in which Coley's fluid has been tried, but apparently with little or no success in this type.

I wish to take this opportunity of thanking Prof. Henry W. Stelwagon for his kindness in allowing me to report this case, which was under his care in the Jefferson Medical College Hospital.

2030 Chestnut Street.

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[12] Dittrick: Jour. Cutan. Dis., 1910.

Salvarsan and the Ear.—G. Gellé calls attention in the *Revue hebd. de laryngologie*, 1912, xxxiii, 449, to three cases in his experience in which the patients became totally deaf under salvarsan, and continuance of the salvarsan treatment failed to cure the deafness. This is still total in two cases, but in the third the ear that became deaf a few days before the other returned to normal after a week. The Wassermann reaction is positive in all and the spinal fluid is quite albuminous with considerable lymphocytosis. Two of the patients had been unable to bear mercury, which was the reason the salvarsan had been employed. Gellé is convinced that the salvarsan had some influence on the production of the deafness, and in future he would restrict treatment to mercury or iodid if he had to treat an ear affection in a syphilitic. One of the above-mentioned patients was a young woman, and five injections of salvarsan were made in all in the course of three months. The doses had been 0.3 or 0.4 gm. The deafness came on fifty days after the first and twenty-seven days after the last (third) injection.

ANTITYPHOID VACCINATION IN CHILDREN *

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The prophylactic use of antityphoid vaccine among children has, as yet, received scant attention in medical literature. The subject has been referred to incidentally in papers which I have read at various places during the past year,[1] but heretofore no statistics have been furnished.

Whether the measure be regarded as necessary or merely desirable will depend, to a great extent, on local conditions, but for a large class of young people, it is now, in my opinion, highly desirable. This class includes all those, from 2 to 16 years of age, who leave home for summer vacations, schools and colleges. Osler says:

> Typhoid fever is a disease of youth and early adult life. Of the 1,500 cases treated in my wards in the Johns Hopkins Hospital, there were under 15 years of age, 231; between 15 and 20, 253; between 20 and 30, 680; between 30 and 40, 227; between 40 and 50, 88; between 50 and 60, 11; age not given, 1. . . . It is not very infrequent in childhood, but infants are rarely attacked.

The following statistics are based on the records of the inoculation of 359 children, between the ages of 2 and 16 years, who have been vaccinated by fifty different physicians in many parts of the United States; the reports here given may be considered as representing an average opinion of the degree of the reactions.

No attempt has been made to collect statistics regarding the degree of reaction at the site of inoculation, since little variation is noticed; in general there is rather less than is found in adults. The general reactions, as distinguished from the local, divided the cases into four classes, based on the temperature, as follows: Class 1, reactions absent; Class 2, mild, with a temperature up to 100; Class 3, moderate, with a temperature up to 103; Class 4, severe, with temperature over 103.

The dosage is based altogether on body weight and not on age; the child is given that portion of the adult dose which his weight bears to the average adult weight, 150 pounds. If the fraction proves inconvenient, a little more, rather than less, is administered. As with adults, the best time for inoculation is 4 o'clock, or later, in the afternoon, since any reaction will then come after bedtime. This classification of general reactions, with temperature as the principal point, is really a more severe test in children than in adults, as it is well known that the temperature is easily raised in childhood, and a fever is often present from trivial causes.

No harmful effects have been reported in any of the 359 children and, so far as known, none has contracted typhoid fever, although some of the vaccinations were made over three years ago; 42 of the children were inoculated in 1909, 106 in 1910, 172 in 1911, and 39 during the first ten months of 1912.

Revaccination in children should be undertaken earlier and oftener than in adults, since children are immunized on a basis of body weight, and consequently should be given a second course of two or three doses when the weight shows a very material increase. In the absence of final information as to the duration of the immunity, we now revaccinate, in any event, after about three years; further experience may show that longer intervals are permissible.

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* From the Army Medical School, Washington, D. C.

[1] Russell, F. F.: Results of Antityphoid Vaccination in the Army in 1911, and Its Suitability for Use in Civil Communities, The Journal A. M. A., May 4, 1912, p. 1331.

One of the most promising fields of usefulness of antityphoid vaccination in civil life is in the protection of youths and young adults, the most susceptible element of the population, against infection; the magnitude of the problem may be judged from the statistics of the Federal Bureau of the Census.

TABLE 1.—GENERAL REACTION AFTER FIRST DOSE *

		None		Mild		Moderate		Severe	
Age	No.	No.	Per Ct.	No.	Per Ct.	No.	Per Ct.	No.	Per Ct.
2	2	2	100	..	.....	..	....	..	....
3	13	12	92.31	1	7.69	..	....	..	....
4	11	10	90.91	1	9.09	..	....	..	....
5	20	18	90	2	10	..	....	..	....
6	14	11	78.57	3	21.43	..	....	..	....
7	24	15	62.5	7	29.17	2	8.33	..	....
8	30	21	70	9	30	..	....	..	....
9	29	19	65.52	9	31.03	1	3.45	..	....
10	19	11	57.90	6	31.58	1	5.26	1	5.26
11	30	21	70	7	23.33	2	6.67	..	....
12	37	27	72.97	10	27.03	..	....	..	....
13	32	20	62.5	12	37.5	..	....	..	....
14	31	26	83.87	5	16.13	..	....	..	....
15	36	27	75	9	25	..	....	..	....
16	31	24	77.41	7	22.59	..	....	..	....
Totals	359	264	73.54	88	24.51	6	1.67	1	0.28

* Only seven out of 359 had troublesome reactions and of these only one was reported as severe.

TABLE 2.—GENERAL REACTION AFTER SECOND DOSE *

		None		Mild		Moderate	
Age	No.	No.	Per Cent.	No.	Per Cent	No.	Per Cent.
2	2	2	100	..	.....	..	.....
3	12	11	91.67	1	8.33	..	.....
4	11	11	100	..	.....	..	.....
5	18	16	88.89	..	.....	2	11.11
6	14	13	92.85	1	7.14	..	.....
7	23	17	73.91	5	21.74	1	4.35
8	29	26	89.66	3	10.34	..	.....
9	29	22	75.86	5	17.24	2	6.90
10	15	15	100	..	.....	..	.....
11	29	25	86.21	4	13.79	..	.....
12	34	32	94.12	2	5.88	..	.....
13	31	25	80.65	6	19.35	..	.....
14	30	24	80	6	20	..	.....
15	34	30	88.23	4	11.77	..	.....
16	31	26	83.88	4	12.90	1	3.22
Totals.	342	295	86.26	41	11.99	6	1.75

* Only six out of 342 gave troublesome reactions and none was severe.

TABLE 3.—GENERAL REACTION AFTER THIRD DOSE *

		None		Mild		Moderate	
Age	No.	No.	Per Cent.	No.	Per Cent	No.	Per Cent.
2	2	2	100	..	.....	..	.....
3	9	8	88.89	1	11.11	..	.....
4	9	8	88.89	1	11.11	..	.....
5	16	16	100	..	.....	..	.....
6	11	11	100	..	.....	..	.....
7	19	15	78.95	4	21.05	..	.....
8	22	22	100	..	.....	..	.....
9	22	15	68.18	5	22.73	2	9.09
10	13	12	92.31	1	7.69	..	.....
11	23	22	95.65	1	4.35	..	.....
12	28	28	100	..	.....	..	.....
13	27	26	96.30	1	3.70	..	.....
14	27	26	96.30	1	3.70	..	.....
15	31	29	93.55	2	6.45	..	.....
16	23	21	91.30	1	4.35	1	4.35
Totals.	282	261	92.56	18	6.38	3	1.06

* Only three out of 282 were troublesome and none was severe. The mildest reactions after all doses occurred in children under 7 years of age.

TABLE 4.—PERCENTAGE OF GENERAL REACTIONS IN 359 CHILDREN, 2 TO 16 YEARS OF AGE *

Dose	None	Mild	Moderate	Severe
First	73.54	24.51	1.67	0.28
Second	86.26	11.99	1.75	0.00
Third	92.56	6.38	1.06	0.00

TABLE 5.—PERCENTAGE OF GENERAL REACTIONS IN ADULTS (128,903 DOSES)

Dose	None	Mild	Moderate	Severe
First	68.2	28.9	2.4	0.3
Second	71.3	25.7	2.6	0.2
Third	78.0	20.3	1.5	0.1

* Comparison of Tables 4 and 5 shows that the general reaction is much more often absent or mild in children than in adults, even after the first dose, and that after the second and third doses the difference is more marked.

In the registration area of the United States, there were in 1909, the last year for which complete mortality statistics are available, a total of 3,366 deaths from typhoid fever in patients under 20 years of age, out of a total of 10,722 of all ages, or almost one-third of all deaths from the disease. They were distributed according to ages as follows: under 2 years, 97; under 3 years, 139; under 4 years, 132; under 5 years, 110; 5 to 9 years, 647; 10 to 19 years, 2,174.

A very large proportion of these deaths can, without question, be prevented by the more frequent use of antityphoid vaccine.

EDEMA AND NEPHRITIS

FURTHER EXPERIMENTS PROVING THE INVALIDITY OF THE COLLOID-CHEMICAL THEORY

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Since the publication of my last article[1] on this subject, further work has been done proving conclusively that the colloidal theory of edema and nephritis is experimentally unfounded. Before presenting this work it may be well to clear away the misconceptions on which Fischer's argument in his reply[2] to my paper is so largely founded.

Since Fischer has raised the question of originality it is worthy of note that practically all of his experiments and ideas which are entitled to scientific consideration were clearly stated by Jacques Loeb, thirteen or fourteen years ago. Thus, the swelling of muscle under the influence of acids, the antagonism between acids and salts, the suggestion that the increase in the weight of a muscle in an isotonic solution is due to the formation of acid in the muscle, and, finally, the hypothesis that acid formation in the organs takes place through lack of oxygen, were long ago clearly set forth by Loeb.[3] These papers were for the most part translated[4] by M. H. Fischer himself. In 1906, Fischer began utilizing Loeb's old experiments and ideas, but he omitted to cite any references to Loeb's work in any of his papers, as far as I have been able to discover.

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[1] 1. Moore, A. R.: Fischer's Theory of Edema and Nephritis, THE JOURNAL A. M. A., Aug. 10, 1912, p. 423.

[2] 2. Fischer, Martin H.: A Further Response to Some Criticisms of the Colloid-Chemical Theory of Water Absorption by Protoplasm, THE JOURNAL A. M. A., Oct. 19, 1912, p. 1429.

[3] 3. Loeb, Jacques: Arch. f. d. ges. Physiol. (Pflüger's), lxix, 1; lxxi, 457; lxxv, 303.

[4] 4. Loeb, Jacques: Studies in General Physiology, Univ. Chicago Pub., 1902, ii, 150, 501, 510.

The greater part of Fischer's argument in his recent reply to my criticisms is based on the erroneous idea that a muscle swells in distilled water only when it is removed from the body. He says:

> The laws of osmotic pressure are not being outraged when a muscle removed from its circulation is placed in water, for as long as the muscle is in the body it does not swell even though we drink great quantities of distilled water.

The anatomic and physiologic ideas underlying this are curious, to say the least, and it is astonishing that Fischer failed logically to continue and point out the dire and edematous consequences of drinking acid beverages such as lemonade!

But let us consider, seriously if we can, Fischer's idea expressed here, that as long as the circulation is maintained a muscle may be immersed in distilled water without swelling. That this notion is contrary to fact may be shown by the following experiment: A frog was lightly etherized, the skin between knee and ankle of one leg removed, and the animal put into a basin of fresh water. Four hours later the frog was taken out; the muscles of the skinned leg appeared swollen and were firm to the touch. After removal the gastrocnemius reacted weakly to the electric stimulus and weighed 725 mg., which was 10 per cent. more than the weight (655 mg.) of the opposite unexposed gastrocnemius. The swollen muscle was put into one-eighth-molecular physiologic salt solution and in the course of twelve hours assumed a constant weight (665 mg.) but did not recover its irritability. In other words, a gastrocnemius *in situ* having normal circulation, when placed in direct contact with distilled water, gains about 10 per cent. in four hours and becomes moribund. The experiment was repeated a number of times with the same result. Since muscles behave abnormally in distilled water, we are forced to discard as irrelevant all of Fischer's experiments on muscle swelling in which distilled water was used as a basis of comparison. This reduces his experimental evidence to a negligible residuum.

Fischer objects to his theory being tested on muscles kept in isotonic Ringer's solution, on the ground that such a solution contains salts which prevent the muscle from swelling. Apparently he is ignorant of the fact that blood contains precisely the same salts and in approximately the same concentration.[5] Moreover, blood contains phosphates, carbonates and proteins which tend still further to reduce the development of acidity. Clearly, then, if isotonic Ringer's solution prevents minute quantities of acid from causing muscle to swell, blood is even more efficacious.

Fischer seeks to reduce the theory of osmosis to an analysis which is by no means necessary. He says:

> An osmotic membrane is a "semipermeable membrane"; it allows a solvent (water) to pass through it, but holds back the dissolved substances. A semipermeable membrane about a cell would therefore permit water to pass in and out according to the laws of osmotic pressure, but no dissolved substances.

All of the osmotic effects in living matter are accounted for if we simply assume the solvent to penetrate the cell membrane more readily than do the dissolved substances. A simple experiment given by Osterhout[6] serves beautifully to determine whether a living cell behaves osmotically or purely colloidally. If a spirogyra filament is immersed in one-fourth-molecular sodium chlorid solution, the protoplasm of the cells shrinks for two minutes and then gradually assumes its former volume in thirty minutes. This behavior is in keeping with the osmotic theory, that water is withdrawn at first (the cell shrinks) because the sodium chlorid does not pass through the cell membrane so easily as the water; later the salt does enter, and equilibrium as to sodium chlorid concentration is established within and without the cell. If Fischer's colloidal theory were correct, that the protoplasm loses water because salts enter and form hydrophobic colloids, then we should have a progressive shrinking of the cell as the amount of sodium chlorid within the cell increased, until a minimum volume is reached. But, as the experiment shows, such a result is contrary to fact.

Fischer objects to the use of irritability of muscle as a criterion of life as an "obvious crudity." What further finer criterion would he propose than the ability to function?

Hofmeister[7] has shown that the swelling of gelatin plates is not affected if 10 per cent. of sugar is dissolved in the water. If, then, muscle behaves as a simple colloid, it should swell as rapidly in an isotonic sugar solution as in distilled water. Meigs[8] found that this was true of a dead muscle, but that a live muscle remained unchanged in weight in an isotonic sugar solution. Here is the clearest possible evidence that a dead muscle behaves like a gelatin plate (a colloid) but that a living muscle acts osmotically, and in spite of Fischer's assertion to the contrary, he and Strietmann have not explained this experiment in harmony with the colloidal view of living matter. Surely Fischer would not contend that the sugar, like the salts in Ringer's solution, counteracts the effects of acid formed. Further, Meigs[9] says:

> Fischer does not consider the question whether his tissue was living or dead, and a careful study of his observations shows that the latter alternative must always have been the case long before the end of the experiment, and usually very early in it. Fischer's results show simply that dead muscle, like solutions of fibrin, gelatin and other colloids, takes up water in acid and alkaline solutions and tends to lose it in solutions of neutral salts.

Again, Meigs[10] says:

> Fischer's main results are that dead muscle tends to swell in distilled water and in weak acids and alkalies, and to lose water in solutions of neutral salts.

Loeb[11] has shown that only in isotonic solutions of pure salts will the addition of acid cause muscle to swell, while in hypertonic solutions of pure salts the addition of acid causes an increased shrinking. I have proved[12] that the addition of small quantities of lactic acid up to 0.009-normal in isotonic Ringer's solution causes the gastrocnemius of frogs to shrink markedly. Therefore isotonic Ringer's solution must be 0.009-normal acid or more before a muscle will swell in it. If the solution is only 0.003-normal acid, however, the muscle kept in it tests markedly acid to acid fuchsin. But the preparations made by ligating a frog's leg about the knee, when kept in water, undergo a marked swelling without developing sufficient acid to be detected by indicators. Since this is true and since a much more than demonstrable quantity of acid must be in a muscle before it will swell in isotonic Ringer's solution, then acid accumulation alone cannot account for the increase in weight of an artificial edema. Volhard[13] has proved Fischer's assumption that the artificial edema in the ligated frog's leg occurred because the arterial circulation was cut off, to be incorrect. Volhard's statement is as follows:

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[5] Abderhalden: Ztschr. f. physiol. Chem., xxv, 67.

[6] Osterhout: Science, xxxiv, 188.

[7] Hofmeister: Arch. f. exper. Path., xxviii, 223.

[8] Meigs: Am. Jour. Physiol., xx, 199.

[9] Meigs: Ibid., p. 196.

[10] Meigs: Ibid., p. 199.

[11] Loeb, Jacques: Dynamics of Living Matter, p. 43.

[12] Moore, A. R.: Arch. f. d. ges. Physiol. (Pflüger's), cxlvii, 28.

> The fundamental biologic experiment made by Fischer was that in which he ligated a frog's leg about the knee, kept it in distilled water and noted the development of edema. He states that the lack of oxygen in the leg so treated is the cause of acid formation, and acid formation is the cause of edema. If, now, one isolates and ligates the main arteries of the leg without ligating the leg, capillary circulation is interrupted. The appearance of stasis can be observed under the microscope, but no edema occurs, although there must be lack of oxygen. If, however, one frees the veins and arteries and under them ligates the leg, the capillary circulation goes on as usual but edema is produced. Hence in the latter case it is clear that when the lymph circulation is tied off and the blood circulation remains intact, the result is edema.

Maxwell,[14] following up the experiments of Weymouth Reid,[15] has found that a frog's skin if alive acts like a machine pumping water from the outside in without permitting a return flow. By making closed sacs of the skin of frogs' legs, Maxwell has shown that if kept in water such sacs accumulate large quantities of free liquid within them. This action of the skin accounts for the swelling of the legs when they are cut off from the body and put into distilled water.

Fischer's theory of albuminuria may be stated in his own words as follows:

> In albuminuria the albumin of the urinary membrane goes into solution in the urine; the solid colloidal urinary membrane (a gel) becomes a sol.

Such a change is brought about by the gel becoming acid.

Fischer has built his theory mainly on the experimental facts that fibrin and gelatin go into solution more readily in an acid than in a neutral solution, the injection of tenth-normal hydrochloric acid into rabbits causes albuminuria, and the urine of nephritis patients is more acid than that of normal persons. In order to prove his hypothesis Fischer must show: (1) that in experimental albuminuria the kidneys have an increased acidity; (2) that if kidneys are put into an acid solution, more protein dissolves out of them than when they are in a neutral solution.

As to the first point, I have shown[16] that there is no demonstrable acid in the kidneys of a rabbit in which albuminuria has been produced by hydrochloric acid injection. Fischer supposes that the acid forms protein compounds in the kidney and that therefore such acid cannot be detected by indicators. In order to give his hypothesis scientific footing he must show that such an increase in acid-protein compounds actually takes place in albuminuria. This he has not done.

Moreover, Fischer has never shown that if a kidney is made acid, more protein will go into solution than if it remains normal. To test this point, I made the following series of experiments.

> The kidneys were taken from a freshly killed rabbit, the connective tissue and fat carefully removed from them, and each cut longitudinally into halves. Each kidney was then put into a beaker containing 50 c.c. of one-sixth molecular physiologic salt solution. One solution was acidified by the addition of 0.3 c.c. of 0.75-normal lactic acid, the other remained neutral. At the end of twelve hours the preparations were thoroughly stirred and equal amounts from each preparation poured into test-tubes of the same caliber. The proteins were then precipitated by Esbach's reagent. At the end of twenty-four hours another pair of samples was taken and treated in the same way. In each case the precipitates were allowed to settle twenty-four hours, and comparison at the end of that time showed that the kidney in the neutral solution gave an amount of precipitate equal to or possibly greater than the one in the acidified solution. In like manner, various degrees of acidity made by adding 0.1 c.c., 0.2 c.c., 0.6 c.c. and 1 c.c. of 0.75-normal lactic acid to each 50 c.c. of the isotonic Ringer solution were tested as to their effect on rabbit kidney. In none of the cases did the kidney in the acid solution give a greater amount of precipitate than the control kidney which remained in a neutral solution. Therefore lactic acid does not cause the proteins of the kidney to go into solution.

Furthermore, if Fischer's theory as to the proteins in the urine being due to the dissolution of the kidney by acid were correct, we should expect these proteins to be largely nucleoproteins or their metabolic products, on account of the highly nucleated structure of the kidney. This, however, is not the case, because by far the greater part of the protein in the urine of nephritis patients is serum albumin and serum globulin.[17]

After all, the colloid-chemical theory of edema and nephritis would perhaps be justified if it served as the basis for successful treatment of these diseases. Unfortunately, in the hands of competent and unbiased practitioners, Fischer's methods of treatment have no value.

Von Noorden,[18] as the result of his wide experience in cases of edema and nephritis, advises keeping salts from entering the body, as nearly as is consistent with giving palatable food. His reason is that salt increases the consumption of water and its retention, and throws extra work on the diseased kidneys as well.

Miller[19] reports eight cases of nephritis which were treated by Fischer's method, that is, the injection of a salt solution "made by dissolving 8 gm. sodium carbonate and 15 gm. sodium chlorid in 1 liter of water." In none of the cases were beneficial effects observed except that the blood in the urine was lessened. Three of the patients had marked edema, and this was not affected by the treatment. One patient had a slight edema before the treatment was undertaken, but "after the Fischer's solution had been given for two days, the edema became so marked that it was necessary to discontinue its use."

Sellards[20] reports eleven nephritis cases in which the patients were treated with Fischer's solution. In none were beneficial effects of any consequence obtained. In one case (No. 3) the injections were made into the veins of the left arm, and a temporary edema of the left hand developed.

SUMMARY AND CONCLUSIONS

Fischer's theory of edema and nephritis is a hypothesis unsupported by facts, because:

1. Fischer's conclusions as to edema are based on experiments with dead muscle, and it has been shown that dead muscle does not behave like living muscle.

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[13] Volhard: Verhandl. d. deutsch. Kongresses f. inn. Med., 1912.

[14] Maxwell: Private communication.

[15] Reid, Weymouth: Jour. Physiol., xxxv.

[16] Moore, A. R.: Arch. f. d. ges. Physiol. (Pflüger's), cxlviii, 167.

[17] Neuberg: Der Harn, i, 765, 766.

[18] Von Noorden: Address before the faculty and students of the University of California Medical College, San Francisco, Oct. 18, 1912.

[19] Miller: Am. Jour. Med. Sc., cxliv, 8.

[20] Sellards: Bull. Johns Hopkins Hosp., xxiii, 297.

2. Fischer assumes that when muscles are placed in distilled water they behave normally. This I have proved to be contrary to fact.

3. Fischer assumes the presence of acid in artificial edemas of frogs' legs, but offers no proof for his assumption, and I have shown that a muscle in isotonic Ringer's solution may contain demonstrable quantities of acid without swelling.

4. It has been proved by Volhard that the artificial edema in Fischer's experiments on the frog's leg is brought about by ligating the lymphatic system, and that it is not caused by ligation of the arteries as Fischer contends.

5. It has been proved that there is no demonstrable acid in the kidneys of rabbits having albuminuria, and also that relatively large quantities of acid added to the kidneys do not cause the proteins of the kidney to go into solution.

6. In the hands of unbiased physicians, the use of Fischer's treatment of edema and nephritis gives negative results or worse.

THE COLLOID-CHEMICAL THEORY OF WATER ABSORPTION BY PROTOPLASM

A THIRD RESPONSE TO SOME CRITICISMS

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The latest criticism by A. R. Moore[1] of my colloid-chemical views of edema and nephritis divides itself into a personal and into a scientific part. Under the personal is found this statement:

> Since Fischer has raised the question of originality it is worthy of note that practically all of his experiments and ideas which are entitled to scientific consideration were clearly stated by Jacques Loeb, thirteen or fourteen years ago. Thus, the swelling of muscle under the influence of acids, the antagonism between acids and salts, the suggestion that the increase in the weight of a muscle in an isotonic solution is due to the formation of acid in a muscle, and, finally, the hypothesis that acid formation in the organs takes place through lack of oxygen were long ago clearly set forth by Loeb.[2]

Moore writes without knowledge of the literature. Did I not believe that the work of Hoppe-Seyler, Araki, Irasawa and Zillessen[3] on the abnormal production of acids in the tissues in lack of oxygen; that of Hamburger,[4] von Limbeck,[5] Gürber[6] and Eykmann[7] on the effect of acids and salts on the swelling of cells; that of Grützner,[8] Kahlenberg and True[9] and Heald[10] on the application of the ionic theory to the action of acids on protoplasm, and the colloid-chemical studies of the last decade are more familiar to every other student of the subject than to Moore, I might be tempted to review again the contributions of these authors.

Only a feeling of indebtedness to my teacher and the certain knowledge that the impersonal judgment of time will bring every one his due impels me under misrepresentation still to continue silent seven years after breaking with Jacques Loeb.

Moore continues:

> These papers were for the most part translated by M. H. Fischer himself.

True, and these translated and edited papers are mute evidence of just how valuable Loeb considered his views on edema in the days before I touched the subject from a colloid-chemical point of view. When I translated into English the original German twenty-page paper about which Moore discourses, Loeb had me cut this to four, and had me omit, *against my protestations,* all his remarks on edema.[11]

Moore continues further:

> In 1906, Fischer began utilizing Loeb's old experiments and ideas, but he omitted to cite any references to Loeb's work in any of his papers.

I have written two articles and a goodly portion of a book dealing specifically with the problem of edema. That there may be no misunderstanding I will quote from these directly, hoping incidentally thereby to aid Moore to a correct estimation of the real value that attaches itself to Loeb's contributions to the discussion of edema.

In my first paper I say:

> Here and there one meets a phrase in the discussion of edema which suggests that the author at least assumes the possibility of a cause for this condition in the tissues themselves, but I know of no experiments planned actually to prove this point or of any attempts to define the nature of these tissue changes physicochemically, except those of Jacques Loeb, who, ten years ago, tried to find in an increase in the osmotic pressure of the tissues the cause of the increased absorption of water. The inadequacy of this explanation has since become apparent, but the experimental facts adduced by this author to show that the cause of edema resides essentially in the tissues are of permanent value and should have received a recognition at the hands of pathologists which has never been accorded them.[12]

In my second paper I say:

> Here and there in the literature on edema we encounter statements which show that the author considered the rôle of the tissues themselves in the causation of edema. But with a single exception all these statements are exceedingly general and vague as well as without experimental foundation. Ten years ago, Jacques Loeb tried to explain the increased amount of water held by an edematous cell through the assumption that in states of edema the osmotic pressure of the cell contents is increased. The inadequacy of this explanation for more than a small part of the phenomenon was proved by Overton, who showed that even if all the complex proteins, fats and carbohydrates contained in muscle, for example, were split into their simplest molecules, there would not result a sufficient number to account for such an increase in the

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[1] The preceding article in this issue of The Journal.

[2] Loeb, Jacques: Arch. f. d. ges. Physiol. (Pflüger's), lxix, 1; lxxi, 457; lxxv, 303.

[3] The work of these men is detailed in all text-books of physiology written since the late eighties.

[4] Hamburger, H. J.: Arch. f. Anat. u. Physiol., 1892, p. 513; ibid, 1893, p. 153; Ztschr. f. Biol., 1897, xxxv, 252 and 280, where references to his earlier papers are found. See also Arch. f. Anat. u. Physiol., 1898, p. 31.

[5] Von Limbeck, C.: Arch. f. exper. Path. u. Pharmakol., 1894, xxxv, 309.

[6] Gürber: Sitzberich. d. med. phys. Gesellsch., Würzburg, Feb. 25, 1895.

[7] Eykmann, C.: Virchows Arch. f. path. Anat., 1896, cxliii, 448, where references to his earlier papers will be found.

[8] Grützner: Arch. f. d. ges. Physiol. (Pflüger's), 1894, lviii, 69.

[9] Kahlenberg and True: Botan. Gaz., 1896, xxii, 81.

[10] Heald: Botan. Gaz., 1896, xxii, 1, 125.

[11] Loeb's original paper appears in Archiv für die gesammte Physiologie (Pflüger's), 1898, lxxi, 457. His collected papers in English appear under the title Studies in General Physiology, I and II, Decennial Publications of the University of Chicago, Chicago, 1905. What is left of the original article that is the theme of discussion appears on page 501.

[12] Fischer, Martin H.: The Nature and the Cause of Edema, The Journal A. M. A., Sept. 5, 1908, p. 830.

osmotic pressure as is necessary to account on such a basis for the amount of water absorbed by such a tissue. But this fact does not in any way diminish the value of Loeb's attempt to establish a theory of edema on a healthy physicochemical basis, nor yet the value of his experiments which were designed to show that the essential cause for edema resides in the tissues themselves. If these experiments had received their merited recognition by pathologists and clinicians, we would have been spared much of the literature on edema which has appeared during the past decade.[13]

In my book I say:

> Of this possible rôle of the tissues, pathologists have not all been ignorant, but for the most part their ideas regarding it have been vague. All the more credit, therefore, belongs to Jacques Loeb who not only first tried to prove through experiment that the problem of edema is essentially a problem of the tissues, but suggested for its explanation a physicochemical force (osmotic pressure) which if not adequate was at least of such a nature as could be conceived active in the living body.[14]

I am still of this opinion. Beyond this, I do not think that Loeb will be pleased with Moore's statement that the ideas I have stood for since 1906 are his. However splendid Loeb's work may be, he has not only contributed nothing to the establishment of a colloid-chemical theory of water absorption by protoplasm, but has actually thrust such theory aside.[15] As well as one can decipher the ever-changing and self-contradictory views of my distinguished teacher, a theory of fertilization which I helped to nurse is not one that he accepts.[16] Our views on water absorption, whether by the normal cell or by the pathologically affected cell, are diametrically opposite. Loeb would expand the biologically applied osmotic conceptions of de Vries, Pfeffer, van't Hoff, Hamburger, etc., to the edematous cell.[17] I reject *in toto*, practically, the osmotic theory as applicable to either the edematous cell or the normal one.[18]. Loeb believes in membranes about cells, and I do not. In his latest article[19] he adopts Nathansohn's mosaic theory, which I rejected several years ago.[20] He knows low concentrations of table-salt which are more deadly than distilled water, while I do not. He believes in the antagonistic action of various neutral salts while I know only of their synergetic action—and these differences of opinion could be multiplied as desired.

As the above paragraphs indicate that Moore is entirely unacquainted with the general literature of water absorption, and with my writings specifically, it hardly seems necessary to consider in detail his inaccurate quotations and his freshly repeated objections to my colloid-chemical views, for I have done this once before.[21]

Moore seems unable to learn that the amount of water held by a muscle or any other tissue inside or outside of the body depends on the state of its colloids, as determined by a play between those factors which favor swelling and those which inhibit it. Acids belong in the first group, salts in the second. In distilled water a muscle loses its salts and therefore swells more than if these were present. We may drink a "large amount" of distilled water without acquiring an edema (because too little salt is lost thereby), but I have never maintained that we could consume an unlimited amount. In fact, I have emphasized the importance of such excessive drinking in producing edema.[22]

When Moore tears the skin off a frog's leg, he injures the muscle below both directly and indirectly through injury to the circulation. An abnormal acid production in a frog so treated is proved by the development of the "reaction of injury." On immersing such a leg in distilled water, salts are lost, and this affects not only the irritability of the muscle, but with the acid accounts for the increased swelling.

If Moore believes that "all of the osmotic effects in living matter are accounted for if we simply assume the solvent to penetrate the cell membrane more readily than do the dissolved substances," he stands alone.

Osterhout's experiment is as easily explained on a colloidal basis as on an osmotic one. Ignoring certain experimental errors and the matter of injury, it is sufficient to point out that monovalent salts diffuse through a colloid more readily than bivalent ones. Sodium chlorid therefore diffuses into a cell more rapidly than bivalent salts diffuse out; hence an initial shrinking followed by subsequent increase in size.

Inasmuch as Meigs has himself now given up his original osmotic notions regarding the behavior of muscle, it becomes unnecessary to discuss Moore's echo of Meigs' discarded views. In his latest paper Meigs[23] says:

> These facts are opposed to the view that the smooth muscle fibers are surrounded by semipermeable membranes. . . . Most of the water of the smooth muscle fibers is held by the colloids of the living tissues as organic water.

This is what I have stood for right along and is what Moore does not believe.

I took occasion in my former response to Moore to discuss the balance between acid, alkali and salts in the fluids and tissues of the body, and also the use of indicators, and need not repeat here.

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[13] Fischer, Martin H.: Das Oedem als kolloidchemisches Problem, Kolloidchemische Beihefte, 1910, i, 95.

[14] Fischer, Martin H.: Edema, New York, 1910, p. 209. As Loeb's work is discussed also on pages 56, 57, 63, 160 and 176, one wonders from just what sources Moore has obtained his conception of my work.

[15] Loeb (Arch. f. d. ges. Physiol. [Pflüger's], 1899, lxxvii, 305) says: 'The analogy between the absorption of water by soaps and by muscle is of importance in explaining the mechanism of water-absorption. The majority of authors, for example, Hofmeister, assume that in the absorption of fluids by tissues we deal with imbibition; that is to say, with capillary phenomena. But in the absorption of fluid by soaps we deal with solution phenomena. The forces active here are osmotic and not the surface tension forces active in capillary phenomena." (In Bezug auf die Mechanik der Flüssigkeitsresorption ist die Analogie zwischen dem Verhalten von Seifen und dem Muskel von Bedeutung. Die Mehrzahl der Autoren z. B. Hofmeister, nehmen an dass es sich bei der Resorption von Flüssigkeiten in Geweben um Imbibition handle, d. h. um Capillaritätserscheinungen. Bei der Flüssigskeitsaufnahme in Seifen handelt es sich aber um Lösungsvorgänge. Die dabei maasgebenden Kräfte sind osmotische Drucke und nicht die bei capillaren Vorgängen maasgebenden Oberflächenspannungen.)

[16] Fischer, Martin H., and Ostwald, Wolfgang: Arch. f. d. ges. Physiol. (Pflüger's), 1905, cvi, 229.

[17] Loeb, Jacques: Arch. f. d. ges. Physiol. (Pflüger's), 1898, lxxi, 457. Loeb writes (p. 468): "I maintain that the driving-force for the movement of fluid in the tissues in cases of edema (as in all other instances) is to be sought chiefly in osmotic pressure, and that a state of edema results; that is to say, an entrance of fluid into the tissues whenever the osmotic pressure in the tissues is higher than that of the blood and the lymph. Edema must therefore result from causes which either increase the osmotic pressure of the tissues or decrease that of the blood and the lymph." (Dem gegenüber behaupte ich dass die Triebkraft für die Bewegung von Flüssigkeit in den Geweben im Falle von Oedem (wie in allen anderen Fällen) wesentlich in dem osmotischen Druck zu suchen ist, und dass es zu ödematösen Zuständen, d. h. zum Eindringen von Flüssigkeit in die Gewebe dann kommt wenn der osmotische Druck in den Geweben höher ist als der des Blutes und der Lymphe. Es müssen also dem Oedem solche Ursachen zu Grunde liegen, welche den osmotischen Druck der Gewebe erhöhen oder den osmotischen Druck des Blutes und der Lymphe verringern.)

[18] Fischer, Martin H.: See any of my papers published since 1905 and listed in my previous response to Moore, THE JOURNAL A. M. A., Oct. 19, 1912, p. 1429

[19] Loeb, Jacques: Science, 1912, xxxvi, 639.

[20] Fischer, Martin H.: Edema, New York, 1910, pp. 95 and 96

[21] Fischer, Martin H.: THE JOURNAL A. M. A., Oct. 19, 1912, p. 1429.

[22] Fischer, Martin H.: Nephritis, New York, 1912, pp. 53, 133.

[23] Meigs, E. B.: Jour. Biol. Chem., 1912, xi, 401. The quotations are from pages 412 and 413. To forestall the next obvious criticism by Moore that this does not hold for striped muscle, it is enough to refer the reader to the recent work of von Fürth and Lenk (Biochem. Ztschr., 1911, xxxiii, 341) and Wolfgang Pauli (Kolloidchemie der Muskelkontraktion, Dresden, 1912).

Volhard's original communication is unfortunately not immediately accessible; but if Moore quotes him correctly, Volhard is in error. Ligation of either the arteries or the veins or both in the leg of a frog is followed by a most beautiful edema. Ligation of all the tissues except the large arteries and veins is also followed by some edema though not so great a one, for this procedure interferes only somewhat with the circulation through the leg.

Maxwell's experiment merely indicates that frog's skin behaves like the kidney, salivary gland, etc., in that it has the power of doing work. I have discussed this problem before. Pumping water through the skin has nothing to do with accounting for the development of an edema in the underlying tissues. In an edematous frog's leg, water lies not merely under the skin. The muscles and other tissues of the leg are frequently so swelled that they burst through the restraining skin.

The rest of Moore's paper repeats his previous criticisms.

This paper concludes my discussion with Moore, and I return to my old resolve to forego all polemic discussion. As I continue my work I shall from time to time touch on such criticisms as I feel spring from scientific skepticism or the answer to which is not obvious from my previous writings. Mere priority discussions can rarely be settled by the involved disputants. Those who seek the truth when such questions arise must themselves seek out the original communications.

A SIGN INDICATIVE OF CHRONIC APPENDICITIS

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The condition I am about to describe has often been found, but I present it in order to induce other observers to assist in coming to some conclusion as to its value in the diagnosis of chronic appendicitis. Chronic concealed appendicitis without active inflammation is difficult to diagnose. Ewald has well named this condition "appendicitis larvata." Exploratory operation in these cases frequently reveals an obliterative appendicitis.

In 1898 a patient consulted me for an obstinate hyperchlorhydria. She gave a history of repeated attacks of appendicitis. On examination I found that a continuous firm pressure with the ends of the first three fingers over McBurney's point induced a referred distress or pain in the epigastrium or precordial region. Later on the patient had a recurrent attack of acute appendicitis which necessitated immediate operation. The appendix was found to have sloughed off and the wound was simply packed. The patient made a complete recovery and has not had any digestive disturbance since.

Since then, in many cases of chronic appendicitis with digestive symptoms, I have been able to induce a referred pain or distress in the epigastrium, left hypochondrium, umbilical, left inguinal or precordial region by a continuous firm pressure over the appendix. I have found this test exceedingly valuable in deciding when and when not to recommend operation for chronic appendicitis. All of the patients on whom an appendectomy has been performed have fully recovered from their digestive trouble. It was usually found on operation that the appendix was distorted, adherent or contracted, and there was nearly always a history of a previous attack of appendicitis. The digestive symptoms were caused by an impingement on the nerves which reflexly induced a perversion in the secretion of gastric juice.

It is frequently difficult to diagnose chronic appendicitis unless the patient suffers from recurrent acute attacks. The subjective symptoms are not in themselves sufficient; in fact, they may be entirely lacking. If the etiology is obscure, there is a temptation to diagnose the condition as nervous dyspepsia, when the patient really has a chronic appendicitis. Many of these patients suffer from anemia, constipation, loss of strength and flesh, and present various digestive and nervous symptoms. The pathologic cause is often found to be a slow proliferation of connective tissue in the walls of the appendix. In many cases the appendix is so contracted that the lumen is partially obliterated as a result of inflammatory thickening. Not infrequently normal drainage is disturbed, secretions are retained and the resulting tension interferes with the circulation. Twisting and bending of the appendix, due to a short mesentery, may be found, with or without concretions. In every case of inflammation there is round-celled infiltration and connective tissue proliferation. This hyperplasia of interstitial tissue continues in chronic appendicitis, so that a fibrous thickening ensues causing pressure on the nerve-endings. The appendix, it must be remembered, has a rich nerve connection, from the superior mesenteric plexus of the sympathetic, with the cardiac, hepatic and gastric plexuses.

The pressure of the connective tissue on the nerves may reflexly induce symptoms that avert suspicion from the cause of the difficulty. We are absolutely certain that appendicular disease does produce gastric and intestinal symptoms. By impingement on the nerves many subjective symptoms are reflexly produced: asthmatic attacks, shortness of breath and tachycardia, as well as symptoms of both gastric and intestinal disease. Practitioners are apt to be attracted to a consideration of these subjective symptoms as if, instead of being secondary manifestations, they were primary, while as a matter of fact the appendix and nothing else may require attention. At operation for chronic appendicitis, macroscopically the appendix may seem absolutely normal, while microscopically the pathologic change can easily be made out. We do not find the appendix distorted in every case, but we find distortion, a clubbed appendix, adhesions and even pockets of pus.

McBurney was the first to call our attention to the pain on pressure in the right inguinal region in acute appendicitis. This tender point may also be found in some cases of chronic appendicitis, though not in all. The referred distress or pain induced by continuous pressure over McBurney's point seems to me to be a most valuable sign in arriving at the diagnosis of chronic appendicitis.

The following few cases out of many that have come under my care will illustrate my point:

Case 1.—Mr. D. gave a history of repeated attacks of distress in his stomach, extending over three years. Appetite was good, the bowels were constipated and there was some backache and shortness of breath; to attempt deep breathing produced nausea. Ten years previously he had had an attack of what seems to have been acute appendicitis. On examination of the stomach contents I found hyperchlorhydria. Physical examination was negative. Continuous digital pressure over McBurney's point induced pronounced distress in the epigastrium, which subsided when the pressure was released.

The patient was placed on alkalies for his hyperchlorhydria for three months without any benefit. An appendectomy was advised. Operation showed that the appendix was intact but unusually long and chronically inflamed. There was a stricture 4 cm. (1½ inches) from the distal end. Another pathologic feature of the case was the kinking of the ileum by a short, firm fold of mesentery opposite the true mesentery. Division of this gave a looseness to the ileum and freedom of drainage which had not existed before. After the removal of the appendix the patient made a complete recovery.

Case 2.—Mr. T., aged 41, complained for five years of digestive disturbance. Two or three hours after meals he experienced epigastric distress, belching sour gas. He was easily tired, had backache and was quite nervous. Bowels were normal. Physical examination proved absolutely negative. An examination of the stomach contents showed that he had hyperchlorhydria. Palpation over the whole abdomen elicited no pain. Continuous deep pressure over the appendiceal region induced a feeling of distress in the epigastrium which the patient asserted to be similar to his digestive disturbance, complained of two or three hours after meals. On removal of the pressure, the distress experimentally produced subsided. Diagnosis, chronic appendicitis. The patient was placed on alkalies for his hyperchlorhydria, which seemed to keep him comfortable. Just as soon as he discontinued the alkali his digestive symptoms recurred. I advised the removal of the appendix. At operation the appendix was found to be 8 cm. (3 inches) long and retrocecally adherent. The meso-appendix was very short, rendering ligation difficult. The appendix had a sharp kink in the middle; the distal end showed marked change, with thickening and infiltrated walls. The case proved to be one of chronic interstitial appendicitis with thickening of the walls. The patient made a complete recovery, all stomach symptoms entirely and permanently subsiding.

Case 3.—Miss D., aged 40, had complained of indigestion for fourteen years. She belched gas, had backache, tired quickly, slept poorly and was very much constipated. Physical examination was negative. A continuous pressure over the appendix induced distress in the left hypochondrium. At no time during the past fourteen years had she been well. At operation it was found that the appendix looked quite normal, but that it was somewhat confined by old adhesions. The main pathologic showing was the evidence of long-standing adhesive inflammation, confining the ascending colon from the cecal extremity past the hepatic flexure. Not only was the intestine confined by the membrane, thus limiting its mobility, but it was also divided by several bands of this exudative membrane into what might be called compartments. The operative measures consisted in removing the appendix and freeing the ascending colon and hepatic flexure. The patient has made a complete recovery.

Case 4.—Mrs. K., aged 36, had had stomach trouble all her life. Her appetite was reported to be poor; there was severe distress immediately after meals, belching of gas, flatulency, backache and nausea and headaches; she tired quickly; bowels were constipated. Physical examination proved negative. By a firm continuous pressure over the appendiceal region a pain was induced in the epigastrium; the harder the pressure, the more severe the pain. Inasmuch as the patient had been under the care of several good physicians, I explained that it was useless to endeavor to relieve the difficulty by medication. At operation the appendix was readily exposed; it was found to be 11 cm. (4 inches) in length and somewhat thicker than normal. The mesentery extended the whole length, was short and bound the appendix down to the cecum. Surrounding the appendix were a few slight adhesions. One fairly firm adhesion extended from the tip to the parietal peritoneum, covering the psoas muscle. The walls of the appendix were slightly injected. On palpation the organ was felt to be stiffened, but not markedly so. Around the base of the appendix there was an irregular area in the wall of the cecum which was decidedly thickened and slightly injected; this measured approximately 6 by 8 cm. (2 by 3 inches). The patient made a complete recovery, all digestive disturbances subsiding.

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PROTECTION AND REPAIR OF THE PERINEUM *

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It will not be necessary in discussing this subject to review the entire anatomy of the muscles and fascia, because the anatomy of this region is well known; but in order to make the point that I desire to make in protecting the perineum, it will be necessary to say a word about the superficial fascia.

This consists of two layers, the one continuous with that over the buttocks, thighs and abdomen; the inner layer descends from the abdomen, narrowed to the width of the pelvis, but spreads out so as to envelop the anterior triangle at its base. The abdominal fascia is firmly adherent to Poupart's ligament, and the perineal portion to the outer margin of the ischiopubic rami and the inferior margin of the septum, while the pubic portion is attached along a curved line of the bone, which indicates the origin of the muscles of the anterior part of the thigh. A tubular portion extends backward from the margin of the inguinal ring on each side of the vagina and is known as the pudendal sac; when enveloped with skin it forms the labia majora.

It is not my intention in this paper to discuss seriatim the well-known and generally employed methods of perineal protection, but to outline the system of protection that in my hands has been most successful. I do not assert that I am the first who has ever used this plan — I refer here to that part of the plan that brings more stretching tissue to the perineum — but I have never seen this method used and have never been able to find any description in literature of the method of increasing the quantity of stretching tissue.

I deliver the woman in the lithotomy position with knees bent and feet resting on the bed until the expulsion of the head is about to occur. As soon as the head (I shall discuss vertex cases alone in this paper) begins stretching the perineum, I begin to bathe the perineum with sterile water and compound solution of cresol, using sterile pledgets of cotton and having my hands protected with rubber gloves that have been boiled. As the head begins to appear at the vaginal orifice, I push the anterior vaginal floor backward and upward and at the same time push the occiput toward the bregma, attempting as far as possible to flex the head more and more. If the perineum seems very tight when the head no longer recedes with pains and the perineum is on the stretch, I give obstetric anesthesia, because I want the woman entirely under control for the final delivery. After the patient has been given a little anesthetic I have the nurse extend the legs and at the same time evert the feet, turning the toes out and heels in, bringing the thighs as close together as possible while giving me a place to work. This brings the buttocks on each side inward and makes available more tissue for the perineum. I then push the vulva back from the child's head with sterile moistened pledgets, beginning at the sides and always working between pains. While doing this I am attempting to flex the head as much as possible and to deliver the apex of the vertex between pains. As soon as the apex of the vertex is delivered I have the anesthetic pushed or tell the woman to yell if no anesthetic is used, so that I may have her attention

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* Read before the Medical Society of Virginia at the Forty-Third Annual Session, held in Norfolk, Oct. 22-25, 1912. This paper is a part of the symposium on occipitoposterior cases.

diverted from the vulva. I direct the nurse to continue the position in which the legs are together, with the feet, legs and thighs rotated outward as much as possible, and I try to make my delivery between pains. I give the shoulders of the child the same sort of attention that I give the head, except that more room is needed between the thighs for work in the delivery; therefore I usually support the perineum by drawing forward the buttocks on each side, with my hand.

The advantage of extending the legs and rotating the thighs out is that skin from the buttocks and superficial fascia is put at the disposal of the stretched perineum in a much better way than the obstetrician can do by using the hand. What the perineum needs is more tissue, not more pressure from without. In pressing against the perineum with the legs flexed on the thighs and the thighs flexed on the abdomen we simply render the perineum more bloodless and increase the tendency to tear.

If the perineum seems so tight that a tear is apparently inevitable, then it is best to nick the vagina at the sides. Dr. Kienster says that when the perineum is stretched to its fullest extent the skin and mucous membrane are pulled over the muscles from 2 to 3 cm., so that a cut into the stretched perineum, or better, into the sides of the stretched vagina to that distance on each side, will not cut any muscular tissue.

In the cases that I report in the accompanying tabulation, the patients were seen in private practice or in consultation, and were delivered according to the plan here laid out. Under instrumental deliveries are included versions.

DISTRIBUTION OF PERINEAL TEARS IN ONE HUNDRED AND EIGHTEEN DELIVERIES

				Per Cent.
Instrumental deliveries:				
Primiparas		12		21.8
Tears	10			83.3
Multiparas		6		9.5
Tears	2			33.3
Total instrumental deliveries			18	15.3
Deliveries without instruments:				
Primiparas		43		78.2
Tears	3			6.9
Multiparas		57		90.5
Tears	2			3.5
Total deliveries without instruments			100	84.7
Total number of cases			118	....
Total number of tears	17			14.1
Unconverted occipitoposterior cases	4			....

Olshausen reports unavoidable tears of the perineum in primiparas in 15 per cent. of his cases, Schroeder reports that great care must be taken in primiparas to have as small a number as 15 or 20 per cent. of tears.

I have always repaired the perineum immediately, but must confess that until I adopted the method of repair which I have used in this series of cases, my results were far from brilliant. In the series of seventeen cases I have had but two failures; one was in the most intractable woman that it has ever been my misfortune to attend. The other failure was a tear into the rectum, and even here a moderately good result was obtained with perfect control of the feces and some muscle union. The method was suggested to me by my honored colleague, Dr. Charles R. Robins of Richmond, Va., who outlined the following plan in 1909:

METHOD FOR REPAIRING TEARS OF THE PERINEUM

The procedure is simple; the most important things to consider are a good light and a good exposure of the torn area.

The patient is placed on her back with the thighs flexed on left abdomen and held in place with a suitable support like the Robb-Kelly strap. The vagina is cleansed of clots and the upper part of the vagina packed with sterile gauze or cotton, so as to make the field of operation as bloodless as possible. Then a good light is thrown into the vagina. It is essential for the operator to see what he is doing because the parts are so distorted and bruised that it requires some discrimination to be able to recognize what parts belong together. Robins recommends sewing the mucous membrane and submucous fascia of the vagina to the mucous membrane and submucous fascia of the opposite side of the tear with a continuous chromicized catgut suture. Care must be taken to catch the muscles with the suture. The suture begins at the upper part of the tear in the vagina and is continued down toward the vulva, uniting the mucous membrane and fascia with a continuous running suture, the operator trying to match the part of one side to that from which it has been torn. This restores the shape of the vagina (the vaginal sheath). After the vulva has been reached, the suture and needle are laid in the vagina to be used later to unite the skin with a continuous suture. If there happens to be another tear in the vaginal sulcus or median line, which is almost always the case after the use of forceps, that tear is sewed, the mucous membrane and fascia to the mucous membrane and fascia of the opposite side of the tear with a continuous suture just as on the other side, and when the vulva is reached, the suture is temporarily laid aside.

Then the crown sutures of silkworm gut are put in from the skin surface just as they usually are done, slanting downward and backward; but the rectum should not be entered, as sometimes happens, unless one feels in the rectum with a gloved hand. It is well to pull the wound well forward with the sutures before tying, to see that the perineum is well cared for; then they are tied. The catgut suture that was stopped at the opening of the vulva is then picked up and with a continuous suture the denuded surfaces are brought into apposition and the suture continued down the skin.

If the rectum has been torn, the sphincter ani may be caught and brought together by a silkworm gut suture introduced in the skin just above the rectum, passing through the muscle and out at the other side through the skin. A similar suture just above the mucous membrane of the rectum, introduced from the skin, passing around the tear in the rectum and coming out on the skin of the opposite side, will draw the mucous membrane down like a purse-string.

When the sewing is aided by a good light the result is wellnigh perfect.

The continuous suture brings the denuded and torn surfaces so close together that there is no seeping of lochia or of infectious material and the muscle sutures have a chance to hold.

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EARLY PARESIS

IMPORTANCE OF ITS RECOGNITION; DIFFERENTIAL DIAGNOSIS; MEDICOLEGAL CONSIDERATIONS

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The clinical picture of paresis in the period of its full development is so characteristic and typical that its recognition presents no difficulty in the large majority of cases. The same cannot be said of the prodromal, or earliest stage of the disease, in which the symptoms may be so slight that they can easily be overlooked. Although from its very onset the affection is insidious and slow, it is invariably progressive in its evolution. In some cases the process may be so slow that the earliest manifestations are not recognized and proper measures are neglected, which may lead to deplorable consequences. The patient is permitted and even encouraged to be at large, to travel, to exercise, to undertake great enterprises, to teach, to transact business, to govern and even to make laws. It is only when grave and irreparable errors are committed that attention is drawn to the patient's condition and alarm is sounded.

As an illustration I shall cite the case of a young man who was addicted to venereal excess for several years. When he began to complain of headache and exhaustion on the least exertion, he was advised to lead an outdoor life and to exercise physically as much as possible. The condition naturally grew worse. For days at a time he would be unable to leave his bed. He began to lose interest in his surroundings and to be forgetful. The diagnosis was still "neurasthenia," and he was advised to continue the outdoor life. He took trips in company with a friend, and soon developed attacks of a special nature. Suddenly, in the presence of people, he would exhibit his genitalia. One attack lasted not longer than a fraction of a minute. It was evidently accompanied by loss of consciousness. When he regained consciousness he found himself with the exposed genitalia and could not understand how it happened. Once he was arrested, as an attack happened in the presence of women. The patient's relatives were inclined to consider this new development as a return to his exaggerated venereal tendencies, for which he was well known before the neurasthenic manifestations made their appearance. In reality, this peculiar conduct was a condition of petit mal, and the entire picture of the case was nothing else than the early phase of paresis, as subsequent events proved.

The recognition of the prodromal and of the earliest manifestations of paresis is of the utmost importance, as this malady is of the gravest nature and its progressive course can be delayed only by proper measures taken at the proper time. Experience shows that the so-called remissions, namely, temporary lucidity of mind with general improvements, occur frequently in cases which have been recognized at the earliest possible moment when proper treatment could be instituted. It is therefore highly important to call attention to the initial condition of a paretic long before the gross and evident symptoms of the disease become apparent.

Paresis may begin either with psychic manifestations or with motor symptoms. In the majority of cases psychic and motor symptoms appear simultaneously. In my series of fifty-nine cases studied for a period of several years from the point of view of its early period, thirty-nine patients presented motor and mental phenomena at the same time. Fourteen patients began their paresis with purely mental phenomena and for weeks did not show a single classical motor sign of the disease. In six cases only were the symptoms purely motor before the mental picture commenced to make its appearance.

PSYCHIC STATUS IN EARLY PARESIS

The essential psychic manifestation in early paresis is the slow, irregularly progressive dementia. As the most delicate and the highest mental functions are invaded the earliest, it is evident that they will be more noticeable in persons of culture than in individuals of gross cerebration. It is in the fulfilment of fine acts, those necessitating the most delicate discrimination, that lapses and omissions will be observed.

The most important mental faculty — memory — is usually affected early in the disease. Amnesia may be slight at the onset of paresis, and as it is manifested only at intervals in words or acts, it is overlooked and the patient continues for a long time to do his habitual amount of work. At first the deficient memory concerns only events which have occurred since the onset of the disease (anterograde amnesia), but soon it embraces also the facts which occurred prior to the onset (anteroretrograde amnesia). The patient shows omission in his daily work, and errors in calculating; his writing shows lapses and repetitions in letters, later in syllables and then in words. The amnesia leads to a certain nonchalance and neglect in his own appearance, and a certain lack of harmony in the details of his own manner of dressing. It explains the most absurd and bizarre acts in his behavior. Punctuality and regularity of habits are neglected and the patient becomes indifferent and apathetic. The usual prudence and reservation of language are replaced by a certain loquacity, unreasonableness and paradoxical argumentation. The majority of paretics in the early periods of the disease are conscious of their defect of memory; this was the case in forty-five of my fifty-nine patients. But what is here particularly striking is that they are in no way affected by the amnesia; they are not disturbed by it in the least. They do not endeavor to avoid their errors; they even ridicule their own mistakes and if occasionally a serious mistake strikes their mentality and disturbs them, it is only for a brief period of time. This indifference toward the amnesia is a characteristic sign of early paresis.

Simultaneously with the changes of memory, the character, disposition and the moral personality undergo significant alterations. The previously cheerful person becomes depressed; he is unduly irritable; his mood is changeable; he becomes apprehensive, has morbid fears, and begins to show indifference to everybody and everything that used to be of interest to him; he begins to be neglectful of his duties, of his own home, of his own welfare, of his own appearance. His indolence and apathy continue to increase. The entire picture of the condition is suggestive of the neurasthenic symptom group, but this resemblance is only apparent. A depressed early paretic has usually some neurasthenic manifestations, but also other important characteristic phenomena. The differential diagnosis is here of utmost importance. It will be discussed later.

In other cases a totally opposite condition is observed. The usually conservative man has become exuberant in actions and spirits; he makes ambitious schemes, spends money in an unusual way, and purchases articles which are of no special use to him or to his family. The habitually economical man becomes extravagant and spends money without taking into account his circumstances. This exaltation is manifested not only in the intellectual and motor spheres, but also in the affective sphere. The paretic is self-contented, euphoric and optimistic, and this is manifested in his attitude, language and demeanor. There is a tendency to excess, alcoholic and sexual. As the moral sense undergoes gradual changes, immorality is the natural consequence; sexual perversion is not an infrequent phenomenon in the expansive form of early paresis. The break in the moral equilibrium and the alterations of the entire moral personality occur quite early and long before the intelligence is seriously affected.

The exuberance or exaltation observed in this category of patients lacks in depth; it is superficial, incoordinate, without system and without consequences. The psychomotor faculties are augmented quantitatively but not qualitatively. The expansive early paretic with all his agitation is not capable of accomplishing much. The contrast between what he appears to be able to do or between what he promises to do and what he actually does is striking. He is easily fatigued on the least exertion. He is always ready to undertake work, but as soon as he commences it, he must give it up promptly, as he is physically and mentally unable to persist in it.

On the other hand, the inability of the patient to recognize or to realize his infirmity in spite of his cheerful or exuberant spirit is also a most characteristic feature of paresis. The patient does not appreciate the fact that he is ill, that he cannot continue his usual occupation and that he actually fails in performing his work. The difficulty of comprehension of this morbid symptom is the most striking phenomenon even in the early period of the disease. What is still more pathognomonic in paresis is the precociousness of the defective faculty of criticism, especially of criticising one's own acts and conduct. When patients are confronted with the most objective and most evident manifestations of their malady they are not in the least affected; they do not pay the slightest attention, but rather ridicule them and give the most childish and absurd explanations of them; or else they may at first become serious and apparently affected, but promptly the disturbance is all forgotten. Otherwise speaking, the paretic becomes an altogether different person, without himself noticing it or without being affected by it.

The defective memory, the weakened faculty of attention, of observation, of reflection, of judgment and of criticism, the perversion of the moral sense, of character and of disposition, and the radical change in conduct in comparison with the conduct prior to the onset of the disease, all constitute, especially with the inversion of the affective faculties, the most characteristic psychic manifestations of the early period of paresis.

SOMATIC SYMPTOMS IN EARLY PARESIS

Let us now turn our attention to the somatic symptoms.

There are three groups of somatic manifestations that not infrequently announce the oncoming paresis: apoplectic seizures, epileptic seizures and attacks of aphasia.

The apoplexy may consist only of a sudden mental hebetude or confusion or else of a genuine loss of consciousness followed by monoplegia or hemiplegia with or without aphasia. The apoplectic insult is usually brief and the paralysis accompanying it is temporary and transient; rapid improvement and recovery usually follow. In my series of fifty-nine cases, studied particularly from the point of view of the early paresis, apoplectic seizures occurred in only eleven patients before the characteristic symptoms made their appearance. Some of these patients had at various intervals two or three attacks from which they almost all recovered promptly.

Epileptic seizures are another occurrence in early paresis. They were observed in twenty patients. The petit mal form predominated, although four patients had genuine major attacks of the generalized type. In three patients the sensory localized type was observed. It consisted of sudden paresthesias, such as tingling or burning in one hand, in one leg or on one side of the face, including the same side of the tongue. Some authors report attacks of some automatic movements such as suction, deglutition and mastication. Séglas[1] reports an interesting case of spasmodic contractions of the muscles of deglutition as an early symptom of paresis.

Vertigo is another manifestation in early paresis. It occurs in attacks of very brief duration. Possibly these attacks are but a variety of petit mal.

Aphasia is an interesting phenomenon which occurs in the prodromal period of paresis; it may happen without a hemiplegia or monoplegia. The motor form is the most frequent. In ten of my patients it was exclusively motor. The attack is sudden and rarely complete. It is transitory but it has a tendency to recur. Some of my ten patients had as many as eight and not less than two attacks. Sensory aphasia has been observed by some writers, but then the paretic picture of the oncoming dementia becomes complex, if the impairment of the sensory speech persists.

While in the majority of cases the aphasia is temporary, nevertheless in certain cases actual material lesions have been found in the corresponding areas of the paretic brains (Sérieux,[2] Joffroy[3] and Ballet[4]).

It was interesting to me to observe that those of my patients who presented apoplectic, epileptic and aphasic manifestations developed a more rapid course of their affection than those who were free from those symptoms. Moreover, the usual physical signs of paresis predominated in them over the psychic disturbances.

Charcot[5] as far back as 1887 called attention to ophthalmic migraine as an early sign of paresis. In two of my patients neuralgia of the left supra-orbital nerve was present at the same time as psychic manifestations.

Among the very early somatic symptoms of paresis the most frequent is the condition of the pupils. In fifty out of fifty-nine patients the pupils were found irregular and especially unequal. This in my judgment can be considered as almost pathognomonic of the disease. The sluggishness of the light reflex is another frequent sign although not so frequent as the preceding one.

In a large number of my cases, thirty-nine, various palsies of the external ocular muscles occurred at different times, but in the majority of cases they were only temporary. In some, however, the palsy remained unameliorated. A great many patients complain of gastro-intestinal disorders during the early period of paresis when other neurasthenic manifestations are present.

Forty-five of my patients presented increased patellar tendon reflexes, ten showed markedly diminished and five showed normal knee-jerks. In none of the cases with plus knee-jerks was the Babinski reflex detected, but the paradoxic reflex described by me was present in twenty-three of them. In my previous study of the subject[6] the percentage of the paradoxic reflex was higher, but that study was made on individuals with fully developed paresis.

The characteristic speech disturbance which is so frequently observed in paresis during the phase of full development is but occasionally seen in the early stages. The typical fine tremor of the hands, lips and tongue which belongs to the classical signs of the disease is seen with equal infrequency in the early period, although more frequently than the speech disturbance. In my series only twelve showed a fine tremor of the fingers, but not of the lips or of the tongue.

SUMMARY OF SYMPTOMS IN EARLY PARESIS

The constant and characteristic symptoms of the early phase of paresis are first of all the psychic disturbances, which consist essentially of gradual alterations in the intellectual and moral personality. Lapses of memory, errors in the work which the individual has been accustomed daily to perform, rapid loss of acquired habits, indolence and indifference to the once dearest and nearest as well as to his own personality, loss of the usual prudence and reservation, defect in moral conceptions, together with either a state of depression or else exaltation accompanied by an unusual euphoria and optimism, are the conspicuous signs indicative of oncoming paretic dementia. The peculiarities which particularly characterize the early paretic are, first, his inability to recognize the morbidity of all these alterations in his personality, and second, the total lack of criticism of his own acts and conduct.

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[1] Séglas: Semaine Méd., January, 1899.

[2] Sérieux: Rev. Neurol., 1900, p. 258.

[3] Joffroy: Bull. et mém. Soc. méd. d. hôp. de Paris, 1902.

[4] Ballet: Rev. Neurol., 1900, p. 346.

[5] Charcot: Leçons du Mardi à la Salpêtrière; Policliniques, 1887-1888.

[6] Gordon, Alfred: Jour. Nerv. and Ment. Dis., 1907.

The apoplectic, epileptic and aphasic manifestations must be of brief duration to be characteristic of early paresis. The inequality and irregularity of the pupils are other diagnostic signs of the early period of paresis.

The knee-jerks are frequently altered, but they do not constitute a characteristic feature for diagnostic purposes.

DIFFERENTIAL DIAGNOSIS

Paresis may begin with pronounced somatic manifestations, such as epileptic or apoplectic seizures. When the latter are brief in duration and repeat themselves quite frequently and remain persistent, an oncoming paresis should be suspected. In the majority of cases the onset is insidious and slow, particularly in the depressive form. In such cases the symptom-group resembles at first glance that of neurasthenia. In my series of fifty-nine patients, twenty-two were considered as neurasthenics and treated accordingly. It is therefore highly important for practical purposes to consider the symptoms common to both affections and to emphasize the differentiating features.

First of all, the general asthenia, some impairment of memory, the irritability of character, the loss of energy and ambition are all manifestations observed in both maladies; but a closer discrimination will reveal a fundamental difference. A neurasthenic is capable of presenting a detailed account of his ills. He exaggerates his symptoms, it is true; nevertheless they are recited in the most connected manner. The patient repeats his recital often, but this repetition is not because of a genuine amnesia, but because he is anxious to analyze his troubles and to draw his physician's special attention to them. Otherwise speaking, the neurasthenic appreciates his illness keenly. The early paretic is incapable of giving a connected history of his trouble. He frequently interrupts his speech and forgets what he said previously. When reminded he does not attach any importance to it. It is exceedingly easy to make him change the train of his thoughts, which are indeed unstable. Frequently the expression of his face does not correspond to the subject of his conversation, as for example one of my patients showed a smile on his face while speaking of the death of his beloved son. Such a contradictory attitude betrays the fact that, contrary to the neurasthenic who, as I have said, appreciates keenly his trouble, the early paretic is incapable of recognizing properly the ills of which he speaks.

The true neurasthenic becomes easily tired out both physically and mentally. His mental operations are readily exhausted on effort but not disturbed or modified. The paretic, on the contrary, presents genuine diminished intelligence. Besides the above described want of power of criticism and of judgment, the change of the moral personality, the grave omissions and errors in his daily acts and conduct are additional symptoms which will enable one to recognize an oncoming paresis in spite of the presence of neurasthenic symptoms.

There is another method which renders great assistance in making a diagnosis of paresis in its initial period. I wish to speak of the cytologic examination of the cerebrospinal fluid. The lumbar puncture inaugurated by Quincque in 1891 was utilized first by F. Widal and Ravaut for diagnosis of paresis. In normal persons or even in persons with functional nervous diseases, such as neurasthenia, the cerebrospinal fluid fails to form a sediment on centrifugation, or at most but a few isolated leukocytes can be seen under the microscope. In paresis to each hundred leukocytes eighty-five or ninety lymphocytes are found. It has been proved that this lymphocytosis is one of the most precocious signs in paresis. All of my patients presented these findings, with the exception that in forty-seven the first puncture gave immediate positive results. The remaining twelve did not show lymphocytosis at the first, second and even third punctures, which were made at intervals of two, three and four weeks. It can be safely asserted that lymphocytosis of the cerebrospinal fluid is a valuable diagnostic element in cases presenting some difficulty in the differentiation of early paresis and ordinary neurasthenia.

The Wassermann test is another valuable aid in diagnosing paresis. It is pretty well established that in the largest majority of cases of paresis, syphilis is the original cause. This belief finds its strongest corroboration in the discovery of fixation of complement as described by Wassermann. The consensus of opinion concerning this new test is that diseases in which it is found to be positive have a syphilitic origin. On the other hand, in parasyphilitic diseases, such as tabes and paresis, the Wassermann test has been found positive if the patients are not under antisyphilitic treatment. The test can be made either on the blood or on the cerebrospinal fluid. Irrespective of some difference in the findings when practiced on both fluids, it can be safely asserted that when difficulty arises in establishing a differential diagnosis between initial paresis and ordinary neurasthenia, the positive Wassermann test will be found of great utility.

Noguchi has recently introduced a precipitation method which is also pathognomonic of syphilis as an underlying cause. If to 0.1 c.c. of cerebrospinal fluid 5 c.c. of 10 per cent. butyric acid are added and after the mixture is boiled for a minute, 0.1 c.c. of normal sodium hydroxid solution is added and again boiled, a heavy flocculent precipitate (globulin) will form. According to Noguchi the test is positive in 90 per cent. of cases. Ross-Jones simplified the test. He obtained a precipitate when to 1 c.c. of cerebrospinal fluid 2 c.c. of saturated solution of ammonia sulphate are added; a network ring is obtained within three hours.

We are in possession therefore of three valuable diagnostic methods when we are confronted with a difficult problem of determining, as it sometimes happens, whether we are dealing with an incipient paresis or an ordinary neurasthenia. Cytologic examination of the cerebrospinal fluid, the Wassermann test of the blood and of the cerebrospinal fluid, and the Noguchi test for globulin, with Ross-Jones' modification of the latter — all are methods which have been adopted and proved to be of great assistance.

If the differential diagnosis between paresis and ordinary neurasthenia presents in many cases no special difficulty, the same cannot be said of cerebrospinal syphilis. The latter sometimes simulates paresis. In both affections the neurasthenic symptom-group exists. Cerebral syphilis produces a profound neurasthenic state, which resembles appreciably the initial stage of paretic dementia. At this stage the difficulty may be quite considerable and for a long time the diagnosis may remain uncertain. This is particularly so when in both affections Wassermann and Noguchi tests are positive because of their common etiology and when in both affections lymphocytosis of the cerebrospinal fluid can be found. The laboratory tests are therefore of no great utility for the differentiation of these two affections. We must therefore look for assistance to the general picture and the evolution of the symptoms. In cerebrospinal syphilis at the onset we find a marked diminution of intellectual functions. Moreover, the onset is usually acute. In initial paresis the onset is slow and insidious and the intellectual defect is less marked at first. In the first disease at the beginning there is severe headache, usually localized in the frontal region and aggravated at night. The headache is continuous and may last for weeks. Headache, especially of this nature, is not encountered in paresis. The psychic symptoms consist of intellecutal inertia, profound apathy, somnolence, which is quite pronounced, and a special dulness in the facial expression. Such a picture is certainly different from that we see in initial paresis. Besides, there is never the optimistic carelessness and general exaltation in the motor and sensory spheres, which are observed in the expansive form of paresis. An interesting feature worth mentioning is the fact that alongside of the apathy and loss of memory the reasoning power may be totally preserved, a fact which is not observed in paresis.

Cerebrospinal syphilis is usually accompanied by local symptoms. In the first place and very early, ocular changes, such as optic atrophy, contraction of visual fields, hemianopsia, etc., develop. Palsy of other cranial nerves, symptoms of spinal cord involvement, such as exaggerated knee-jerks, the toe phenomenon, ankleclonus, changes in the sensations in the limbs, such as hyperesthesia or hypoesthesia, and symptoms pointing to the involvement of the sphincter of the bladder, are the local manifestations showing a simultaneous involvement of the cerebrospinal axis. In early paresis these symptoms are all wanting and the somatic symptoms are few in number.

The course of cerebrospinal syphilis is characterized by great variability and mobility of the symptoms, which become either exaggerated or ameliorated. In early paresis the course is very slow and invariably progressive. The antisyphilitic treatment has a remarkably rapid effect on the symptoms of cerebrospinal syphilis. The psychic as well as the local symptoms rapidly improve and even disappear. Such a course of events is not observed in early paresis. To sum up, we may say that the richness of symptoms in syphilis is such that with a minute analysis it is possible in almost every case to reveal some particular feature indicative of the existence of a localized focus in the brain and in the spinal cord. The incomplete, unequal and regressive character of cerebrospinal syphilis is different from the global and progressive character of paresis. Finally, the variability and capriciousness of the symptoms are typical of syphilis.

There are two other affections which sometimes present diagnostic difficulties in differentiating from early paresis. They are alcoholism and chronic lead intoxications.

In alcoholism there is always present a history of the use of alcohol during a long period. Besides, the association of tremulousness of the hands, various paresthesias in the extremities, cramps in the calf-muscles, and the characteristic facies are not observed in the initial stage of paresis. The alcoholic subject usually suffers from hallucinations of terrifying nature which become accentuated at night. He usually appears brutal and stupid, but not demented. The paretic in the early stages presents a reverse condition. The alcoholic appears sad and preoccupied, the early paretic indifferent and apathetic. The alcoholic usually becomes delirious. In early paresis delirium is a great rarity. If an alcoholic develops expansive delusions they have to be brought out and can be ascertained only on a skilful questioning of the patient. The paretic is eager to speak of them and does it unsolicited.

The early paretic usually has no special changes of his speech, but if he develops them early, the speech is ataxic, full of the repetition of syllables and words. The speech of the alcoholic is merely embarrassed, thick and tremulous.

An important differential test consists in the withdrawal of intoxicants. As the manifestations of alcoholism depend on the toxic element consumed by the patient, they naturally present a progressive amelioration and may even totally disappear, if the patient is deprived of alcohol. In paresis, on the contrary, the symptoms remain and follow a gradually progressive course. Finally, in alcoholism no lymphocytosis of the cerebrospinal fluid is observed and both the Wassermann and the Noguchi tests are negative. In paresis both are positive and lymphocytosis is present in the majority of cases.

Undoubtedly there are cases of chronic alcoholism which especially by the psychic manifestations, the attitude and the facies of the patient may strongly simulate or mask an oncoming paresis. In such cases we sometimes experience great difficulty in making the proper discrimination. A prolonged and close observation under the guidance of the above-emphasized rules will enable one eventually to arrive at a definite conclusion.

Lead intoxication (chronic) presents a symptom-group designated as encephalopathy. The resemblance between lead encephalopathy and early paresis may sometimes be very striking, especially by the psychic manifestations. In both affections a neurasthenic state and mental attitude are observed suggesting an oncoming dementia, but in encephalopathy the dementia seems to dominate the entire situation from the onset. The array of physical signs, such as the cachectic appearance, difficulty of speech of gross nature, motor disorder of paralytic nature affecting chiefly the extensor groups of muscles, abdominal colic, severe headache, the blue line on the gums, frequent occurrence of interstitial nephritis with albuminuria, and arteriosclerosis are all symptoms which rapidly develop in lead encephalopathy and which are not found in the initial stage of paresis. Finally, the regressive evolution of symptoms after the appropriate treatment has been instituted and the patient had been removed from the toxic influence is one of the most characteristic differentiating evidences of the pseudoparesis caused by lead intoxication. We have seen that in essential paresis the disturbances are fundamentally progressive.

MEDICOLEGAL CONSIDERATIONS

When paresis is in its phase of full development, when the patient develops delusions, when his morbid conduct is so evident as not to be overlooked by a lay mind, the patient's irresponsibility is obvious and any juror can readily be convinced of the mental incapability of a paretic. This is not the case with early paretics. By reason of gradually developing moral and affective perversions which announce the onset of the disease the initial period of paresis is the real medicolegal period.

It is then that misdemeanors are frequently misinterpreted and that the individuals are sent to prison. It is a well-known observation that early paretics not infrequently marry. The new life the patient leads in association with sexual excesses aggravates the condition. It is then that revelation made by the physician as to the preexistence of the disorder is viewed distrustfully by the patient's family. The latter especially we have great difficulty in convincing. The reason lies probably in the unconscious and progressive adaptation of the relatives to the equally unconscious and insidiously progressive deterioration of the mental faculties of the patient. As long as the patient automatically carries on his former habits and other acts concerning his usual occupation, he continues to live among his people. The lapses of memory, the digression in his conduct apart from his regular work, the changes of his character or sentiments, are all attributed to fatigue or absentmindedness. Notwithstanding the fact that the previously economical man commences to dissipate, that the sober man abandons himself to excesses, frequents undesirable places and associates with undesirable persons, and that the refined and educated man commits grave infractions of rules of politeness and surprises his friends with marks of indecent manners, early paretics are not infrequently permitted to have liberty of action and to continue in their responsible positions such as banking, teaching, engineering, conducting a train or a ship, etc., until misconduct occurs which results sometimes in the loss of lives. The psychologic automatism by virtue of which ordinary acts of life may be executed correctly for a long time is dangerously misleading in the early period of paresis. It is at this period that illegal acts and crimes are most frequently committed. Its recognition and proper interpretation is a matter of grave importance from a medicolegal point of view.

Twelve of my fifty-nine patients have been arrested on several occasions for petty crimes. Repetition of the misdemeanors was striking; the patients apparently had some difficulty in appreciating the enormity of their illegal acts. One of them walked out on the street almost nude. Another ordered an elaborate meal in a fashionable restaurant, refused to pay for it and struck the waiter when the latter presented the bill. Some of these patients committed theft of objects of the most insignificant nature and carried them away with most astonishing lack of precaution against being caught. For example, one of them walked into a dry-goods store, picked up a bundle in the presence of salesmen and walked out. In spite of this evident abnormality of the act it was difficult to convince his wife and his mother that the man was developing dementia paralytica. Fraud, forgery, abuse of confidence, assault, exhibitionism are all apt to be committed by a person with commencing paresis.

It is evident that civil capacity and legal responsibility should be considered as having no existence as soon as the earliest signs of paresis begin to make their appearance. Alterations of affective faculties, no matter how slight they may be, deserve to be viewed more seriously than their superficial appearance indicates.

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Sociologic Aspect of Insanity and Allied Defects.—A feature of imbecility not emphasized by humanitarians is the physical suffering entailed throughout life to the individual. Mental weakness implies low vitality with invited disease and chronic invalidism, the prevention of which is legitimate.—Hubert Work in *Am. Jour. Insan.*

SEX INSTRUCTION IN SCHOOL

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About five years ago a teacher in one of the Cincinnati schools applied to the superintendent to have a woman physician give talks to her girls on matters of sex. The request was an unusual one (at least it was at that time) though, unfortunately, the conditions that led to it are not uncommon. The school is in a slum district. The pupils had the usual qualities of American children; they were mostly pleasant, wide-awake and the like. The bad feature presented was the low moral tone. Not alone were there frequent manifestations in words and acts that betoken the impure mind, but also not a few among them were known to be immoral.

The children constituted the highest two classes in the school, the grades belonging to the intermediate or grammar school. They were from 12 to 16 years of age. The number of older pupils was probably due to the character of the neighborhood, that is, the presence of factories and saloons and many families of a low grade of morality.

The result of this application was a course of sex instruction given to both girls and boys by Dr. Nora Crotty and myself. Dr. Crotty gave fifteen short talks to the girls on cleanliness, character, heredity, anatomy of the pelvic organs, the menses, reproduction in plants and animals, infectious diseases, and womanhood and motherhood. I gave three talks to the boys and girls together on hygiene, habit and alcohol; and a talk to the boys alone on the origin of life.

The account of this course of instruction and my talks in full are given in a book of mine,[1] which appeared a few years ago. I wish now to speak only of the results of the instruction.

First, the atmosphere of the schoolroom became altogether different. The children were more cleanly. There were no more furtive smiles, secret messages and clique forming. The girls had a new sense of self-respect, and demanded respect from others, which had been sadly lacking. A striking fact was that the boys would have nothing to do with a new boy, and cut his acquaintance altogether, because he tried to pass around some obscene literature. Hitherto free circulation of this kind in the class among both boys and girls had been one of the sore trials of the teacher. All the children entered into new confidential relations with their teachers.

The influence of the instruction was also felt outside of the schoolroom; the children carried that influence with them. The girls seemed to watch over the girls of the lower grades. In a number of instances, by their reports to the teacher, they tried to keep younger girls from getting into trouble. The children showed their influence, too, in the disappearance of vile writing from toilet-rooms and elsewhere, which had been a source of great annoyance in this school, as it is in many others; and it did not reappear in the years that followed.

Possibly the greatest change in the children was noted in their own homes. Many parents, mostly mothers, came to school to thank the teachers for what had been done for their children. A father came to thank the teacher for, as he said, saving his daughter.

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[1] Zenner, Philip: Education in Sexual Physiology and Hygiene, Cincinnati, 1910.

The teacher also observed that the girls stopped going to places that had a corrupting influence.

Great as were the benefits to the children at the time, the important question is, Did the instruction have a permanent influence on their lives? To obtain as definite an answer as possible to this question I requested the teachers to ascertain the condition of those children at present, and it is because of the results of their investigations that I am making this report.

The two teachers of these classes, a man and a woman, were noble-hearted, whole-souled and deeply interested in their pupils. They have kept somewhat in touch with the children since those school days and they believe that they have their confidence so fully (this confidence had been especially given to them after the course of sex instruction) that they have been able to read deeply into their hearts and can give a true report of their thoughts, habits and lives.

The investigation was made four and a half years after the sex instruction had been given. The larger number of the children of those days are now young men and young women; some are in various occupations; a few are in college; not a small number are married.

The teachers succeeded in finding and learning the present state of from one-third to one-half of their number. The benefits from the course of instruction noted at the time have continued to a large extent; so far as these years have told us, they are lasting.

The teacher believes that the girls, with one exception, have lived clean lives and kept pure minds. As was to be expected the report of the boys is not so favorable; but, especially considering their history and environment, the number with good habits, clean lives and pure thoughts is remarkable. They make a much better showing than does the average of young men.

As in their school days, so, also, in the following years they have carried the good influence with them. They have been missionaries for the cause. They try to impart to others the lessons which were given them. They often speak of this course of sex instruction and say that they wish others could also have heard it.

There is scarcely any other result of the instruction more valuable than this, that the children should have become the protectors and guardians of others, instead of, as is so common, their corruptors.

The history which I have given shows what school instruction may do, and I believe is a strong argument for universal sex instruction in school.

There are many who do not believe in sex instruction for the young. They wish thereby to delay the awakening of sexual life. But they fail utterly in their purpose. With rare exceptions the child acquires knowledge, usually early, from bad sources and of a perverted kind. This knowledge, acquired secretly and brooded over in secret, is the very kind to hasten the awakening of the sexual life and to exert a bad influence over it. On the other hand, if the child be properly instructed, if it be given such knowledge as satisfies its craving and supplies its needs, it has the opportunity to grow up with pure thoughts and with its mind dwelling little on sexual matters, so that the awakening of the sexual life is rather delayed than hastened.

Again, there are many who believe that sex instruction should be given in the home and not in school. It is true that the right instruction at home is the best the child can have and that none other can take its place. The parent should know best the child's needs and how to fill them, and, furthermore, this instruction, rightly given, is likely to give the child such confidence in its parent as will insure its future safety. This is no light matter. The young are constantly being contaminated by the young. A single child may ruin a whole school, but if one of the number should make an utter confidant of its parent this harm might be largely averted.

It is usually the mother who teaches her children, but when the father thus teaches and gains the confidence of his boys he may be an untold blessing to them.

Does it follow that, because home teaching may be of inestimable value, there should be no sex instruction in school? Surely not. There are to-day few parents who thus teach their children, and still fewer who do it well. While this number is increasing it will remain a comparatively small number, at least in our generation. So, if there be nothing else, the great mass of children will receive no right sex instruction. The wide-spread immorality among them, the grave menace to mankind of social disease because of which the great need of sex instruction has been so acutely felt, will not be lessened appreciably by that instruction if it be limited to the few who receive it at home. Nor is this a matter of indifference to this favored few. There is no greater life influence than the beliefs, sympathies and actions of one's associates, and children who have been rightly instructed at home in many instances will have their lives marred by those who have not received such instructions.

Even though sex instruction in school may mean so much we must still pay some heed to those who object to it. Undoubtedly the teaching may do harm. The mode of teaching may be such as to influence the child unfavorably rather than favorably, or the facts or ideas imparted may be such that the parents may rightly object.

There should be prepared and competent teachers for this instruction. The time may come when they will be prepared by normal schools and universities, but for this we have long to wait. In the meantime the aim must be to have teaching done which can do only good and not harm.

A method has occurred to me by which possibly this object can be attained. It applies to class instruction, but the greater part of such teaching that need be given in school can be given in the class.

The lesson in each instance should be a prepared one. The teacher, whether school teacher, physician or any other, should recite it to the assembled parents, with possibly the superintendent, a physician or other supposed expert in the audience. Only if it be satisfactory to this gathering should the lesson be given to the class.

Such a procedure would have various advantages. It would be a reasonable assurance that the teaching would do no harm. It would remove the antagonism of the parents to such instruction, which is now its chief stumbling-block. The teacher might receive suggestions from his audience which would help him to make the lesson more valuable. Finally, the lesson might be a great source of instruction to the parents, often enabling them to teach their children rightly at home. The method might have the drawback of calling the child's attention to the subject before the lesson is given, or of leading it to dwell unduly on it, but this should be avoided by care and tact on the part of teacher and parents.

To many the public discussion of sex matters is distasteful; and it is not without its possibilities of harm. There is but one justification for bringing the subject into the lime-light—the pressing danger which silence has brought with it. The great menace of social disease has compelled the medical profession to discuss the matter with the people, to bring knowledge to them which will arouse them to action, lest it deteriorate the whole human family. If, however, sex instruction in school accomplishes what is hoped from it through the knowledge it imparts and the high ideals it creates, and greatly lessens sexual vice and sexual disease, there will be no need of constantly bringing these matters before the public, which will be another great gain to the credit of sex education.

INVOLVEMENT OF THE OVARY IN EPIDEMIC PAROTITIS

WITH A REPORT OF TWO CASES

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Although text-books in general mention the fact that involvement of the ovary is an occasional complication of epidemic parotitis, actual cases are apparently so infrequent as to have escaped the observation of many practitioners. Osler, for example, Flint, Kelly and many other authors of like wide experience state that although it may occur, it is extremely rare, an opinion also voiced by Hutinel,[1] who in his discussion of mumps and its complications cites but two actual cases.

Jules Comby, in his classical account of this infection,[2] has been able to collect records of but five instances in which this complication has been definitely reported (Rizet, two patients, one aged 29, the other 32; Meynert, patient aged 16; Boutillier, patient aged 6, and Vogt, patient aged 11).

Among other instances which I have been able to find in the relatively recent literature is that reported in 1853 by Meisnhardt, who had observed the condition in a girl of 16. This case, however, admits of some question because of the somewhat superficial method of determination and also because an abscess formed, supposedly in the ovary; this was opened and drained, and recovery followed. Inasmuch as this is the only instance reported in the literature in which metastatic pus formation took place in the ovary, although several instances in which suppuration has taken place in the male sexual gland are recorded, Meisnhardt's case cannot be definitely accepted, and the possibility of a concurrent appendicitis or salpingitis is suggested.

A. Snead[3] reports a probable case in which it was asserted that there was uterine as well as ovarian involvement. In 1852 Fisher[4] records a case in a girl of 17 years in which the left ovary became involved eight days after the primary onset of the disease. McNaughton also quotes Weil as reporting a case in a girl of 10 years.

Since McNaughton's last discussion[5] of this subject in the course of which he records an additional case in a girl of 18, little concerning the complication appears in the literature, and search of the *Index Medicus* after this date shows no new cases. This, taken in consideration with the relatively few instances previously placed on record would apparently indicate that the complication is, indeed, of great rarity; yet Troitsky,[6] in a study of an epidemic of thirty-three cases of mumps occurring in a group of young girls, found the complication present in thirteen instances. Judging from a translation of Troitsky's article, however, a possibility of mistaken diagnosis in at least some of his instances would seem likely on account of the uncertain methods of diagnosis, which necessarily could be applied only in the young children of his group (from 9 to 15 years).

Renon,[7] in reporting a case in a girl of 14 years, calls attention to the difficulty which may occur in the differentiation between this complication and appendicitis occurring in mumps. This possibility is perhaps further illustrated by Case 3 in Bunts' discussion,[8] "Parotitis Complicating Appendicitis."

For the reason of this apparent infrequency and because of the possibility of diagnostic confusion, I wish to place on record very briefly the following two instances which have occurred in my private practice:

Case 1.—The patient was a healthy multipara aged 28 years. The parotitis was unilateral, confined to the left side and not very marked. The chief secondary involvement was of the submaxillary gland on the same side. This case was characterized throughout by its high temperature which was associated with slow pulse (temperature of 104 with pulse of 100), lack of prostration and by the fact that seven days after the swelling of the salivary gland the ovary on the same side became enlarged, very painful and extremely tender, so much so that an initial diagnosis of salpingitis with ovarian tumor was entertained. This instance was further complicated by an old mitral endocarditis, the symptoms and signs of which became markedly exaggerated during the course of the infection.

The severe ovarian pain subsided somewhat after two days, and was followed by a menstruation ten days before its normal occurrence and rather more profuse than usual. At the conclusion of this flow the ovary was found much reduced in size and tenderness, though still painful and enlarged.

This patient has now been lost sight of, but she did not become pregnant during the five subsequent years, during which time she was under occasional observation.

Case 2.—A married nullipara, aged 24, developed a double-sided epidemic parotitis of moderate degree. The temperature did not at first exceed 101 F., with a proportionate pulse-rate, and the patient was with difficulty persuaded to remain in the house. Five days after the appearance of the parotitis she was acutely attacked by excruciating pelvic pain on both sides. Local examination showed both ovaries to be enlarged to masses the size of a large hen's egg, exquisitely tender and very painful. The temperature had now reached 103 by mouth, and a proportionate pulse-rate was present. Two days later both mammary glands became greatly swollen, red, tense and very painful, the nipples became inflamed and the weight of the unsuspended breasts was so great that the patient was obliged to have them supported by dressings. Bandaging and the use of cold compresses caused rapid subsidence of the mastitis, and after one month's time the patient was entirely well.

This woman has since remained under occasional observation for over six years. Her menstrual epochs have remained regular, painless and entirely natural, she has presented no symptoms of ovarian disease and local examination discloses no abnormality, though both ovaries are easily palpable. She has not become pregnant, but this may be due, not to a hypothetic ovarian atrophy such as might from analogy be expected to occur as a sequence of so marked ovarian inflammation, but to the fact that her husband presents a case of incompletely treated syphilis. It is noteworthy, however, that the breasts, which were formerly full, firm and well-developed, are now soft, atrophic and flabby.

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[1] Hutinel: Med. Press and Circular, 1911, xci, 54.

[2] Comby, Jules: In Twentieth Century Practice of Medicine, xiii, 583.

[3] Snead, A.: Stethoscope and Virginia Med. Gaz., June, 1851.

[4] Fisher: Mag. f. d. ges. Heilk., 1852, xv.

[5] McNaughton: Pediatrics, 1903, xv, 263.

[6] Troitsky: Vratch, 1902, i, No. 15.

[7] Renon: Bull. et mém. Soc. méd. d. hôp. de Paris, 1903, Series 3, xx, 1361.

[8] Bunts, F. E.: Am. Jour. Med. Sc., 1904, cxxvii, 803.

When one considers the great frequency with which involvement of the testes occurs in mumps, as high as 50 per cent. in some epidemics (Servier), one cannot but be surprised that the sexual gland of the female so commonly escapes. Benjamin Bourgeois[9] and McNaughton believe this not to be the fact, but attribute the reported infrequency of the complication to the difficulties of diagnosis or to the fact that it is not searched for as a routine matter.

Troitsky intimates the same opinion; at least we may clear him of this accusation since in an epidemic of thirty-three cases he observed more instances of ovarian involvement than have been reported together by all other observers before and since his study. Since having seen the cases above recorded I have been constantly on the lookout for the complication, and in a reasonably large material I have as yet not again found it although I believe it to be doubtless more frequent than recent literature would indicate, perhaps partly because those most likely to see such cases, that is, family practitioners, are least likely to consider them of sufficient importance to record.

It is not unlikely that the protected location of the ovary within the peritoneal cavity is largely responsible for the infrequency of this metastatic involvement, for I assume it to be axiomatic that traumatism of the testes, even though very slight, predisposes toward the development of orchitis in mumps; this factor is practically eliminated in the female.

It is incorrect to assume generalities from so small a group of cases, but prognosis based on a study of all recorded instances of the complication would apparently fully bear out the statement of Trousseau that involvement of the ovary is not only a rare but also a benign complication of mumps.

All the recorded cases have developed in children or young girls except the two instances of Rizet and those reported by me. Again this is most likely accounted for by the greater frequency with which young persons, and especially girls, are likely to acquire the infection.

As in one of my cases, those occurring after puberty have resulted in temporary menstrual disturbances, most frequently a single, too early or too profuse flow; but as in my instances, permanent irregularities in this respect have followed in none. This point is probably of some importance in the question as to the possibility of permanent disease of the ovary following this lesion.

In none of the cases, save my own, has any statement been made as to subsequent fertility, and in no instance has a pathologic study of the diseased gland been made; none the less, if it is assumed, as seems justified, that the metastatic process is a simple inflammatory one, or as McNaughton assumes, a perioophoritis, and if the structure of the ovary is borne in mind, it seems unlikely that the complication should result in any serious interruption of ovarian function. This assumption would appear to be well founded from a multitude of studies on probably analogous inflammatory conditions of the ovary, even though considerable gross atrophy and fibrosis occur. This is in direct opposition to the effects of mumps on the male sexual gland, in which a sterilizing atrophy frequently appears when the complication is bilateral.

Although I am of the opinion that ovarian involvement in epidemic parotitis is more common than the literature of the subject would indicate, it is nevertheless infrequent. The complication is probably innocent and unlikely to cause either immediate or ultimate lesions of serious nature.

This report is made in the hope that it may stimulate others of wider experience in this infection to record instances of ovarian involvement in mumps so that a true estimate of its frequency and a more certain knowledge of its effects may be arrived at.

44 West Ninth Street.

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[9] Bourgeois, Benjamin: Graduation thesis, Paris, 1888.

ARTERIOVENOUS ANASTOMOSIS

SUCCESSFUL REVERSAL OF THE CIRCULATION IN ALL FOUR EXTREMITIES OF THE SAME INDIVIDUAL

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A controversy with one at such a great distance as Professor Coenen of Breslau must of necessity be rather unsatisfactory, yet I cannot permit his statements as to the impossibility of complete reversal of the circulation in a limb to pass unchallenged. Coenen and Wiewiorowski[1] set forth a great array of experimental work denying the possibility of resuscitating an extremity threatened with gangrene by arteriovenous anastomosis. And in addition to their experimental work, they reported one case clinically unsuccessful.

Following that publication, having done considerable experimental as well as clinical work on the subject myself, I collected and reported[2] all the cases of reversal of the circulation to be found in the literature — including six of my own — fifty-two in all. The evidence I gathered, while admittedly discouraging, had several points of interest, and, all things considered, held out hope of better things to come. Fifteen of the operations were successful, a percentage, small though it may be, that would seem to controvert Coenen's views as to the impossibility of the procedure on physiologic grounds.

But perhaps the most important point brought out in my paper, at least to my own mind, was the fact that these fifty-two operations had been done by thirty-one different men, a fact which at once accounts for a considerable number of the failures. Vascular surgery is as yet in its infancy and at present ranks as the most difficult and trying branch of surgery. No one surgeon in this or any other country has had sufficient clinical experience to justify a comparison of clinical with experimental work. And right here is where Coenen makes his greatest mistake. Many things are possible and easy of execution in the laboratory, but most difficult, or well-nigh impossible in the operating-room. The converse is equally true.

But if there is one thing that has been learned about blood-vessel surgery in the laboratory which can and must be transferred *in toto* to the operating-room, it is the technic. So when Coenen in his latest article on the subject of arteriovenous anastomosis[3] uses Luxembourg's case[4] and conclusions to support his contention as to the impracticability of the procedure, I think that he lays himself open to criticism as regards his fair-mindedness. No unbiased observer can read the story of Luxembourg's case without coming to the conclusion, whether correct or not, that had there been more laboratory work the gross technical blunder committed—a blunder that certainly doomed the case to failure the moment it occurred—would have been avoided. The subcutaneous hemorrhage which occurred on the day following operation and necessitated opening of the wound almost certainly came from the site of anastomosis. But whether it did come from there are not, it should not have arisen—and this, too, could have been prevented by work in the laboratory, for perfect hemostasis is a prime requisite for success in this branch of surgery above all others. The wound infection, with its resulting sepsis and death four weeks after operation, needs no comment. Gross technical error in suturing the vessels, postoperative hemorrhage, wound infection, general septicemia—what more does a thrombus[5] need for its formation? What right had Luxembourg to come to any conclusions as regards arteriovenous anastomosis other than that his next case should find him better equipped to do the operation as it should be done? Thirty-one different operators performed the first fifty-two operations of reversal of the circulation, and I venture to say that most of these operations, or at least many of them, were as unfortunate as the operation just cited.

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[1] Coenen and Wiewiorowski: Beitr. z. klin. Chir. (Bruns'), 1911, lxxv, 1.

[2] Bernheim, B. M.: Ann. Surg., February, 1912, p. 195.

[3] Coenen: München. med. Wchnschr., 1912, No. 29.

[4] Luxembourg: Deutsch. Ztschr. f. Chir., 1912, cxiv, 523.

Once again let me call attention to the fact that judgment as to the possibility of this operation should be withheld until a sufficient number of operations have been done by surgeons especially skilled in vascular work to justify a really unbiased analysis. And the point next in importance to the skill of the operator is the difficulty of selection of suitable cases. Most of the cases of gangrene or threatened gangrene referred to me for operation have been seen so late in the course of the disease that a blood-vessel operation has been out of the question. And I hardly believe that our cases in Baltimore run any differently from those seen elsewhere. Nor can it be said that I am displaying any lack of enthusiasm or am "protecting my average," for I have even gone so far in doubtful cases as to dissect out the vessels, vein as well as artery, and examine them with a view to doing an anastomosis before resorting to amputation. Enthusiasm is a wonderful asset, but the most enthusiastic cannot rejuvenate sclerosed or thrombosed blood-vessels, and the sooner this is realized the better it will be for all concerned.

Further clinical evidence against Coenen is slowly but surely accumulating. Another successful case has been reported[6] by Davies of London. An end-to-end anastomosis was done between the femoral vessels for real gangrene of the left toes and foot and threatened gangrene of the whole lower limb. Six months after operation, the patient was able to walk with comfort, although he had had a chilblain of the left great toe since his discharge from the hospital, four months previously.

Davies feels about as I do in regard to this operation of reversal of the circulation. He says:

> It must be remembered that the number of patients on whom the operation of arteriovenous anastomosis for gangrene has been done is small, and that greater experience is required to determine the choice of case and of technic. The operation is not an easy one and the technic employed for controlling the hemorrhage and for uniting the vessels has varied greatly. There is no doubt that many of the cases operated on were not suitable on account of the state of the gangrenous part, the extent of the thrombosis, the advanced age or the bad condition of the patient.

As a conclusive point in proof of my contention that this operation, other things being equal, can be successfully performed, I wish to submit the latest report of one of my cases, previously described.[2] It will be recalled that arteriovenous anastomosis was performed on the left leg of the patient in February, 1911, and on the right leg in May of the same year, both operations being successful. The condition was Raynaud's disease and the patient a white woman 26 years of age.

Early in 1912, the same condition—pain, actual and threatened gangrene—necessitated reversal of the circulation in both arms. This was done on Jan. 23, 1912, in the left arm and on March 5, 1912, in the right arm, the last operation being urgently requested by the patient. Operation was successful in each instance, the brachial artery and vein being united by lateral anastomosis.

At the time of operation on the left arm, the little finger of that hand was partially gangrenous and amputation was postponed only in the hope that reversal might save it. Whether or not reversal did save it is a question, but the fact remains that the circulation improved in that finger immediately on conclusion of the operation and remained so good that a slough formed and the finger healed perfectly within a short time thereafter.[7]

During the course of each operation the only apparent abnormality noted was the rather small size of the artery, and the severity of its contraction on the slightest manipulation. As to technic of anastomosis, incision was made in vein and artery at right angles[8] to the direction of the blood-stream so that, owing to the cutting of elastic and muscular fibers, the lips of the wound so made sprang apart and tended to remain apart. With a single continuous thread the vessels were united, following which the vein was tied off securely above, proximal to the site of anastomosis. The artery was not further disturbed. Thus instead of one channel for arterial blood, the limb was given two and that the second immediately became efficacious was proved, to a certain extent at least, by watching the valves give way. In the veins of both arms the valves seemed quite close together, so that in each instance, one set was not more than one-half or one inch below the site of the suture. This first set of valves held tightly for a few moments, but only a few, then gradually gave. It took a little longer for the second set to give, but we definitely saw their destruction take place, the arterial stream seeming to batter down the cusp or cusps first of one side, then of the other. This phenomenon could be discerned by noting the admixture of arterial and venous blood. At no time was there ever a sudden rush of arterial blood down the vein as if a whole set of valves was suddenly destroyed.

Time was too precious to allow further study of this interesting "battle of the valves," but it is fair to assume, I believe, that if the arterial stream in a condition of lowered blood-pressure was able at once to overcome the resistance offered by the valves nearest the fistula, a higher, more normal pressure, such as occurs on the regaining of consciousness and subsequent health, would be able to force the valves further down in the course of the vein.

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[5] A small thrombus formed at the site of anastomosis, in this case, another but larger one on the first set of valves below, distal to the fistula.

[6] Davies, H. Morriston: Ann. Surg., June, 1912, p. 864.

[7] I believe that the best results will be obtained from arteriovenous anastomosis where gangrene is only threatened. The operation should never be undertaken in the presence of a fulminating gangrene, although if it is in a quiescent stage operation may be considered.

[8] Bernheim and Stone: Lateral Vascular Anastomosis, Ann. Surg., October, 1911, p. 496.

And that this latter contention is true is also proved, I believe, by the fact that a definite pulse and thrill can be felt at this date in both veins as far down as the elbows, and that the thrill can be heard almost to the wrist in each arm. The same gratifying phenomena hold true in both legs, where the pulse and thrill can be felt well below the site of suture and the thrill heard well below the popliteal space. The first anastomosis was done nearly two years ago, the last eight months ago.

The anastomosis in the left leg, my first case, was as reported an end-to-end with a one-inch transplant of a piece of vein, necessitated by an error in cutting the vessels. The three subsequent ones were all side-to-side lateral anastomoses according to the method developed in the Hunterian Laboratory of the Johns Hopkins University[8] in 1910. This method is simpler than the end-to-end, causes far less risk to the patient in case of failure and offers a greater guarantee of aid in case of success, in that the arterial stream is in no wise disturbed, but left to carry on the circulation as far as it can, the burden of carrying it further being left to the vein, which acts as an added channel for arterial blood.

The subject of these operations has been benefited in her left leg and both arms. The right leg still causes considerable pain at times, although a complete freedom from pain is hoped for in the future. She walks perfectly and uses her arms as well as ever. At present, Nov. 11, 1912, she is about to resume her occupation, that of floor superintendent in a shirt factory.

This is the first case to be reported in which a successful arteriovenous anastomosis has been done in all four extremities of the same individual.[9] And I believe that it goes a long way toward proving my contention that there is no physiologic reason why the blood-current cannot be successfully reversed in the extremities.[10]

My sincere thanks are due to Dr. Joseph C. Bloodgood through whose courtesy I was able to operate on and follow the above noted case.

EXPERIMENTS ON THE CULTIVATION OF THE VIRUS OF POLIOMYELITIS

FIFTEENTH NOTE *

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It has not hitherto been found possible to cultivate the virus, or etiologic cause, of epidemic poliomyelitis outside the animal body. Flexner and Lewis[1] noted that when a Berkefeld filtrate, prepared from the infected nervous system of the monkey, was mixed with ascitic fluid and the mixture incubated a turbidity arose; but they could not determine that the turbidity was caused by multiplication of a living microorganism. Only the original mixture, and not the subcultures, was capable of infecting monkeys.

Recently the efforts at cultivation of the virus have been resumed. Encouraged by the cultivation of the spirochetes by Noguchi we concluded to apply the methods worked out by him[2] to the investigation of poliomyelitis. Since the results achieved so far are of quite a different order from those obtained previously, we shall describe them briefly here.

The virus belongs to the class of filterable organisms and passes readily through Berkefeld filters (V and N). Up to the present it has not been rendered certainly visible, although we now know that "filterable" and "ultramicroscopic" are not equivalent terms.

We have employed for our experiments tissues from the brain and spinal cord of human beings who have died of epidemic poliomyelitis, and of monkeys the subjects of the experimental disease. Part of the tissues had been preserved for many months in 50 per cent. glycerin solution and were free from ordinary bacterial contamination, as were the fresh tissues.

The cultivations have been conducted both with Berkefeld filtrates and tissues in substance. The culture mediums consist, first, of sterile, unfiltered ascitic fluid or of brain extract to which fragments of sterile rabbit kidney and a layer of paraffin oil have been added, and of these plus 2 per cent. nutrient agar-agar in proportions of 1 to 2. The first mediums permit of a slow growth not visible to the naked eye, while the second (which are unsuitable for obtaining the initial growth) yield, after several days, visible minute colonies clouding the tubes. The cultivations are conducted under anaerobic conditions, and the colonies do not ascend to the summit of the deep layer of solid medium.

The minute colonies are composed of globular or globoid bodies, averaging in young cultures 0.15 to 0.3 micron in size. The bodies appear in a variety of arrangements: single, double, short chains and masses. Often they appear embedded in a material of different refractive index. In older cultures certain bizarre forms have been noted. The cultivated bodies stain a pale reddish violet in Giemsa's solution, and bodies of identical appearance have been demonstrated by Noguchi, also with Giemsa's solution, by a specially devised method in films prepared directly from the nervous tissues.

Monkeys have been inoculated with the cultures. Two series of inoculations have been made and a third series is in progress. Cultures from human tissues in the third, and from monkey tissues in the fifth generation have caused typical experimental poliomyelitis in the monkey. The findings at autopsy and the microscopic appearances of sections of the spinal cord, medulla and intervertebral ganglia were characteristic of the disease. From the nervous tissues of these animals other monkeys were successfully inoculated and pure cultures recovered.

The third series of experiments in progress consists of inoculations of later generations of the cultures, the object of which is to exclude the carrying over, with the cultures of the globoid bodies, of a quantity of the original virus sufficient to cause paralysis in the inoculated monkeys. This effect of the accidental carriage of the virus is more likely to arise in connection with the highly virulent "monkey" strain than with the relatively weak human strain, although it is perhaps not wholly impossible even with the latter.

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[9] I have reversed the circulation now eight times. Amputation was necessitated once. There has been no mortality.

[10] Since this article was put in type I have done another reversal, my ninth case. The anastomosis is apparently successful, the patient's pain has been greatly relieved and amputation of his foot has been avoided—so far. The patient is still in the hospital, and as the operation was done only one month ago, it is too early to come to a definite conclusion as to the definite result.

* From the Laboratories of the Rockefeller Institute for Medical Research, New York.

[1] Flexner, Simon, and Lewis, Paul A.: Epidemic Poliomyelitis in Monkeys, The Journal A. M. A., Jan. 1, 1910, p. 45.

[2] Noguchi, Hideyo: Jour. Exper. Med., 1911, xiv, 99; 1912, xv, 90; 1912, xvi, 199, 211.

THE SERUM TREATMENT OF TETANUS AFTER SYMPTOMS HAVE DEVELOPED

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That there still remains some doubt as to the value of antitetanic serum after tetanus has manifested itself is evidenced by the paper of Newberger[1] as late as last July, in which the statement is made that "when tetanus has set in, the value of antitoxin may be questioned."

From time to time reports of cases in which unusually large doses of the serum have been used with apparent good results, have been published in the journals. Strock[2] of Camden, N. J., in 1907, after relating an experience extending over six or eight years with small doses and a mortality of 100 per cent., reported five cases treated with very large doses and a mortality of only 20 per cent. Strock expressed the opinion that this was not a coincidence and attributed his latest success to the much larger doses used. Livermore[3] of Memphis, Tenn., in 1907 spoke of a patient who died probably because not sufficient serum was available, and advised giving large doses. In 1910 Caffrey[4] of Milwaukee reported one case in which 112,500 units were given in eight days with recovery. He believed that this patient would have otherwise died and recommended great quantities of antitoxin. In February, 1912, Young[5] of Valparaiso, Ind., reported three apparently hopeless cases in which large doses were used, and followed by recovery, one patient, a boy, received 150,000 units and another, a man, 220,000.

During the present year a patient under my care at the Ellis Hospital received, between April 26 and May 15, 587,500 units of tetanus antitoxin obtained from the state laboratory. The diagnosis was based on a history of the child, a girl, 14 years old, having stepped on a nail about one month before admission (confirmed by finding the scar of a punctured wound at the base of the left great toe), and on the physical examination which showed trismus, neck rigidity, rigidity of extremities and pain on palpation of flanks and abdomen. Spasms were present.

The dose given is apparently a record one and shows, if not the value of large doses, at least tolerance to such dosage since the patient recovered.

Two symptoms probably attributable to the serum were noted. May 15, the day on which the last injection was made, the left hand became swollen and there appeared a mild urticaria. This rash and the temperature, which rose, shortly before the eruption developed, to a point not reached since the second day after admission and assumed an almost septic type, were attributed to the serum, and treatment was discontinued. Three days later the temperature had reached normal and convalescence rapidly followed.

In reviewing the clinical notes of the case I find records of a papular rash, May 2, which was still present May 3. The last note of spasm was under date of May 6, but there is a further note, May 10, reporting the patient as comfortable with no twitchings or spasms on that day.

A RAPID METHOD FOR CELLOIDIN SECTIONS

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Herxheimer's[6] quick celloidin method takes twenty-four hours. The tissues are fixed in formaldehyd solution or alcohol, and then placed in pure acetone in the incubator at 37 C. (98.6 F.) for from thirty minutes to one hour. This is followed by thin celloidin for four or five hours, and thick celloidin for two or three hours. By Cullen's[7] method permanent specimens from frozen sections may be obtained by previous formaldehyd solution fixation in from fifteen minutes to three hours. This would be the method of choice if it could be employed advantageously in the examination of very soft and finely divided material, as uterine scrapings or epitheliomas from the meshes of which microscopic particles and cell nests are apt to drop out "as there is nothing to hold them *in situ* as when celloidin is used." Frozen sections do not stain so readily, and often become distorted in the handling. Nevertheless the freezing microtome has its field of usefulness when quick diagnosis is paramount over nicety of appearance. I do not offer my method as a substitute for this, but rather as an aid to the pathologist and surgeon to facilitate a histologic-pathologic diagnosis when pressed for time.

The principle of my method consists in shaking the specimen in contact with the fluid reagents. The agitation thus brought about within the fluid dislodges the air-bubbles confined within the meshes of the tissue and prevents the formation of a coagulation membrane, thus allowing the reagent to act simultaneously both centrally and peripherally. With the usual method the fixing and hardening is delayed because of the formation of a coating of albumin on the surface of the specimen; this coat of albumin then acts like an osmotic membrane, and the reagents penetrate slowly through it by osmosis.

The following are the steps:

1. Place small pieces of tissue, from 0.5 to 1.5 c.c., in 50 c.c. of a freshly prepared formaldehyd solution (liquor formaldehydi, 1 part, physiologic salt solution, 3 parts) and shake vigorously from one to three minutes.
2. Remove specimen into 30 per cent. alcohol and shake for thirty seconds. (In this the formaldehyd is removed and the hardening process begins.)
3. Transfer into 80 per cent. alcohol for one minute and shake for thirty seconds.
4. Transfer to absolute alcohol for five minutes, and shake for one minute.
5. Place in alcohol and ether for four minutes.
6. Transfer to Celloidin No. 1 for five minutes; shake one minute.
7. Place in Celloidin No. 2 for five minutes; preferably in incubator at 37 C.; shake for one minute.
8. Transfer to Celloidin No. 3 for ten minutes; shake for one minute then place bottle in incubator.
9. Blocking. Expose to the air for one minute on the block, then place in chloroform from three to five minutes.
10. Place in alcohol 80 per cent. until ready to cut. Stain as usual. The sections thus prepared stain beautifully with hematoxylin and eosin and keep permanently.

The whole process takes from forty-five minutes to one hour.

GANGLIONIC GLIONEUROMA OF THE OPTIC NERVE

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The ganglionic glioneuroma belongs to the rarer forms of nerve-tissue tumors and is found most commonly in the central nervous system and cord. The following case, however, is of special interest largely because of the unusual location and evolution of the tumor, which beautifully explain the clinical manifestations.

The history of the case, as given by Dr. C. S. Beebe, in whose practice it occurred and by whom the removal of the eye and tumor was performed, is as follows:

The patient, a girl aged 8, first began to show evidences of eye trouble at the age of 6. No examination was made by a physician at that time and the diagnosis of "some eye trouble" was the parents' own observation. At the age of 8, the child contracted scarlet fever with rapidly developing exophthalmos and complete blindness of the "eye that was wrong." On enucleation of the eye, to which the parents now consented, an oblong tumor was found to occupy the position of the optic nerve.

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[1] Newberger, Charles: Tetanus as a Complication of Burns, Am. Jour. Dis. Child., July, 1912, p. 35; abstr., THE JOURNAL A. M. A., Aug. 3, 1912, p. 401.

[2] Strock, Daniel: Tetanus and Antitetanic Treatment, Jour. Med. Soc. New Jersey, October, 1907; abstr., THE JOURNAL A. M. A., Nov. 30, 1907, p. 1876.

[3] Livermore, G. R.: Antitetanic Serum Treatment of Tetanus, abstr., THE JOURNAL A. M. A., Dec. 14, 1907, p. 2031.

[4] Caffrey, A. J.: Tetanus Successfully Treated with Large Quantities of Antitoxin, THE JOURNAL, Nov. 5, 1910, p. 1643.

[5] Young, Simon J.: A Case of Tetanus with Recovery, THE JOURNAL A. M. A., Feb. 24, 1912, p. 549.

[6] Herxheimer: Technik der pathologisch-histologischen Untersuchung, 1912.

[7] Bull. Johns Hopkins Hosp., April, 1895, and May, 1897.

Macroscopically, the tumor showed a well encapsulated semifluctuating growth, measuring 3 cm. in length and 1.5 cm. in width (Fig. 1). Microscopic examination revealed neuroglial tissue forced apart by hemorrhages and edema which had occurred into it. It also showed typical ganglionic cells and nerve fibers. Examination of the eyeball itself showed absolutely no involvement (Fig. 2).

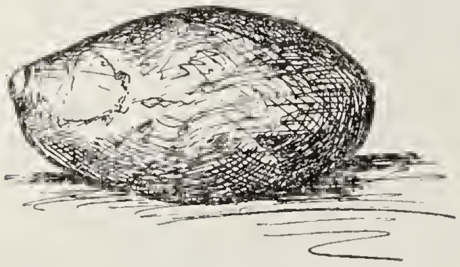
Fig. 1.—Gross appearance of tumor.

This tumor undoubtedly was congenital in origin and represents misplaced nerve-tissue. Its growth was characteristically slow until the febrile condition of the scarlet fever with its accompanying hyperemia stimulated the tumor into an active growth, which, together with the hemorrhages and edema, caused the rapidly increasing size of the tumor.

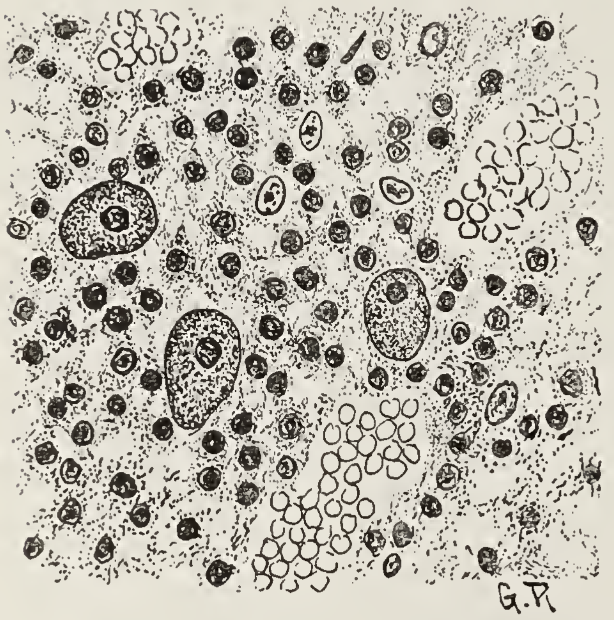

Fig. 2.—Cross-section, showing typical ganglionic cells.

While the location of the tumor naturally caused great damage to the patient, it was histologically a benign growth. Recurrence or involvement of the remaining eye has so far (now one and one-half years) not occurred. There is likewise no history of other members of the family having had similar tumors.

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Therapeutics

DIVERTICULITIS OF THE COLON

It is the object of this article to remind the physician of the possibility and not infrequent occurrence of an inflammation in the abdomen that is often overlooked, and consequently treated too tentatively for the safety of the patient. Though the physician generally recognizes appendicitis when it is present, still he is often puzzled by encountering on the left side of the body symptoms resembling those of appendicitis. It has been believed in certain cases that the appendix was located on the left side, and that abscesses due to inflammation of the appendix were sometimes found in the left side of the abdomen. More recent observations have demonstrated that at least a certain proportion of these cases of supposed left-side appendicitis were due, not to inflammation of the appendix, but to various pathologic processes occurring in the so-called diverticula of the lower portion of the colon.

A diverticulum may be encountered in various parts of the alimentary canal, as in the esophagus, the small intestine or the large intestine, but they are found more frequently in the lower part of the colon, especially in the sigmoid flexure, and sometimes in the appendix itself.

A diverticulum is a pouching or protrusion, more or less circumscribed, of the coats of the intestine. Little has been definitely determined about the etiology of this condition. The most that can be said is that for some reason a weakening of the coats of the intestine occurs, and that under the influence of some unusual pressure this protrusion or pouching takes place. It may include all the coats of the intestine, in which case the term "true" is applied to it; in others one or two of the coats of the intestine may be wanting, and then it is distinguished as "false." The latter variety is the more common. Some have believed that these diverticula occur more frequently along the mesenteric attachment of the intestine, but this is not an invariable rule, for not infrequently they are observed in the convex or free border of the intestine. In some cases they are found at the point where a blood-vessel enters the wall of the intestine.

Diverticula may be found on autopsy in persons who have never experienced any symptoms referable to their presence. Various pathologic processes may be set up in them, usually by the presence of food in a diverticulum of the esophagus, of intestinal contents in a diverticulum of the small intestine, or of fecal matter in a diverticulum of the large intestine. The pathologic processes vary greatly in character. There may be simply a catarrhal inflammation of the mucous lining, or there may be destructive changes, including ulceration and gangrene.

The inflammation may go on to perforation resulting in acute general peritonitis or the formation of an acute abscess or of an extensive indurated mass which may undergo resolution, or it may result in the formation of a chronic abscess. In the more chronic cases there may be inflammation with infiltration and thickening of the tissues which may go on to such an extent as to cause obstruction of the bowel. In some cases it is believed that a carcinomatous process may be developed on this infiltration. In some cases the extension of the inflammation may result in the formation of adhesions to other structures or of bands which interfere with the function of the intestine.

The symptoms resemble closely those of appendicitis, except that they are most frequently found on the left side of the abdomen instead of on the right side. There may be pain of greater or less severity, accompanied by a localized tenderness, and later an indurated mass may be felt on palpation. In the meantime there is usually considerable fever and acceleration of the pulse. There may be tenesmus or constipation.

In the chronic cases there may be more or less pain, soreness or tenderness and interference with the action of the bowels. If an abscess forms, it may discharge spontaneously through the rectum or bladder.

It is necessary, if possible, to distinguish this condition from malignant disease of the sigmoid flexure, and from inflammation of the left fallopian tube—salpingitis. McGrath[1] of Rochester, Minn., has recently emphasized the importance of not mistaking a simple inflammatory induration for cancerous degeneration. If the latter is believed to be present an unfavorable prognosis is given and operative interference is advised against, whereas if the simple inflammatory condition is recognized an operation may be curative.

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[1] McGrath, B. F.: Surg. Gynec. and Obst., October 1912, p. 429.

The treatment of this condition requires the exercise of good medical and surgical judgment. The general principles of treatment are not unlike those which must be observed in deciding on the treatment of an appendicitis. If the disturbance is not severe and is apparently unaccompanied by the formation of an abscess or by perforation, treatment by enemas of olive oil or of saline solution may assist in emptying the rectum and colon of their fecal contents, and this may be accompanied by a subsidence of the inflammation. At the same time cold, or preferably hot applications, either poultices or fomentations, may be applied over the seat of the pain.

If there are evidences of the formation of an acute abscess or of perforation, immediate operative treatment is demanded. This may consist in cutting out the diverticulum and drawing the edges of the wound together with a purse-string suture, and then placing a row of sutures over this, as recommended by Erdmann[2] of New York. In the case of chronic abscess it should be opened and drained.

If there is obstinate obstruction of the intestine, it may be necessary to make an artificial anus. After the recovery from this operation, the pathologic lesion may be removed by a second operation, and the ends of the intestine brought together with sutures. After this has healed and it has become apparent that fecal matter can be discharged in the normal way, the artificial anus may be closed.

DISTURBANCES OF THE HEART

(Continued from page 283)

STOKES-ADAMS DISEASE: HEART-BLOCK

Stokes-Adams disease, or the Stokes-Adams syndrome, is a name applied to a combination of symptoms which was described by Stokes in 1846, and had been observed by Adams in 1827. The disease is characterized by bradycardia and cerebral attacks, either syncope or pseudo-apoplectic or convulsive attacks.

To understand the phenomena of this disease, it will be well to refer to the first article of this series on diseases of the heart. Until 1893, when His described the bundle of muscle fibers which is now known by his name, the transmission of the cardiac stimulus to contraction was not understood. It has been found, by studying the pathology of Stokes-Adams disease, as well as by clinically noting with instruments the contractions of different parts of the heart, that these slow heart-beats are really due to interruptions of the impulse passing from auricle to ventricle through the bundle of His, and degeneration in this region is generally the cause of Stokes-Adams disease. The auricles often beat many times more frequently than the ventricles, even two or three times as frequently, and, of course, these auricular contractions are not transmitted to the arterial system, and the radial pulse notes only the contractions of the ventricles. The phrase that is used to describe this non-transmission of the auricular stimulus to the ventricles is "heart-block."

While this disease almost invariably has a pathology, cases have occurred in which no lesion of the heart could be found, but it generally occurs coincidently with arteriosclerosis, in which the coronary arteries are more or less involved and the arterial system of the brain may be diseased. It occurs more frequently in men than in women, and in them mostly after middle, or in advanced, life. The previous history of the patient has often disclosed syphilis.

The intermittency of the pulse may be regular or irregular, and may not be constant in the early stages of the disease, but when the disease is established the rate of the pulse may be reduced to forty, thirty, or even twenty beats a minute, and it has been known to be even less. When these intermittencies are regular, perhaps two beats to one intermittency or three beats to one intermittency are the most frequent types. When the auricles also beat slowly it is perhaps the pneumogastric or vagi nerves that are for some reason overstimulated and thus inhibit the heart's activity.

The attacks of syncope are doubtless due to anemia of the medulla, because of the infrequent ventricular contractions. This anemia of the medulla and of the brain may also cause an epileptic seizure, or a partial paralytic seizure without any apparent paralysis. It is probable, however, that in these cases there may be coincident arterial disease in the brain. These sudden syncopal attacks are likely to occur when a patient suddenly rises from a reclining posture, especially if he has been asleep. Many persons whose circulation is none too strong may feel faint on suddenly rising, but in a person whose pulse is slow and the circulation weak the danger of causing anemia of the brain by the sudden erect posture is much increased. Slight faint turns are of frequent occurrence with these patients; or the faintness may be so rapid and so intense that the patient may drop in his tracks. Venous pulsation in the neck is generally marked with these patients, showing an impeded contraction of the right auricle.

If the auricles are heard or found by instrumental readings to contract more frequently than the ventricles, the trouble is quite likely to be a heart-block from disease in the heart itself, in the bundle of His. If the heart is slowed as a whole, the trouble might be due to diseased arteries or pressure from a growth, a gumma, perhaps, or other brain tumor in the region of the pons Varolii or medulla oblongata; or a hemorrhage into the fourth ventricle, causing pressure, could be the cause.

The treatment of Stokes-Adams disease is unsuccessful. If general arteriosclerosis is present, that condition should be treated. Digitalis would seem almost invariably contra-indicated, although it is of value in extrasystoles without heart-block, or in conditions which are not Stokes-Adams disease; but if this disease was considered present, digitalis would probably do harm. Sometimes strychnin is of benefit.

Atropin has sometimes caused stimulation of the heart to more normal rapidity. Its benefit is generally only temporary, as most patients cannot take atropin regularly without having it cause a disagreeable drying of the throat and skin, a stimulation of the brain, and an undesired raising of the blood-pressure, to say nothing of its action on the eyes.

The only value of the nitrites is when the blood-pressure is high and the nitrite action is desired on that account.

Coffee or caffein often causes these hearts to become irritable; it certainly raises the blood-pressure, and therefore is not generally advisable. Both tea and coffee should generally be prohibited.

During the acute faint attack camphor is one of the best stimulants. Ammonia may be used, and alcohol is of benefit.

If syphilis is a cause of the condition, iodids are always valuable. If syphilis is not a cause and arteriosclerosis is present, small doses of iodid given for a long period are beneficial, although it may not much reduce the blood-pressure or decrease the plasticity of the blood. Iodid is a stimulant to the thyroid gland, and therefore it is on this account valuable.

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[2] Erdmann, John F.: Yale Med. Jour., February, 1912, p. 249.

The greatest vasomotor stimulant to the heart that we know is thyroid secretion or thyroid extract. Theoretically thyroid extracts should be the treatment for a slow-acting heart. It sometimes seems of benefit to these patients, but it often causes such nervous excitation and irritability as to preclude its use. The dose of thyroid for this purpose would be small, about 3 grains of the dried substance once a day, or 1 grain three times a day. To be of any value the preparation must be good.

The usual precautions against overeating, overdrinking, severe physical exercise, sudden movements, overuse of tobacco, etc., should all be urged on the patient. The disease is sooner or later fatal, although the patient may live some years. The death is generally sudden.

It is understood that this disease must be separated from the condition of bradycardia inherent in a few persons who have a slow pulse throughout their life, without any untoward symptoms.

ARTERIAL HYPERTENSION

It is essential to study this condition, as it has a distinct relationship to the efficiency of the heart, and has a distinct bearing on the efficiency of the left ventricle, and therefore the systemic circulation. However perfectly the heart may act, it cannot properly circulate the blood without a normal tone of the blood-vessels, and of the arterial system in particular. Abnormal vasodilatation seriously impedes the circulation, and may cause shock and death. An increased tone of the arterial system means immediately an increased effort of the heart to overcome the resistance ahead. This soon means an increased activity and later an increased muscle development of the left ventricle. If a high blood-pressure persists, or becomes still higher, it then is a question as to how many months or how many years the left ventricle can stand the increased strain put on it. If the cause of the increased arterial tension is a fibrosis, sooner or later the heart will partake of the disease, and a chronic myocarditis will result. It is therefore evident that an abnormally high blood-pressure is of serious import, and must be studied, interpreted, prevented if possible, and diminished if advisable.

The various apparatus for determining the blood-pressure have already been referred to. No office is completely equipped without a reliable mechanism for determining the blood-pressure, and a portable apparatus is also almost necessary.

It is not the object of this article to discuss the danger of variations in blood-pressure in seriously ill patients, but to discuss the management of patients in whom hypertension is the only abnormal condition. In seriously ill patients dangerous falls of blood-pressure, as shown by repeated investigations, generally occur with a synchronous rise in the pulse-rate. Therefore, as the pulse-rate rises, the blood-pressure may be known to lower, and a dangerous rise means a dangerously low blood-pressure. It would be wise to take the blood-pressure of the convalescent patient more frequently, and not allow him to become ambulatory or return to his work until his blood-pressure has nearly or quite reached what was normal for him. If this was made a routine practice, fewer patients would suffer from weak heart and poor circulation after they had recovered from acute diseases. The blood-pressure would denote whether the myocardium had returned to its perfect capacity for work.

The blood-pressure varies with the age of the person, and is always lower in females than in males. It is probably rarely above 120 mm. of mercury in childhood and youth, and ranges from 110 to 130 in men and women from the age of 20 to about 40, with the average from 30 to 40 of perhaps about 125 mm. From the age of 45 on the blood-pressure generally increases, and as sclerosis advances, if the heart is competent, the blood-pressure rises to 140 or 150 mm., or even more. The blood-pressure in the female is anywhere from 5 to 10 mm. below what is normal for the corresponding age in the male. Any blood-pressure above 150 as an outside limit is probably always abnormal. This does not mean that it needs to be treated, or that it is necessarily wise to attempt to lower it. Blood-pressures higher than 150 become progressively serious, and anything over 200 is generally indicative of renal insufficiency. If there is marked arteriosclerosis, a blood-pressure reading may be very high, and yet not represent the actual pressure of the blood in the arteries; or it may indicate that the artery of the part cannot be collapsed.

As the blood-pressure depends on two factors, the intensity of the left ventricle contraction and the tone of the arteries, the condition of both must be interrogated and analyzed before it can be determined which is overacting or underacting. A too low blood-pressure is generally caused by insufficiency of the heart; it may be caused by loss of tonicity in the arterioles, or by hemorrhage.

Arterial hypertension may be divided into stages. In the first stage the arteries are healthy, but the tone, owing to muscular contraction, is too great. This stage has been called "chronic arterial hypertension" to designate the period at which there is probably no real sclerosis, and at which the production of sclerosis may be prevented or at least deferred. In the second stage the muscular coats of the arteries have become more or less hypertrophied, and degenerative changes have begun in the intima, with perhaps a beginning fibrosis of the external coat of the arteries; in other words, arteriosclerosis is present. A third stage may be recognized in which the fibrosis has far advanced, an atheromatous condition is developing or is present, and the muscular coat of the arteries is becoming insufficient; the heart can no longer increase the arterial tension, and the blood-pressure begins to be diminished. Also at this stage the heart is generally in serious trouble, and the circulation becomes progressively insufficient, with sooner or later left ventricle dilatation, pendent edemas, and possibly obstruction in some of the peripheral arterioles.

The causes are:

1. Products of protein metabolism, if these are abnormally increased or are abnormal in character. These products are abnormally increased by excessive eating of protein, by insufficiency of excretions (especially of the kidney excretion), and by increased general metabolism (as in pregnancy). These protein products are more or less abnormal in gout, in intestinal fermentation and putrefaction, and in any serious impairment of the digestive system. Such abnormal products are irritant to the blood-vessels and cause considerable increase in pressure, unless they are actual toxins, in which case the blood-pressure may be lowered.

2. The arterial pressure is raised by the blood containing a considerable amount of caffein, nicotin or other blood-pressure-raising substance. It is possible that an abnormal secretion of the adrenal glands may cause a continued high blood-pressure.

3. Cerebral stimulation or excitation will cause contraction of the arterioles and raise the blood-pressure. Such an increase in pressure may be due to nervous intensity, excitement, some forms of hysteria, and fear. It is typically caused by prolonged and active brain work.

4. Hard physical labor and sustained muscular exercise will raise the blood-pressure. Strenuous labor and hard athletic work, especially if competitive, and if it requires sustained effort, will cause high blood-pressure earlier than should normally occur in the individual.

5. Any serious infection or serious illness may be the forerunner of an early arteriosclerosis with a previous high blood-pressure. Sclerosis of the arteries may occur without much previous hypertension. This may occur in cases of hyposecretion of the thyroid, and in syphilis, although probably hypertension almost always precedes arteriosclerosis. If the hypertension persists, and especially if it is due to irritants circulating in the blood, endarteritis will probably sooner or later develop.

While hypertension is not a disease, while it many times should not be combated, and while a large amount of effort is expended to combat hypertension without accomplishing that end, still, hypertension many times causes symptoms. These symptoms are more or less troublesome if not serious, and as prolonged hypertension is a sure forerunner of more serious disease, a careful investigation of the causes of the hypertension should be made in every case, and the withdrawal or abatement of the cause and the modification of the food and life of the patient are absolutely essential. There can be no excuse for considering hypertension a condition unworthy of management. Such a patient can generally be improved; troublesome symptoms are generally removed or lessened; and undoubtedly circulatory health, if not actually life, is prolonged by such management. The exact value of treatment, physical or medicinal, in each case is another question, and can be determined by individualizing. Much good can be done by both means; sometimes both means fail. If physical and medicinal measures and the regulation of the diet and life of the patient fail to reduce the blood-pressure, there is a more serious cause back of the condition, generally a slow-going, latent, interstitial nephritis, if arteriosclerosis has not actually begun.

On the other hand, it is not intended in the above statement to declare that all patients with high tension should be treated either medicinally or physically, as it may be unwise in many instances to reduce the pressure. Such patients, however, are generally those who have some other condition or disease present besides the symptom of hypertension.

It should also be recognized that it is becoming universal with insurance companies to believe that a blood-tension above normal for the individual, even if his physical condition is otherwise perfectly satisfactory, will shorten his prospect of life. Arteriosclerosis, cardiac disease, apoplexy and chronic nephritis are all on the increase, and insurance companies believe that an abnormal increase in blood-tension is a forerunner of these ultimate conditions.

The symptoms of hypertension not noted by the patient are the inability to relax from business as readily as normal; an increased rapidity of doing the simple things of life, notably in eating; an increased stimulation from coffee, tea, alcohol and nicotin; a diminished ability to fall asleep readily, or to sleep without dreams and without turning and tossing in bed; an increased amount of urine (not always the case[1]) or at least an increased frequency of urination; an increased irritability, or an aggravation of any disagreeable trait which the patient may have had. The symptoms noted by the patient are a tendency to be short-breathed on slight exertion; a feeling of fulness in the head at times, especially when leaning over, or on any sudden movement; insomnia; slight waves of dizziness; and perhaps slight cardiac pains after an exertion that has added to the work of the left ventricle, which has been long acting against this increased resistance. Any of the last-named symptoms may send the patient to his physician, and the cause should be discovered. Many other little disturbances may send the patient to his physician, and this hypertension may be noted during the examination. To repeat, in any case of hypertension its cause must be sought and its management carefully decided on. The condition should not be neglected by the physician.

Unfortunately, the other side of this story is a troublesome one — the effect of the knowledge that he has hypertension on the man himself — and it is men with whom we are most frequently dealing in this condition. It is no longer of any use to ridicule the general knowledge that hypertension is a factor in life to be considered. Both business and professional men are now well aware that blood-tension is taken in most insurance examinations. It is new to them, and therefore they are the more inquisitive. In the second place, it is pretty close to their hearts, and a man is always more disturbed if he thinks there is anything the matter with his heart than if any other part of the body is at fault. Therefore he will not so readily forget that the blood-pressure reading is important as he will forget that the examination of the urine is important. Consequently, with the knowledge that his blood-pressure is abnormally high he becomes more or less introspective, even perhaps foolishly so, and will raise his blood-pressure by his own fear and anxiety. To meet this condition, which will little by little wear off as the subject becomes less of a novelty, the physician must minimize the importance of a slightly increased blood-pressure, but must still urge the necessity of a change of the man's intense life and unphysiologic eating, drinking and smoking to the prolongation of that man's years, give him no special treatment, see him only infrequently, and aid him in forgetting that his blood-pressure is somewhat high.

On the other hand, if the patient's blood-pressure is very high and the aortic closure is accentuated, we have no more right to tell him to forget it than we have a right to withhold from him the truth, if he had a damaged heart, or if we had found albumin or sugar in his urine. It means that such a patient should be under more or less frequent observation, and certainly something should be attempted to lower the blood-pressure. If it is not readily lowered, then active treatment need not be persisted in.

(To be continued)

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[1] Lawrence: Am. Jour. Med. Sc., September, 1912, p. 330.

There is But a Single Layer of Epithelium Between Us and Death.—I do not know whether you have thought of the importance of a single layer of epithelium to the human being, but the single layer of epithelium which lines the alimentary tract and the tubular glands is all that intervenes between the bacterial contents of the intestine and the venous and lymphatic circulation. As long as that single layer of epithelium is intact you are safe, but as soon as that single layer of epithelium is destroyed then a bacterial invasion of the veins and lymphatics begins and a dangerous condition supervenes.—C. B. Lockwood in *Clin. Jour.*

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NITROGEN RETENTION IN NEPHRITIS

There is a consensus of opinion that organic nitrogenous substances tend to accumulate in the blood in nephritis. The relation of this non-protein or "residual" nitrogen of the circulating fluid to so-called uremia and the prognosis of disease involving kidney defects is not so clear.[1] It is by no means convincingly shown that an increase in the non-protein nitrogenous components of the blood, which are commonly looked on as metabolites retained in the circulation owing to the impaired excretory powers of the organism, always attends the clinical manifestations of uremia or allied eclamptic states. An illustration of the possible importance of positive knowledge in this field may be cited from the field of kidney surgery. The advisability of the removal of one kidney for surgical reasons must depend on accurate information of the functional efficiency of the remaining renal organ. There are, of course, various methods of prognostic functional examination of the kidneys now in vogue. Blood analysis, however, must be considered as an additional possibility, the data from which can be intelligently utilized only when experience has furnished suitable normal standards. Simple methods are further a prerequisite for any wide-spread application of a diagnostic procedure, although in these days of special laboratories this requirement need not receive too great emphasis

In any critical analysis of the data for blood and urine in cases of kidney involvement it should now be borne in mind that recent investigations have served to emphasize more clearly than ever before the variations in the types of nephritis that may occur. The studies of Schlayer and his associates in Germany and of Pearce and his collaborators in this country[2] among others have served to differentiate the nephritides in which the glomeruli, the tubules, or both of these anatomic elements of the kidney are involved. Morphologic and functional changes have been correlated in clinical experience and experimental trials. Poisoning with uranium salts and chromates, for example, provokes changes referable to the tubules; with cantharidin or arsenic, on the other hand, alterations of the glomeruli are brought about.

Since these experimental forms may be looked on as representing characteristics of illustrative types of acute nephritis, Folin, Karsner and Denis[3] have made a study of the nitrogen retention in some of these conditions, employing the newer colorimetric methods for nitrogen determinations in the blood. They have discovered that distinct accumulation of non-protein nitrogen in the blood occurs in many cases. The accumulation is marked in uranium nephritis which involves both tubules and glomeruli, but primarily the former. Chromate nephritis, which involves almost exclusively the tubules, produces only moderate retention of nitrogen. Cantharidin nephritis, which involves both tubules and glomeruli, the latter more severely than does uranium, produces a marked accumulation of nitrogen, beginning early and persisting for a considerable period. Thus it will be observed that anatomic study shows the glomerulus to be distinctly involved in the two forms of nephritis in which accumulation of nitrogen in the blood is most pronounced. The findings indicate that although pure tubular involvement produces only moderate accumulation, the additional involvement of the glomerulus is extremely important in leading to a retention of nitrogenous waste products. The quantities of accumulated non-protein nitrogen in the blood and tissues are not large when compared with the total intake or elimination of nitrogen, and this degree of accumulation cannot be demonstrated by the ordinary methods of urinary metabolism investigation. Here, however, is a beginning in the direction of blood examinations which may lead to fruitful fields.

SURGERY FOR CRIMINAL TENDENCIES

An interesting after-development in a surgical case which attracted much attention about four years ago has just occurred. A prisoner serving a long sentence in the prison at Dannemora, N. Y., was pardoned by Governor White on representations which seemed to make it clear that he had been cured of his criminal tendencies by a surgical operation. The prisoner was comparatively young, but from boyhood had been noted for his tendencies to appropriate the property of others, not only by taking, but by clever frauds and by forgery. When given this long term he had carefully studied his own case, it was said, and had found that at the age of about 14 he had been struck on the head with a fence-picket. The result was a fracture of the skull for which the subsequent prisoner had to stay for a long time in the hospital. Before this, according to the story as detailed by the prisoner, he had been an exemplary youth. After this he became morose, sullen and a thief, and stole from every one. Becoming convinced that his criminal tendencies were due to this injury to his head, he sent for the family physician who had treated him, not for the injury, but some years afterward.

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[1] Compare Strauss: Der Reststickstoff in seinen Beziehungen zur Urämie und zur Prognose von Nephritiden, Deutsch. Arch. f. klin. Med., 1912, cvi, 219.

[2] A review of the literature has been published by Pearce, R. M.: The Problems of Experimental Nephritis, Harvey Lectures, 1909-1910, Philadelphia, 1910, p. 17; also Arch. Int. Med., February, 1910, p. 133

[3] Folin, O., Karsner, H. T., and Denis, W.: Nitrogen Retention in the Blood in Experimental Acute Nephritis of the Cat, Jour. Exper. Med., 1912, xvi, 789.

He set his case clearly before the physicians whom the family physician called in consultation, and finally convinced them that perhaps there was something in his story. He had been reading books on criminology and was quite sure that the root of the evil was a physical defect and not a moral perversion in his own case. He represented that often when he took things he had no need for them; that even the large forgery for which he was under sentence had been committed at a time when he had no particular need of the money, and that there must be something else besides an ordinary tendency to thieving in his case. An examination of his skull showed an old thickening underneath the scalp at the point where he had been injured. Apparently this thickening might produce some pressure on the brain, and since he pleaded it seemed worth while to try at least to relieve any pathologic condition that might exist. The operation was done, the thickened portion of bone removed, and during convalescence the prisoner's character seemed to change. From being sullen and morose he became bright and cheerful, walked with firmer step, held his head erect and appeared to be a different man. It is not surprising then that a few months after the operation the governor was induced to set him free on parole, and there seemed to be every reason to hope that a useful citizen had been restored to society in place of the criminal that had been taken from it.

Unfortunately the arrest of the paroled prisoner during the first week in January of the present year, for a series of burglaries with regard to which the evidence is complete, seems to make it clear that the improvement was only temporary, or that the operation and his subsequent good conduct were steps in a scheme to secure his release from prison. The gang of burglars with which he has been working has been one of the most dangerous in western New York. Evidence seems to show that he was actually the leader and the inspiring genius of the gang. He has not been led astray into crime the second time, but he has actually been the perverter of others. It is just four years since his release, and for nearly a year he was under the surveillance of the police, who declared that he was leading an honest life. He seems to have been aware of their surveillance and of the fact that it had ceased, for almost immediately afterward began the series of burglaries which has finally landed him in prison again.

This result or something similar is of course no more than what might have been expected. There is no trustworthy evidence to show that perversions of moral character, independent of mental deterioration, result from pressure on the brain. During the Civil War a large number of injuries to the head by penetrating wounds of various kinds with subsequent recovery were noted, yet perversions of character followed in so few cases that they must be taken as representing coincidences and not consequences. Very severe injuries to the brain, as for instance in the famous crowbar case, have been followed by actual improvement of character rather than the reverse, although, of course, there is no more reason to trace a relation of cause and effect here than in the instances of deterioration. Without any injuries, men have been known to change from respected citizens to criminals or at least to violators of law. Even in cases of insanity following injuries to the head, moreover, favorable results from operative interference are very infrequent.

Sensational announcements of improvement in such cases after surgical intervention, like those that used to be made for various surgical procedures in epilepsy, need to be controlled by the subsequent history of the case. Immediate improvement in both sets of cases is usually rather mental than physical in origin, and while the possibility of improvement in certain severe cases justifies surgical intervention, successes reported before many years have tested their permanence are liable to produce false impressions.

ABSORPTION FROM THE STOMACH

The current views respecting the possibility of absorption from the stomach are somewhat conflicting. The more usual statement is that water is not absorbed directly from this organ; it is speedily discharged from the latter through the pyloric opening and then disappears from the interior of the intestine. Under ordinary circumstances, therefore, the delay of water alone in the stomach is so brief that there is scarcely an opportunity for any considerable removal of the fluid to take place there through the alimentary wall. The evidence for the absorption of salts is also debated, although it has been maintained that readily detectable compounds such as iodids, salicylates, sugar and even peptone may disappear in small measure through the stomach wall. Alcohol certainly can be absorbed directly from the stomach and it has been suggested that the presence of this solvent facilitates the absorption of dissolved substances by this path.

Several years ago Meltzer[1] made a noteworthy contribution to this subject. He demonstrated that after ligation of the pylorus the onset of the symptoms of poisoning with a drug like strychnin may be greatly delayed or even missing, when otherwise, that is, with unimpeded passage to the intestine, the same dosage would bring a speedy indication of absorption of the toxic agent. It seemed apparent from such observations that the absorption of strychnin from the stomach is incomparably lower than from any other section of the alimentary canal.

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[1] Meltzer, S. J.: Jour. Exper. Med., 1896, i, 529; Am. Jour. Med. Sc., 1899, cxviii, 560.

The method of excluding the participation of the other portions of the digestive tract by ligation of a particular fragment in the way referred to may, however, place the stomach in a somewhat abnormal condition. This criticism applies also to other experimental methods such as the paralysis of the stomach by vagotomy. Alterations in the supply of blood and lymph, as well as local injuries induced by the experimental technic, introduce possible complicating factors of unknown importance. Ryan[2] has avoided these by conducting absorption trials on a miniature sequestered stomach surgically devised according to Pawlow's method. There is at present reason to believe that the phenomena taking place in a pouch of the stomach isolated in this way furnish a correct impression of the behavior of the rest of the organ in respect to absorption and secretion; and the method of study has already been widely applied to the investigation of all sorts of gastric problems.

According to Ryan, when strychnin salts are introduced into a sequestered miniature stomach which is detached from direct continuity with the rest of the alimentary canal and from which there is no possibility of escape of the contents into the intestine below or the pharyngeal region above, the absorption of poison from the gastric mucous membrane is much greater than is indicated by previous experiments based on other methods. If these findings are further substantiated and extended to other substances and more subjects, they will call for a revision of some of the current beliefs in regard to certain gastric functions.

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[2] Ryan, A. H.: Studies on the Absorption of Drugs from the Gastric Mucous Membrane, Jour. Pharmacol. and Exper. Therap., 1912, iv, 43.

CLOTHING IN THE TROPICS

The hygienic function of clothing is to serve as a protection against climate — heat, cold and dampness — and also against injury. Curiously enough, the forms of dress in use in different parts of the world are dictated by custom, fashion and religion quite as much as by the more immediate and obvious demands of health. Reforms in dress are exceedingly difficult to bring about if they run counter to any of the conventions just recited. When an American is transported from the temperate zones to the tropics, as is bound to happen with increasing frequency now that we have permanent interests in the hot countries of our insular possessions, the question of the most favorable clothing to withstand the new climatic environment becomes a pressing one.

Custom prescribes that the white man shall cover his body, and his insufficient skin pigmentation probably demands it. Aside from this, two fundamental requirements must be met by a suitable covering in hot climates. Shade must be provided against the sun, and the important function of removal of heat from the body by the evaporation of perspiration must be impeded as little as possible. These two features may be somewhat antagonistically served by garments which are not advantageously selected or adjusted. The temperature of the skin is liable to rise rapidly to heights above that of the blood if the body is exposed to the tropical sun.[1] This is particularly true when work is performed at the same time. A primary requisite, therefore, is some form of shading, either natural or artificial, which will counteract this. Obviously the rise of temperature will be most rapid under clothing which has a maximum capacity for heat absorption and a minimum capacity for the circulation of air to allow for evaporation of moisture. Black is well known to absorb much more heat than is taken up by white. Generally white will absorb the smallest amount of radiated energy; and white rabbits can live longer in the direct sunlight than those of darker hues.[2]

In view of all the conditions to be fulfilled, Professor Gibbs has well characterized the most desirable clothing as that which, in the sun, will cast a shade on the body without hindering the air circulation and heat radiation. The efficiency is increased if a color is used which will permit a minimum of heat absorption. The ideal condition, says Gibbs, is fulfilled by a large white umbrella lined with a shade of green that will be agreeable to the eyes. It is this type of protection that the native of the tropics has instinctively or deliberately adopted. The native hat in the Philippines is often so large that the wearer is thrown completely in the shade. The crown is supported some distance above the head. In many localities the entire costume consists of this hat, with the addition of short trousers or a loin-cloth.

In the case of foreigners decency requires more covering than this and the insufficiency of skin pigment may also strengthen the demand for further clothing. This will appropriately be white. In place of the heavy helmet often seen, large-brimmed ones of material light in color and weight should be substituted. They should be fixed up and away from the head to allow a circulation of air. The notion that a thick material will exclude injurious light rays which cannot be stopped by ordinary opaque material is now known to be without justification. The specifications for the other articles of apparel are fairly evident, thinness of texture and perviousness to air currents being essential. There are numerous underlying features of dress here indicated which might find an advantageous application in the clothing for the summer days of our temperate zones.

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[1] The facts here reported are based on the data of Gibbs, H. D.: A Study of the Effect of Tropical Sunlight on Men, Monkeys and Rabbits, and a Discussion of the Proper Clothing for the Tropical Climate, Philippine Jour. Sc., B; Philippine Jour. Trop. Med., 1912, vii, 91.

[2] See Sunlight in the Tropics, editorial, The Journal A. M. A., Jan. 25, 1913, p. 284.

THE EMETIC ACTION OF THE DIGITALIS BODIES

The gastro-intestinal disturbances which frequently attend the therapeutic use of substances belonging to the digitalis series are disagreeable features in more than one way. Because of the nausea and gastric discomfort occasioned by their administration they upset the appetite and interfere with the orderly progress of the digestive functions at a time when a disturbance of the digestive process is extremely prejudicial to the success of treatment. Large doses of digitalis may give rise to vomiting. To these facts are due in large part the attempts which have so often been made to obtain preparations which still exhibit the cardiac action without any of these objectionable alimentary interferences.

The symptoms of gastric irritability and the related phenomena are commonly charged to a local irritant action supposed to be exerted by the members of the digitalis group directly on the mucous membranes of the stomach and intestine. At any rate this view is stated to be held almost universally with regard to digitalis and digitoxin, and somewhat less generally concerning strophanthus and amorphous strophanthin. The chief justification for associating the emesis and other gastro-intestinal disturbances which follow their therapeutic use by the mouth with a local irritant action on the gastric mucosa appears to lie in the fact that the digitalis bodies exhibit a decidedly irritant action after subcutaneous injection or application to the exposed mucous membranes of certain areas. The analogy here presented appears to have diverted attention from the possibility that the emetic action of moderate amounts of the different substances of the digitalis group might in part at least be of central origin. The latter is the more to be suspected because, as Hatcher[1] has observed, a smaller dose suffices to induce nausea and vomiting when injected intravenously or subcutaneously than when given by mouth. Indeed, emesis follows the intravenous administration of moderate doses of the digitalis bodies so promptly that not more than the merest traces of the drugs can be excreted into the gastro-intestinal canal before this action is induced. From this point of view it may well be asked whether these drugs do not act directly on a vomiting center.

Drs. Hatcher and Eggleston[2] have subjected the debated question to an experimental investigation at the pharmacologic laboratory of the Cornell University Medical College, New York City. The ingenious scheme of employing eviscerated animals for the tests made it easily possible to exclude the alleged local irritant action on the gastro-intestinal tract. Evidences of nausea, vomiting movements and the typical signs of emesis were easily elicited by the introduction of the drugs, proving conclusively that the emetic response can be obtained without the participation of the action of the digestive tube. The doses of the digitalis bodies required to produce the manifestations of vomiting in eviscerated animals are strictly comparable to those used therapeutically. The conclusion seems inevitable, therefore, that the emesis sometimes seen in man after the oral administration of therapeutic doses of digitalis bodies is due mainly, if not exclusively, to their action on the vomiting center in the medulla. The similarity of the behavior of the digitalis bodies in man to that observed in some of the laboratory animals leaves no ground for supposing that the mechanism of the emetic action in man is in any way different from that seen in them. The purgative action also appears to be of central origin. Hatcher and Eggleston point out that doubtless massive doses of the digitalis bodies may cause emesis by their direct irritant action on the gastric mucous membrane; but such results are obtained by introducing into the stomach amounts much greater than those used in clinical practice.

An important deduction from the work of Hatcher is that the mode of administration and the preparation have only a minor influence on the production of nausea by the digitalis bodies, and that this symptom indicates the beginning of toxic action and hence a point at which caution should be exercised. Instead of seeking for a form of the drug which will not produce nausea, or for a method of checking it, we should remove the cause by suspending the administration of the drug, or giving it in smaller doses.

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[1] Hatcher, R. A.: Am. Jour. Physiol., 1909, xxiii, 310.

[2] Hatcher, R. A., and Eggleston, C.: The Emetic Action of the Digitalis Bodies, Jour. Pharmacol. and Exper. Therap., 1912, iv, 113.

THE HUMAN BODY AND THE CONQUEST OF THE AIR

Aeronautics, a familiar subject since the beginning of the twentieth century, is usually considered solely with reference to the ingenious modern devices and mechanisms which have made possible the aeroplane or the airship. One rarely stops to consider the peculiar demands made on the human organism in the field of aerial navigation and the physiologic requisites for successful conquest of the air by man. In ballooning the limitations set by altitude and its attendant involvement of respiration have long been appreciated. In the modern pursuit of aviation, however, this aspect is only one of many that involve the performance of the human machine in the air. Anatomic and physiologic considerations of themselves clearly teach that we cannot expect man (in comparison with birds) to fly by the efforts of his own musculature. Indeed, it is often overlooked that the capacity of birds for sustained flight in the air is dependent not only on their unique respiration and circulatory apparatus, but also on the ability of the latter to permit the tremendous expenditure of muscular energy that is requisite and is facilitated by a concentration thereof on the mechanism of flight, the wings.

The eminent Berlin physiologist, Professor Zuntz, has pointed out that the clew to the successful pursuit of aviation is to be sought, in the broadest sense, in the domain of psychology.[1] Whether it be in flying in a balloon or in aerial propulsion with the aid of a motor, certain organs of the body are of preeminent importance, and their normal performance is indispensable for success. First of all, the sense organs are drawn into requisition; they enable the aviator to orient himself in space and to appreciate the position and movements of his body and its constituent parts. The data derived from these sensory impressions are invaluable. Very high altitudes must be reached before the disturbances of well-being occasioned by the rarefaction of the atmosphere are brought into play. One need only recall some of the features associated with the performance of the organs of sense to realize how largely they, above all other factors, determine the poise of the flyer and his ability to attain equilibrium and to adjust his balance promptly in the midst of an ever-changing environment.

The action of man is guided in a twofold manner by the senses. They bring directly to the consciousness certain impressions which determine the response, and they also serve to initiate numerous reflexes without any conscious appreciation on the part of the subject. It is precisely these unconscious or subconscious responses to sensory impressions that modify or control most of the familiar movements such as walking, running, jumping and diverse other performances of skill and dispatch. Four sense organs in particular are here concerned: the skin sense, the muscle sense, vision, and the equilibrating apparatus in the labyrinth of the ear. In the case of all these the normal stimuli to which they are accustomed and the outcome of a response to their sensory impressions must be decidedly distorted when one floats in the air instead of feeling the customary firm contact with the earth. For the aviator it may become necessary to unlearn, as it were, some of the customary responses to which he has been adapted. His neuromuscular mechanism, trained from youth to react to changes in position by definite muscular movements, too rapidly at times to rise above the threshold of consciousness, may lead him into trouble when he is guiding his aerial flight through a rapidly changing series of positions, unless he can react to the novel conditions of equilibrium that confront him quickly and by new reflexes. It is no far-fetched notion to believe that a careful study of the physiology of the special senses may be of distinct advantage in furnishing ideas for the construction and piloting of the aeroplane.

Every one appreciates how the unexpected sight of something horrible may alter the posture of the body, how the body is automatically arched backward when some obstruction suddenly presents itself to view. These natural movements to avoid a collision may lead to dangerous situations if they are unconsciously executed by an aviator whose hand happens to be guiding the mechanism of a flying machine. The protection of the eyes against dust and other foreign bodies is particularly important because they enable one to avoid precisely such undesirable and unconsciously executed reflex movements to which we are accustomed under ordinary circumstances. Persons whose peripheral sense organ in the semicircular canals of the ears fails to function normally are not well adapted to the pursuit of aviation. These instances must suffice to indicate the close interrelation of the senses to successful aerial performances.

Another feature of existence at high altitudes, applying more especially to balloon ascensions, is the impairment of the respiratory function with increasing rarefaction of the atmosphere. The limits compatible with life under ordinary conditions have already been exceeded in a number of experiences, notably that of Tissandier and his colleagues, who reached a height of 8,600 meters (over 5 miles) with two fatalities in 1871. The consensus of opinion at present ascribes the untoward results to the deficiency in oxygen which is experienced at great altitudes, without minimizing other contributory factors. The situation differs from mountain-climbing, in which the *mal de montagne* is aggravated by the vigorous muscular exertion ordinarily demanded by the ascents; whereas in the balloon the effort in this form is inconsiderable. It is commonly admitted that the malaise felt at considerable heights — the dizziness, confusion of the senses, and fatigue — disappears if oxygen is inhaled. At altitudes of from 4,000 to 8,000 meters (from about 2½ to nearly 5 miles) no special precautions are necessary so long as the partial pressure of the oxygen in the lungs is raised. At higher levels special devices are called for to insure adequate oxygenation.

The Aero Club of France, on advice of its commission on physiologic ascensions, has placed the limits of the danger zone below 5,000 meters[2] (about 3 miles). Professor Zuntz has calculated the limits of physiologic safety, in ascensions in which the details of the oxygen-supply and respiration apparatus are carefully guaranteed, at about 12,000 meters (7½ miles). It is possible to devise schemes which might permit of adequate respiratory function at greater altitudes. The probable need of such outfits is now diminished by the success which has attended the use of unmanned balloons equipped with self-registering meteorologic apparatus for the exploration of the upper air. This has practically eliminated the necessity of endangering human life for the solution of the atmospheric problems involved. Even at much lower altitudes, however, certain risks associated in good part with the diminished oxygen pressure may confront the aviator. It is not enough that his psychic faculties and speedy judgment should be constantly requisitioned. Flying at frequently and rapidly changing altitudes, and caught in air-currents that alter his ease of respiration, he is liable to the undesired onset of nausea, dizziness and faintness at most critical moments. Such symptoms speedily disappear when the oxygen content of the blood is voluntarily restored by a few deep breaths. The danger of the onset of such abnormal crises of oxygen deficiency in the central nervous system is further enhanced by the fact that the aviator may have his attention suddenly diverted to the mechanism under his control. For a moment he neglects or inhibits the essential respiratory acts with consequences that may become exemplified in confused management of the machine and death by accident as a final outcome.

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[1] Zuntz, N.: Zur Physiologie und Hygiene der Luftfahrt, Luftfahrt und Wissenschaft, Part 3, edited by J. Sticker, Berlin. J. Springer, 1912.

[2] Paris Letter, THE JOURNAL A. M. A., Nov. 18, 1911, p. 1708.

New industries and new occupations have their characteristic diseases. The characteristic malady—*mal des aviateurs*[3]—to which the newest performances of aviation subject its devotees emphasizes unexpected vasomotor disturbances which have already been discussed in these columns. The conquest of the air has brought into existence problems that border on the field of the physiologist and physician as well as on the domain of engineering.

PHYLACOGENS—A WARNING AND A PROTEST

As the manufacturers of the so-called Phylacogens appear determined to spare no effort to stampede physicians into making free and confident use of these peculiar products in the treatment of all kinds of infections, the occasion is an appropriate one for the brief discussion of some questions in regard to Phylacogens and the Phylacogen propaganda[1] that should receive careful consideration.

It is stated in the Phylacogen literature that the Phylacogens are neither bacterial vaccines nor serums as ordinarily understood, but sterile aqueous solutions of metabolic substances or derivatives of bacteria grown on artificial mediums. In view of the variability in the growth and activity of different strains of the same bacterium, and of the same strain at different times, constant and accurate dosage is not possible. This is an important consideration because the Phylacogens are primarily toxic, sometimes sufficiently so to produce even highly alarming reactions. In their circular concerning the Pneumonia Phylacogen, Parke, Davis and Company make the following statement (page 15): "A patient will never seriously object to the pain of the local reaction following subcutaneous administration, nor to the chill and other symptoms following the intravenous injection *if he has been properly prepared* for the results that are expected to follow the injections. Having consented to the treatment, the patient should never be informed as to the reaction *until the remedy actually has been administered;* he should *then* be told what to expect, an intelligent explanation should be made and his logical sense appealed to by showing him that the local reaction, the chill, etc., produce but temporary discomfort and should be entirely disregarded in view of the end to be attained — the cure of the patient's disability." (The italics are in the circular.) This is a peculiar "preparation" of the patient, to say the least, but the statement is quoted here primarily to emphasize that the Phylacogens have serious toxic possibilities that cannot be accurately estimated beforehand. This being the case, there is no escape from the further possibility that such toxic effects at times may turn the scales against the patient, who, if the victim of pneumonia or other acute infection, already is struggling against a full measure of bacterial intoxication. The manufacturer, however, has no scruples on this account except that the patient should never be informed as to the reaction which will follow the administration of the Phylacogen *until the remedy actually has been administered.*

If we ask ourselves the question what evidence there is to show that the Phylacogens actually have the remarkable therapeutic virtues ascribed to them by their manufacturer, we find that there are no experimental observations whatsoever bearing on the question. Apparently no one has made any experiments on animals to learn whether these identical mixtures can prevent infections or influence experimentally produced infections. The claims rest solely on the results of clinical observations and when the records of such observations are examined we find that no definite conclusions are permissible because the observations lack reliable and adequate control. Thorough studies have not been made according to the statistical method whereby unbiased deductions are drawn from comparable series of cases treated in different ways. Physicians need not be told that the diseases under consideration are in large measure spontaneously curable diseases, at least so far as the acute diseases are concerned, and that all the chronic processes in question are subject to spontaneous variations in their manifestations, to remissions and intermissions.

In judging the effects of special methods of treatment of such diseases the physician must ever be on guard against the antique *post hoc ergo propter hoc* blunder, the overworked servant of the enterprising manufacturer and eager promoter of therapeutic fads. The circumstance that the manufacturer has been able to accumulate from different parts of the country under diverse conditions records of cases of pneumonia, for instance, treated with Phylacogen which after pruning at his hands yield a low death-rate, is of no significance whatever because there is no proper standard for comparison.

Much more might be said about the Phylacogens; they may come up for discussion again. Let us not forget, in any event, that they have toxic properties and that the claims for their therapeutic powers are much more extensive than the facts which are at present available would warrant.

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[3] Mal des Aviateurs (Aviators' Disease), The Journal A. M. A., Nov. 18, 1911, p. 1608; also Paris Letter, May 27, 1911, p. 1587.

[1] See page 384, the Propaganda for Reform Department, this issue.

Current Comment

THE FETAL FLUIDS

The origin of the fetal fluids has been the subject of more or less debate. Three views have been advanced to explain the composition and source of these liquids: (1) that they are transudates from the maternal blood and tissues; (2) that they are products of the fetus alone; (3) a compromise theory which ascribes their formation to both maternal and fetal factors. Owing to certain structural relationships the fetal fluids of the allantoic and amniotic sacs are generally considered as mainly fetal urine. The allantoic sac develops as a part of the urinary bladder, while the urethra of the fetus early opens into the amniotic sac. In fact, Lindsay[1] has undertaken a chemical examination of the fetal fluids in the hope that it may help to reveal any characteristic differences that may exist between adult and fetal protein metabolism. The analogy of the importance of urine analysis for an appropriate understanding of the metabolism in adult organisms is apparent. The fetal fluids were shown by Lindsay to contain the ordinary urinary constituents of adult urine of the same species — urea, allantoin, amino-acids, creatin, creatinin, and other unidentified nitrogenous compounds. From alterations in the relative proportions of some of these components it was concluded that the fetal metabolism differs from that of the adult in the less complete catabolism of protein and the greater activity of nuclear metabolism. Wohlgemuth and Massone[2] have furnished evidence for the theory that substances present in the maternal blood can be transported directly into the amniotic fluid without having traversed the fetal circulation. They induced a marked increase in the content of the amylolytic enzymes in the maternal blood by ligating the maternal pancreatic ducts, and showed a corresponding increase in the fetal fluid, independent of the fetus itself. Such facts indicate the possibility of a direct participation of the maternal blood in the make-up of the amniotic fluid, and support the view of a twofold origin of the constituents of the fetal fluids.

BOTANY AND MEDICINE

Many persons now living can recall the time when it was not uncommon for persons holding a degree in medicine to have a comprehensive familiarity with plant forms that is unheard of to-day. Fifty years ago medicine was frequently the gate through which men passed in order to enter the field of botany. Nowadays the botanist is developed through the biologic curriculum and evolves independently of the applied sciences, as do the devotees of other disciplines, such as mathematics, astronomy or chemistry. It is a common belief, the complete justification for which we are unable to offer, that the cause of the intimate relationship between the old botany and medicine lay in the early importance which plants assumed in the practice of the physician. Household remedies and therapeutic agents were derived from vegetable forms, through the necessary acquaintance with which an interest in the species of plants and in botanical relationships was developed in many persons with keen powers of observation and an underlying scientific instinct. In this way a botanist was frequently the unexpected resultant of an earlier career in medicine. Another point of view is presented by Professor Farlow[1] of Harvard University, a distinguished botanist who has lived through the transition period when the old botany was changed into the new. "When I graduated from college in 1866," writes Dr. Farlow, "and wished to become a botanist, Professor Gray told me that I ought to study medicine first because the possibility of gaining a living by botany was so small that one should always have a regular profession to fall back on. Some years later De Bary told me that when he was a young man there was a similar state of things in Germany and, although desiring to devote himself to botany, he had to study medicine." Botany and medicine have become more and more divorced from each other except to the extent that bacteriology and plant microbiology are concerned in relation to disease and that a knowledge of biologic subjects in general forms the fitting preparation for the study of the medical sciences. One would scarcely expect in the coming generation to see the pecuniary rewards of a profession that has for its prime object the service it can render to humanity serve as a means to support interest in another science. Each field of endeavor has long since earned the right and privilege of independent careers devoted to it.

STANDARD METHODS OF WATER ANALYSIS

In 1905, the Committee on Standard Methods of Water Analysis of the American Public Health Association submitted a report[2] which has for about six years served as the standard authority in this country for workers on the bacteriology of water and sewage. In this report, it is recommended that the standard culture medium used for obtaining the colony count shall be nutrient gelatin and that a fixed incubation period of forty-eight hours at a temperature of 20 C. (68 F.) shall be employed. At the time this report was published the need for a uniform method which should afford a basis for comparison was strongly felt, and a large part of the work done in water-purification plants and in the general examination of water for sanitary purposes has conformed to this standard since the report was issued. A second report of the committee (different in personnel from the original committee) has just been published.[3] This report embodies a radical change from the standard originally adopted. The standard culture medium recommended is now agar instead of gelatin, with an incubation period of twenty-four hours at 37 C. (98.6 F.). The change has encountered much opposition among bacteriologists, and the laboratory section of the American Public Health Association has passed a resolution recommending parallel determinations at 20 C. wherever the new standard is adopted. It seems to us unfortunate that the new standard should have been promulgated, since it can serve only to introduce confusion into a field where procedure was becoming fairly well systematized. An abrupt change from 20° C. counts to 37° C. would of course make earlier records useless for comparison. It is evident, too, that the use of the higher temperature would often fail to give any growth with well-handled filter effluents and would unquestionably fail to show small differences in the operation of filter-plants which might prove significant to the operator. In any event, an extended comparison of the 20° and 37° counts in bacteriologic examinations of water, sewage, milk and the like seems to be needed before any radical change is put into effect. The prominence given in this report to the use of bile mediums and to the differentiation of varieties of *Bacillus coli* based on fermentative power may also seem to some workers unwise. Recent work indicates that the fermentative properties of members of the *B. coli* group are more variable, or at least less stable, than is sometimes supposed. In view of the prevailing opinions regarding the second report, we trust that a revision will be speedily effected and that a third report embodying more completely the current practice among laboratory workers will be issued before the present report has brought about too much confusion.

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[1] Lindsay, Dorothy E.: A Contribution to the Study of the Protein Metabolism of the Fetus, Biochem. Jour., 1911, vi, 79.

[2] Wohlgemuth, J., and Massone, M.: Experimentelle Beiträge zur Frage von der Herkunft des Fruchtwassers, Arch. f. Gynäk., xciv, No. 2.

[1] Farlow, W. G.: The Change from the Old to the New Botany in the United States, Science, Jan. 17, 1913, p. 79.

[2] Supplement No. 1, Jour. Infect. Dis., 1905, p. 1.

[3] Amer. Pub. Health Assn., N. Y., 1912, p. 1.

IS FRIEDMANN'S ALLEGED CURE A COMMERCIAL OR A SCIENTIFIC PROPOSITION?

A few days ago the newspapers announced that a New York banker had offered Dr. Friedmann a million dollars for his cure, if such it should prove to be on investigation. The latest announcements are to the effect that Dr. Friedmann accordingly has started for this country. If this is true, it seems to justify our suggestion of December 14, to the effect that Dr. Friedmann appeared to possess more commercialism than scientific spirit. Otherwise, why should he come to this country to put his treatment to a test? Is it because there are not enough consumptives in Germany? Or is it for the million dollars? On his arrival in the United States his work will doubtless be handled by the papers even more sensationally than hitherto. Apparently his treatment has not stood the investigation of his scientific confrères on the other side. Will it on this?

"THE MOVING FINGER WRITES"

The semi-nationalization of the medical profession in Great Britain, through the passage of the national health insurance act, and the antagonism that developed between the government (administration) and physicians as to ways and means, have resulted in turning the strong light of publicity on the medical profession. Every position taken by the medical profession that was either weak or indefensible has been thoroughly exposed. In Great Britain, as in the United States, the vulnerable point of attack was that dealing with the relation of physicians to the proprietary evil. That the public recognizes the weakness of the profession's position in this matter can be demonstrated in no better way than by quoting from one of several articles that have appeared in London *Truth* — a paper, by the way, that has for years fought quackery and the "patent-medicine" evil:

> It will be remembered that every bottle of medicine and every box of pills will be supplied from a prescription. Those prescriptions will be retained by the chemists who dispense them and handed over to the insurance committees as vouchers for the payment for the medicines dispensed. Here will be in the course of a very few years a mine of valuable statistical material, which will throw light, not only on the extent of medical knowledge in the use of drugs, but on the value of drugs themselves. The protests which have been raised in various quarters during the last day or two in reference to the handing over of the prescriptions to the committee would seem to show that the medical profession is alive to the danger which threatens it.

Probably the time is distant when the American medical profession will be required to make what amounts to a public record of the prescriptions it writes, though some day, doubtless, it will come. But it is not necessary to look with apprehension on the future, for the present has problems enough. The American public has already awakened to the fact that the prescribing of fraudulent or unscientific proprietary mixtures by physicians is an evil but one degree removed from that of self-dosing with "patent medicines." The sooner the medical profession realizes this, the better it will be for its own dignity and scientific standing.

Medical News

CALIFORNIA

Physicians' Office Building.—The *Bulletin* of the Los Angeles County Medical Association for January 16, publishes a floor plan of the Los Angeles County Medical Building, showing the conveniences provided for physicians in the building.

Banquet to Dr. Smith.—Dr. Everett R. Smith, Los Angeles, for fifteen years vice-president of the California Hospital, was the guest of honor at a banquet given to eighty-six physicians in Los Angeles, recently. Dr. H. Bert Ellis was chairman and Dr. Norman Bridge, toastmaster.

San Diego Exposition Hospital.—The field hospital on the grounds of the Panama-California Exposition, San Diego, has been opened for service, anticipating the inevitable accidents incidental to extensive building operations. During the construction period the institution will be available in case of sickness or accident for every exposition employee and during the exposition year, 1915, all emergency cases arising on the grounds will be cared for at the hospital. The building is of mission type and of concrete construction, and although it is officially an emergency institution, its equipment is complete and modern. The hospital is in charge of Dr. C. L. Caven.

Personal.—Dr. Charles L. Tisdale, Alameda, secretary of the State Board of Medical Examiners, has resigned.——Dr. Myra Knox, Oakland, has been elected physician to the California Home for the Adult Blind, Oakland, vice Dr. Hubert L. Rowell, Berkeley, resigned.——Dr. M. H. Smythe has succeeded Dr. A. W. Hoisholt, resigned, as second assistant superintendent of the State Hospital, Stockton.——Dr. A. W. Hoisholt has been elected medical superintendent of Napa State Hospital, vice Dr. A. E. Osborne, resigned.——Dr. E. N. Ewer, president of the Board of Health of Oakland, has returned from Europe.——Dr. C. G. Stivers, Los Angeles, has returned after two months postgraduate study in the East.——Dr. Thomas L. McGee, San Diego, laid the cornerstone of the First Baptist Church in that city, recently. Twenty-five years before, he laid the cornerstone of the former building of the same church.

ILLINOIS

County to Erect Sanatorium.—La Salle County has arranged for the erection of a temporary sanatorium for the treatment of tuberculosis with a capacity of from twelve to fifteen beds on the county farm, at a cost not to exceed $2,000.

New Hospital.—A hospital with accommodations for sixty patients and to cost $75,000 is to be erected next summer in Peru.——St. Mary's Hospital, La Salle, which has seventy-five beds and is under the management of the Franciscan Sisters, is to be enlarged to a capacity of 105 beds, at a cost of $35,000.

Personal.—Dr. R. A. Mathew, Morrison, was seriously injured January 4, by the overturning of his automobile, while making a professional call in Morrison.——Dr. Whedon W. Mercer, Lincoln, a member of the staff of the Lincoln State School and Colony, passed the assistant superintendent's examination, recently.——Dr. F. M. Agnew, physician and clergyman of Makanda, celebrated his golden wedding anniversary, January 18.——Dr. Frances Chapman has been appointed matron of the Police Department of Oak Park.——Dr. T. D. Doan, Scottville, has gone to Colorado where he will enter a fraternal sanatorium at Colorado Springs.——Dr. H. F. Ballard, Chenoa, is reported to be seriously ill with gall-stones.——Dr. R. G. Savage, Oak Park, caught his right arm in the machinery of his automobile, recently, sustaining severe injuries which it is feared will result in permanent deformity.

Chicago

Weir Mitchell Before Physicians' Club.—Dr. S. Weir Mitchell, Philadelphia, will deliver an address on "The Profession of Medicine in the War of the Rebellion," before the Physicians' Club of Chicago, February 25.

Gives Emergency Appropriation for Contagious Diseases.—The city council has agreed to appropriate $10,000 to meet the present emergency existing on account of the large number of contagious diseases.

Grand Jury Recommends Contagious Disease Hospital.—The grand jury, in its final return to Judge Burke, recommended the appropriation of $2,000,000 for the building and equipment of a contagious disease hospital, sufficient to care for at least 1,500 patients.

Personal.—Drs. S. A. Waterman and W. F. Haley recently sustained Colles' fractures of the right arm while cranking their automobiles.——Dr. and Mrs. Grambow Thomsen-von Colditz have returned from Europe.——Dr. and Mrs. Gaetano Ronga were cut and bruised in a collision between their automobile and a wagon, January 24.——Dr. George B. Young has been elected treasurer of the Chicago Public Service League.

LOUISIANA

Health Day.—January 17 was observed as health day by all the public schools throughout the state with proper exercises.

Ward for Incurables.—A ward for incurable men is to be established in a few weeks in the New Orleans Home for Incurables.

New Officers.—Orleans Parish Medical Society: president, Dr. Homer DuPuy; secretary, Dr. W. D. Phillips, both of New Orleans.——Shreveport Medical Society: president, Dr. T. P. Lloyd; secretary, Dr. C. P. Munday.

To Enforce Antispitting Ordinance.—Dr. Oscar Dowling, president of the State Board of Health, announces that after March 1 every violation of the antispitting ordinance will be followed by arrest on the charge of violation of the sanitary code. For this offense the minimum fine is $10 and costs, or about $20.

Board of Health Work to be Reorganized.—Dr. William T. O'Reilly, city health officer of New Orleans, suggests reorganization of the work of the Board of Health, making several independent branches and fixing more definitely the responsibility. His plan is to divide the work into five departments, namely: medical inspection, food inspection, sanitation, vital statistics and laboratories.

Hotel Dieu to Have New Building.—Bids were opened January 3 for two new buildings at the Hotel Dieu. The plans contemplate the razing of the present main building and the erection of a new building at a cost of $250,000 or more. One of the first buildings to be erected is a memorial to J. M. Burguieres, who left $50,000 as an endowment for a Catholic Home for Incurables. As this sum was insufficient, the heirs transferred the endowment to the Hotel Dieu.

State Board Election.—At the annual meeting of the Louisiana State Board of Health in New Orleans, December 17, the following officers were elected: president, Dr. Oscar Dowling, Shreveport; vice-president, Dr. A. H. Gladden, Monroe; secretary, Dr. W. M. Perkins, New Orleans; bacteriologists, Dr. W. H. Seeman and S. D. Porter, director, New Orleans; Drs. Thomas E. Wright, New Orleans; George B. Adams, Pineville; J. D. Baucum, Haynesville, and G. C. McKinney, Doyle, inspectors of the hookworm commission.

Personal.—The police jury for Jefferson Davis County has elected Dr. J. H. Cooper president and Dr. R. R. Arceneaux secretary of the Board of Health, both of Welsh.——An incendiary fire in the office of Dr. J. C. Denman, Franklinton, December 21, caused a damage of about $200.——Dr. J. M. Bodenheimer, Shreveport, has been placed in charge of the branch bacteriologic department of the State Board of Health.——Dr. A. B. Brown, New Orleans, secretary of the State Board of Medical Examiners, is reported to be seriously ill at the Charity Hospital.——Dr. G. C. McKinney, Doyle, has been appointed a member of the State Board of Health.

Win Fight for Recognition.—The local medical men of New Orleans have won their fight for recognition by the board of administrators of the Charity Hospital. The new board received a conference committee consisting of Drs. Rudolph Matas, Isadore Dyer, I. I. Lemann, Herman B. Gessner, M. Feingold and C. J. Miller. After the arguments of the conference committee had been received and elaborated by Dr. Lemann, who presented the report, the board voted unanimously to secure the services of a specialist in hospital management who should visit the hospital, familiarize himself with local conditions of the present system and administration and then give an opinion and report, suggesting such changes in this regard as he might deem necessary or advisable.

MARYLAND

Diphtheria Closes Schools.—Dr. Thomas J. Conrey, secretary of the Cecil County Board of Health, closed the Chesapeake city public school, January 21, on account of the prevalence of diphtheria.

After-Care of Insane.—A committee headed by Dr. Adolf Meyer, Baltimore, has been appointed by the Maryland Psychiatric Society to find out to what extent it will be feasible to remove patients from the state hospitals for the insane in homes where they can be made self-supporting. The findings of the committee will be embodied in a bill to be presented at the next legislature. The plan is to put in the hands of the State Lunacy Commission the power to remove patients from the hospitals and place them under the supervision of homes which the commission will provide. The inspection will be made by Drs. William B. Cornell and A. P. Herring of the State Lunacy Commission.

Baltimore

Hall in Baltimore.—Dr. Winfield Scott Hall of Northwestern University, Chicago, during the week of February 3 will make seventy speeches on the social evil, under the auspices of the Society for the Suppression of Vice. He will speak in shops, factories, stores, etc.

Personal.—Dr. D. F. Onnen has gone to Florida for the winter.——Dr. F. H. Vinup has been commissioned assistant surgeon M. C., N. G. Md., and assigned to the Fourth Infantry.——Dr. Ira Remsen, president of Johns Hopkins University, who was operated on recently in Johns Hopkins Hospital, has recovered and returned home.

MASSACHUSETTS

Personal.—Dr. Timothy Leary, Boston, has been appointed pathologist to Carney Hospital.——Dr. Oscar Richardson, Boston, has been appointed associate medical examiner for Suffolk County; Dr. William C. Mackie, associate medical examiner for Norfolk County, and Dr. John E. McGrath, associate medical examiner for Middlesex County.——Dr. and Mrs. James R. Fuller, Andover, have sailed for the Mediterranean.

State House Topics.—The Boston State Hospital for Insane reports an increase in number of patients from 767 in 1911 to 1,195, and asks an appropriation of $406,000 for this year. The Danvers State Hospital asks for $359,600; Foxboro State Hospital for $103,500; the Gardner State Colony for $143,500, and the Lakeville State Sanatorium for $87,300.——The Board of Registration in Dentistry opposes the proposed law authorizing dental nurses, on the ground that such a law would subject the public to cheap, unskilful workmanship and quackery.

Medical College News.—A new department for the study of tropical diseases has been established at Harvard Medical School. It will have at its head Dr. Richard Pearson Strong, with whom will cooperate Drs. Theobald Smith, H. C. Ernst, W. T. Councilman, E. E. Tyzzer, S. B. Wolbach and M. J.

Rosenau.——The following changes have been made in the faculty of Tufts College Medical School: Dr. Morton Prince has been appointed emeritus professor of neurology; Dr. George H. Washburn, emeritus professor of obstetrics; Dr. John Jenks Thomas, professor of neurology; Dr. Alfred William Balch, professor of chemical pathology and toxicology; Dr. Stephen Pushmore, associate professor of gynecology; Dr. Leo V. Freidman, assistant professor of obstetrics, and Dr. Elmer W. Baron, assistant professor of diseases of children.

MICHIGAN

State Board Asks More Money.—The State Board of Health has decided to ask the legislature for an appropriation of $25,000. The appropriation for several years past has been only $9,000 a year.

Hospital License Revoked.—The Detroit Board of Health on December 18 is reported to have revoked the license of Mercy Hospital, a maternity institution of Detroit, on account of illegal traffic in babies born in the institution.

State Society Meeting.—At a meeting of the council of the Michigan State Medical Society in Detroit, January 15, it was decided that the annual meeting of the society should be held in Flint, September 4-5. Dr. Frederick C. Warnshuis, Grand Rapids, was elected secretary of the society and editor of its official journal, and Dr. D. Emmett Welsh, Grand Rapids, was elected treasurer.

Tuberculosis Notes.—The supervisors of Kalamazoo County have appropriated $10,000 as the share of the county toward the maintenance of the tuberculosis hospital. The city of Kalamazoo has given $35,000 for this purpose. A site has been secured and a hospital will be opened early in the spring.——A movement has been started to secure a tuberculosis sanatorium in the Upper Peninsula, similar to that at Howell, but admitting patients regardless of the stage which the disease has reached.

Sanitary Experts Wanted.—At the January meeting of the State Board of Health, Secretary Dixon announced that the legislature would be asked for an appropriation of $50,000 for the maintenance of ten district health officers to act under the supervision of the State Board of Health to be located in different parts of the state, whose duty it should be to make a general sanitary survey of the state and report the sanitary conditions and keep records of all feeble-minded persons. The board also approved with modifications the Glasner pure health marriage bill and the O'Dell bill providing for sterilization of certain feeble-minded persons.

Length of Medical Course.—A controversy between the literary and medical departments of the University of Michigan as to the length of the combined medical and literary course has been submitted to the Board of Regents for decision. The opinion of the medical department is that the combined course should be optional but that the six years course should be retained as a minimum. The matter is to be decided by arbitration by a board composed of Regents Sawyer and Bell, President Hutchins, and Deans Effinger of the literary department, Colley of the engineering department, and Victor C. Vaughan of the medical department.

Personal.—Dr. and Mrs. David C. Pierpont, Ironwood, sailed for the Mediterranean, January 18.——Dr. John T. Watkins, Detroit, was seriously injured in a collision between his automobile and a street car, January 16.——Dr. Andrew C. Roche, Kearsarge, has been appointed a member of the State Board of Pardons to succeed Dr. J. B. Bradley, Eaton Rapids.——Dr. Charles Bell, Detroit, recently appointed medical examiner of aliens at Port Huron, has resigned.——Dr. Charles W. Thompson of the Newberry State Hospital has been appointed a member of the medical staff of the Woodcroft Sanatorium, Pueblo.——Dr. J. V. Frazier, Lapeer, is about to locate in Port Huron.——Dr. Bernhardt Jacob, for seventeen years physician of the Detroit House of Correction, has been appointed assistant superintendent of the institution.

MONTANA

Crusade Against Unlicensed Practitioners.—A state-wide crusade to drive from Montana unlicensed medical practitioners was launched Dec. 12, 1912, by Dr. Donald Campbell, acting chairman of the Silverbow County Medical Society, Butte.

State Sanatorium Opened.—The Montana State Tuberculosis Sanatorium, situated at Galen, 3 miles from Warm Springs, is now ready to receive patients. The institution at present consists of a main building and six cottages, and will accommodate about 100 patients.

New Officers.—Silverbow County Medical Association at Butte, January 15: president, Dr. A. E. Anderson; secretary, Dr. Alfred Karsted, both of Butte.——Missoula County Medical Society, including physicians of Ravalli and Saunders counties, at Missoula, December 28: president, Dr. H. B. Farnsworth; secretary-treasurer, Dr. C. L. Bourdeau, both of Missoula.

Personal.—Dr. W. A. Deal, Lewistown, has been appointed health officer of Fergus County, vice Dr. Willard A. Long, resigned.——Dr. George W. Clay, Malta, has taken his seat in the Montana legislature from Valley County.——Dr. P. H. McCarthy has succeeded Dr. J. B. Sullivan, both of Butte, as secretary of the Deerlodge County Board of Health.——Dr. J. H. Erwin, Great Falls, has succeeded Dr. C. E. K. Vidal, Great Falls, as coroner of Cascade County.——Dr. W. S. Cogswell, Livingston, has been elected secretary of the State Board of Health, vice Dr. T. D. Tuttle, Helena, resigned to accept the presidency of the State Tuberculosis Sanatorium, Warm Springs.——Dr. Max Barbour, Helena, has been reappointed physician of Lewis and Clark County.

NEW YORK

Medical Department of State Library Opened.—The medical department of the State Library, Albany, containing about 12,000 volumes and 600 periodicals, was opened January 15. It is open from 9 a. m. to 6 p. m. on all days except Tuesdays and Thursdays, when the hours are from 9 a. m. to 10 p. m.

Milk Conference of Seven States.—A conference for the purpose of discussing the milk problem from the standpoint of purity is to be held in New York City early in February in which representatives of neighboring states will participate. Governor Sulzer has appointed Harry B. Winters of Tioga, Dr. Julius Broder of New York, and Albert Manning of Otisville to represent New York state.

Mortality Statistics for 1912.—The death rate of New York State for 1912 was 14.6, per 1,000, the lowest in its history. The figures show 5,000 fewer deaths than in 1911. The death rate from typhoid is the lowest on record, 52 per cent. lower than the average rate prior to the year 1905. There were 600 fewer deaths from tuberculosis than in 1911, and a smaller number of deaths than in any of the eight preceding years. A new record was also made for diphtheria, there being 250 fewer deaths from this disease than in 1911. It is believed that this is due to the more general use of the antitoxin furnished by the state. The cancer death rate increased. The urban mortality from tuberculosis was 15.2 and the rural mortality from tuberculosis was 11.3 per 100,000 population. Infantile paralysis caused nearly 200 deaths during the year.

Personal.—Dr. A. M. Loewenstein, Rochester, has been designated to superintend the establishment of a dispensary in Rochester under the auspices of the Hebrew Charities Society.——Drs. R. H. Ward, H. C. Gordinier, D. W. Houston and William Kirk, Jr., have been elected governors of the Marshall Sanitarium, Troy.——Dr. Willis E. Ford has been appointed chief of staff of St. Luke's Hospital, Utica. Dr. Ford was the guest of honor at a complimentary dinner given by the staff, January 21, in commemoration of his thirty years of service as medical director and in honor of his new appointment as chief of staff.——Dr. George W. Miles, Oneida, has been appointed coroner of Madison County, vice Dr. E. P. Bailey, deceased.——Dr. James D. V. Sheehan, Syracuse, has been elected supreme medical examiner of the Catholic Relief Beneficiary Association.

Work of the Special Public Health Commission.—The first meeting of this commission was held in the United Charities Building, on January 20, and other meetings have succeeded this one during the week. Many health officers throughout the state have been called to testify in regard to the working of the present health laws. The evidence brought out seems to show that there are many shortcomings in the law, and that everybody connected with the administration of health laws should be getting more money. Prof. C. A. E. Winslow of the department of biology of the College of the City of New York thought the law which requires a local health officer to be a physician was a poor one. He also thought the health unit should be larger than the town and that there should be some way of bringing the knowledge of the State Board to the county. Dr. Charles F. Bolduan of the New York Health Department suggested retaining the town and village health officers, but subordinating them to a county officer who should be a trained expert. All agree that constructive legislation is needed at once. It was also brought out that conditions in the labor camps, especially those under charge of state contractors, were intolerable, and that the Indian reservations needed health supervision. Dr. A. C. Hill, who had made a study of conditions in these reservations, testified that one in every three of the Indians has tuberculosis as the result of living in overheated shanties and the habit of spitting on the floor. There was a difference of opinion among the members of the commission as to the desirability of placing the port health office under Federal control. It was argued that this step would save the state about $2,000,000 during the coming year. Commissioners Delaney and Linn favor a provision which will permit the health office to increase the fees charged for examination and fumigation of vessels so as to cover the needs of the office.

New York City

New Hospital Dedicated.—The new building of the Lutheran Hospital, which was recently erected in East New York at a cost of $20,000, was dedicated, January 19.

American Museum of Safety.—At the annual meeting of this society, January 23, it was announced that Mrs. Mary W. Harriman had established the E. H. Harriman gold medal to be awarded annually to the American steam railway making the best record in accident prevention and industrial hygiene. The Dr. Louis Livingston Seaman gold medal for progress and achievement in hygiene and sanitation and the mitigation of occupational diseases was presented to the National Cash Register Company. The Rathenau gold medal was awarded to Thomas A. Edison for having invented the best device in the electric industry for safeguarding industrial life and health. This device is a storage battery light which may be carried by miners without any risk and from which no fire or explosion may be started.

To Study Venereal Diseases.—The Department of Health has sent circulars to physicians in this city announcing that it has undertaken an extensive study of venereal diseases and is desirous of obtaining as full information as possible as to the prevalence of these diseases. Public institutions have been required to report these diseases since May 1, 1912, and all physicians were requested to furnish similar information concerning their private patients but no attempt was made at that time to reach every physician in the city. Cards have been sent to each physician, which are to be filled out and returned, showing the number of cases of syphilis, chancroid, and gonorrhea he has seen during the year 1912. Physicians are requested to report all cases coming under their observation in the future, omitting the name and address, but giving other data in connection with the case. A supply of report cards to be used for this purpose will be forwarded to any physician on request. All information is to be regarded as confidential and will not be accessible to the public nor are the records deemed public records. The Department of Health makes the Wassermann test and a bacteriologic examination of discharges without charge. There is also a clinic for the diagnosis of venereal diseases held daily between 9 and 10 a. m. at the central office of the Department of Health.

PENNSYLVANIA

New Officers.—Allegheny County Medical Society at Pittsburgh, January 14: president, Dr. John W. Boyce; secretary, Dr. S. A. Chalfant, both of Pittsburgh.——Luzerne County Medical Society at Williamsport, January 8: president, Dr. E. U. Buckman; secretary-treasurer, Dr. Delbert Barney, both of Wilkes-Barre.

Hospital Notes.—Homewood Hospital, Warren, a sanatorium for tuberculosis with accommodation for thirty patients, located on a hillside north of the city, is nearing completion. ——A hospital has been opened in connection with the International College of Midwifery, Scranton, by Drs. J. Szlupas, J. Kulczycki and P. F. Carlucci.——The directors of the Harrisburg Policlinic have decided to begin the erection of their new hospital on Emerald Street. The building will be under construction early in the spring.

Personal.—Dr. A. J. Miller, Portage, who had a cerebral hemorrhage in December is reported to be convalescent.——Dr. Herman Boyles, New Castle, was painfully injured by the overturning of the ambulance on the front seat of which he was sitting, January 14.——Dr. H. C. Witmeyer, Lebanon, who has been seriously ill, is reported to be improved.——Dr. J. G. Hemington, Uniontown, was held under his overturned automobile for nearly half an hour, January 15, but was not seriously injured.——Dr. S. S. Smith, Lebanon, is reported to be ill at his home.——Dr. G. W. Dreher, Shamokin, who has been ill with rheumatism, has recovered and resumed practice. ——Dr. H. T. Wickert, Emaus, was operated on in St. Luke's Hospital, Allentown, January 13, on account of an infected wound of the hand.——Dr. J. E. Auchmuty, Tamaqua, is reported to be ill with scarlet fever.——Dr. E. L. Kiesel, Scranton, has returned from Europe.——Dr. Frank L. McKee, Wilkes-Barre, was operated on for appendicitis at the City Hospital, recently.

Philadelphia

Site for Nurses' Home.—St. Joseph's Hospital has purchased a three-story house with a chapel in the rear at 1629 Girard Avenue, which will be converted into a nurses' home.

Croasdale Fellowship.—A fellowship is to be established by the Womens' Medical College of Pennsylvania, to be known as the Hannah T. Croasdale Fellowship Fund, in memory of Dr. Hannah T. Croasdale, for thirty years one of the most prominent women physicians of Philadelphia. A committee of which John Stokes Adams, 416 Bullitt Building, is treasurer has been appointed to collect funds for the memorial.

Personal.—Dr. H. R. Owen, chief police surgeon, and Drs. J. J. Williams and Thomas A. O'Brien, members of his staff, have resigned.——Dr. David R. Bowen was operated on in the Pennsylvania Hospital, January 20, for the removal of the appendix, and is making satisfactory progress toward recovery. ——Dr. J. Solis-Cohen is to be the guest of honor at the banquet of the Mount Sinai Hospital Alumni Association to be held in New York City, February 22.——Dr. Guy A. Gerberich, Lebanon, who has been seriously ill with typhoid fever, has recovered and resumed practice.

UTAH

Date of State Meeting Fixed.—It has been decided that the next meeting of the Utah State Medical Association is to be held in Salt Lake City, September 23-24.

Health Department Budget.—Dr. S. G. Paul, health commissioner of Salt Lake City, has asked for an appropriation of $80,988 for the Health Department during the present year. Of this amount, $35,345 is asked for the general health division and $30,793.75 for the collection and disposal of garbage.

New Officers.—Utah County Medical Society at Provo, January 15: president, Dr. H. G. Merrill; secretary-treasurer, Dr. H. S. Pyne, both of Provo.——Salt Lake County Medical Society at Salt Lake City, Dec. 9, 1912: president, Dr. T. C. Gibson; secretary, Dr. R. W. Ashley, both of Salt Lake City.

Personal.—Dr. C. C. Snyder, Salt Lake City, has succeeded Dr. A. N. Hanson as physician of Salt Lake County.——Dr. H. G. Merrill, Provo, underwent an operation for appendicitis at the Provo General Hospital, January 8.——Dr. F. S. Bascom, Salt Lake City, has been appointed assistant chief surgeon of the Denver and Rio Grande System.——Dr. M. R. Stewart has been reelected chief of staff of the Judge Mercy Hospital, Salt Lake City; Dr. H. S. Scott, vice-chairman, and Dr. C. P. Harvielle, secretary-treasurer.

WISCONSIN

Sanatorium Proposition Defeated.—The supervisors of Rock County, on January 16, decided against an appropriation of $20,000 for a county tuberculosis sanatorium by a vote of twenty-six to twelve.

Health Tests.—The Wisconsin State Hygiene Laboratory, Madison, reports that during the last six months of last year, 3,046 examinations were made. Of these, 1,091 were for tuberculosis, 643 for diphtheria, 560 for typhoid and 49 for rabies. In addition, 431 examinations of water and 272 miscellaneous tests were made.

Consolidation of Societies.—At the last meeting of the Wood County Medical Society, action was taken toward consolidation with the Clark Medical Society. In the latter part of January it is said that action will be taken, dissolving both county societies, following which a bi-county society will be formed.

Personal.—Health Commissioner Kraft of Milwaukee has been voted a salary of $5,000, and the fees heretofore claimed by the Health Department have been abolished.——Dr. C. A. Evans has been elected president and Dr. R. F. Teschan secretary of the board of trustees of the Milwaukee Emergency Hospital.——Dr. George W. Moore, Antigo, has been appointed medical examiner of the State Life Fund.

National Druggists' Home.—The National Association of Drug Clerks, supported by the druggists of the United States, has purchased the Palmyra Springs Sanatorium for a national apothecaries' home. The building will be used as a home for old and infirm druggists and as a resort for druggists in the summer time. The Board of Trustees has issued an appeal to the druggists, clerks, manufacturers, employees and traveling salesmen in the United States that each send a valentine, on February 14, containing $5, to the home in care of the Farmers' Savings Bank, Palmyra.

New Officers.—Milwaukee Medical Society, January 14: president, Dr. Gilbert E. Seaman; secretary, Dr. C. A. Baer.——Waukesha Medical Society has been organized with Dr. B. M. Caples, president, and Dr. Sara Elliott, secretary-treasurer.——Manitowoc County Medical Association: president, Dr. Max Staehle; secretary-treasurer, Dr. W. E. Donohue, both of Manitowoc.——Shawano County Medical Society at Shawano, January 8: president, Dr. William J. Ragan; secretary-treasurer, Dr. Stubenvoll, both of Shawano.——Longlade County Medical Society at Antigo, January 4: president, Dr. G. W. Moore; secretary-treasurer, Dr. J. C. Wright, both of Antigo.

GENERAL

The Infectious Disease Situation.—The presence of the infectious diseases, principally meningitis, small-pox, measles and scarlet fever, throughout a very wide extent of the area of the United States was a notable feature of the medical news during the month of January. Meningitis in a region of the South not heretofore attacked, centering on the states bordering on the Mississippi River, developed the most serious situation. An interesting feature of this epidemic was the attitude of the state health officers as contrasted with that of the citizens or of some of the local health boards in various communities with reference to quarantine. The state health officers practically all condemned the quarantine of one community or state against another, chiefly on account of the difficulty or impossibility of enforcing such quarantine. At the request of the state board of health of Kentucky, the United States Public Health Service sent Dr. R. H. von Ezdorf to cooperate with that state board in protective measures against the epidemic in western Tennessee. His report, dated January 15, states that up to that time 115 cases had occurred in the district investigated by him with fifty-two deaths, and that the epidemic was not abating at that time. He recommended in his report a number of prophylactic regulations which have been found effective in other epidemics, but he also deprecated efforts at quarantine between communities. Small-pox is widely distributed. Philadelphia and Baltimore have had considerable epidemics and public vaccination has been required in the infected neighborhoods, several thousand people having been vaccinated in each place.——Many places have had numerous cases of scarlet fever and also of measles, but in no community has there been a very extensive epidemic, nor has the mortality been excessive. It is probable that the greater attention given to these diseases by the newspapers has given the impression of the existence of severe epidemics in many places.

FOREIGN

Scarlet Fever in Holland.—Pinkhof writes to the *Wiener klinische Rundschau* that a mild form of scarlet fever has been prevailing at Amsterdam for several months. The contagious-disease ward is crowded, but the 200 children do not seem sick, and the aspect of the ward is more like that of a fresh-air camp than a hospital. For weeks the number of cases reported ranged from 150 to 180, and in numbers of other cases the children were not considered sick by their families, or the physician diagnosed the case as "fourth disease." Slight fever, slight sore throat and a little "peeling," that is all, but the entire set of measures organized against scarlet fever were brought into play. The school system is quite disorganized, and yet the total mortality from scarlet fever during the entire year of 1912 is said to have been only eight.

LONDON LETTER

(From Our Regular Correspondent)

London, Jan. 18, 1913.

The National Insurance Act: The Defeat of the Association's Policy

The failure of the British Medical Association to impose its policy on the government is now obvious, and it is evident that further resistance would be not only useless but injurious to the most loyal supporters of the association. The proper course to take is well indicated in the leading article in the *Lancet* of this week, though the language of the whole article is carefully guarded. While championing the cause of the profession throughout the struggle and pointing out all the defects of the bill, the *Lancet* gave wise counsel of moderation after Mr. Lloyd George made his second offer to the profession of greatly improved terms, and suggested that the terms should be carefully considered before being refused. The agitation against the act in the British Medical Association, however, is almost entirely in the hands of extremists, and political animosity, no doubt largely unconsciously, embitters the struggle. The majority of the profession are conservatives, and therefore opponents of the government, and the unmeasured denunciation of the whole act by the conservative press, much of which it would be mild to describe as misrepresentation, was not without its effect on the profession. During the first part of the struggle, before the chancellor offered much increased remuneration, the profession was united in its struggle against the act, but after that offer the political line of demarcation became evident. The seceders from the Council, described in my previous letter (The Journal, Jan. 4, 1913, p. 62), were practically all liberals. Similarly in the rank and file of the profession the most bitter denunciation of the act is heard from the conservatives, while liberals admit defects, but can see some good in it.

The leading article in the current issue of the *Lancet* describes the position of the British Medical Association as follows: "A mortifying position has to be faced, and this can only be done with success if bravery is shown. It may require as much courage to change an adopted view as to maintain it, a consideration which has very generally escaped attention. The representative body has now to face actual occurrences, not merely apprehension. To a great extent the position is clear and to many practitioners it is a very unpalatable one, but action, not recrimination, will be expected."

Secret Remedies

The select committee appointed by the government to inquire into the sale and advertisement of "patent" and proprietary medicine, has held another sitting. A director of "Boots Cash Chemists," a company which controls 534 shops, said that he had made an analysis of the sale of the articles described in "Secret Remedies," issued by the British Medical Association. Of 269 articles mentioned, 121 had no sale whatever; 57 had a very poor intermittent sale, being articles which they did not stock, but occasionally obtained to order; 1 required a wine license, and they did not sell it; 12 had a fair sale; 23 had a good sale; 25 had a very good sale and 30 had a very large sale. Out of the 269 articles, therefore, there were only 55 which might be said to have a very good sale. Those articles had in many cases been on sale for many years. The witness thought that there was no objection to putting "poison" on the bottle if the mixture contained an ingredient which was poisonous, but the name of the particular poison should not be published. If the word "morphin" or "opium" and particulars of the quantity were given, it would, he believed, induce those who craved morphin to buy the medicine for the sake of the morphin it contained. People wishing to buy a particular poison would also be able to do so by buying the mixture. On behalf of the retail trade he protested against any publication of formulas, with or without the quantities of the ingredients, because it would be grossly unfair to the trade, without giving any protection to the public. The statement that it is no protection to the public to know that they are taking poisons is too absurd for refutation.

Entomologic Research

The discovery of the rôle played by insects in the propagation of tropical diseases has stimulated entomologic research in this country. Three years ago the government appointed an entomological research committee for the purpose of investigating the insects of the British Colonies. A report on the work performed has been presented to Parliament. Entomologic material is being received in London from fifty collectors in tropical Africa, and about 100,000 specimens have arrived, including many new to science. Mr. Andrew Carnegie has agreed to defray for three years the expenses of three young men to be trained in the United States under Dr. L. O. Howard of Washington, in order that they may eventually carry out entomologic research work in Africa. The committee has funds of $6,500 a year contributed by various colonies, besides $5,000 a year from the imperial government. It now asks to have this income doubled in order to organize a system for the identification of all injurious insects in the British Empire and to publish a monthly periodical dealing with agricultural pests and disease carriers, in addition to compiling a card index for the literature dealing with such pests. Mr. L. Harcourt, secretary for the colonies, in acknowledging the receipt of the report, points out the value to human life which our increased knowledge of insects has brought about. In 1896 the death-rate among European officials in the West

African colonies was 90 per one thousand; in 1911 it was only 14. He attributes no small amount of this remarkable decrease to protective measures against disease-bearing insects.

The Workmen's Compensation Act

By the workmen's compensation act of 1906 the employer was made responsible for any accident to the workman arising in or from his employment. Returns for these accidents during the year 1911 have just been published. The number of persons employed is seven million, of whom five million worked in factories. The industries are divided into seven groups—mines, quarries, railways, factories, harbors and docks, constructional work and shipping. Compensation was paid in 4,021 cases of death and in 419,031 cases of disablement. The average payment in case of death was $770 and in cases of disablement $24. The annual cost of compensation averaged $2 per employee. It was lowest in factories ($1 per person); in railways it was $2; in quarries, $2.50; in shipping, $3.50; in constructional works, $3; in docks, $5, and in mines, $6. In coal-mining the cost was about 2 cents per ton of coal raised. The total compensation paid was $15,000,000, as compared with $13,500,00 in the previous year. These figures include cases of industrial diseases.

The Health of School Children: Large Proportion of Defectives

Only in the last few years has the law required every child attending an elementary school to be medically examined on entering and leaving and, therefore, statistics on the health of school children are only now available. About a million and a half of children are examined annually. The report of Sir George Newman, chief medical officer of the Board of Education for 1911, has just been issued. It shows the condition of 186,652 children in thirteen counties and sixteen urban areas and is far from satisfactory. Only in one urban area did the percentage of "good" nutrition reach 45 and from this figure it ranged down to as low as 3.8. Of 200,000 children examined in London more than half were found to be defective and over 78,000 were recommended for treatment. The malnutrition is due in the great majority of cases to ignorance of the relative value of foodstuffs and the means of using them economically and only in the minority to poverty. About 0.5 per cent. of the children are feeble-minded and of these about one-seventh are of such low grade as to be uneducable.

Research into Mental Disease

A conference of representatives of lunatic asylums and of the Cardiff City Mental Hospital has been held at the Guildhall under the presidency of the Lord Mayor of London to discuss pressing the Government for grants in aid of specific researches into mental diseases. It was pointed out that excellent work had been done in the comparatively few research laboratories attached to asylums. The British system of local government delegates the administration of hospitals for the insane to local bodies, but the work done in these laboratories may be of advantage to the state by tending to reduce insanity. Specific research often demands expenditure beyond what a local body can reasonably be expected to provide. Often it is done by asylum physicians out of their own private resources. In moving the resolution Sir George Savage referred to the advances of public opinion in regard to the treatment of the insane. Now, instead of the first consideration being to protect society from the dangerous lunatic, he said the treatment and, if possible, the cure of the lunatic was regarded as of prime importance. Besides the "dominant" of heredity, there were many cases of insanity depending on bodily and other conditions. Although immediate results might not be obtained from research work, in the long run definite advances must occur. On the question of heredity Dr. James Soutar, president of the Medico-Psychological Association, maintained that its influence had been overrated and that its potency varied enormously in different cases. Examination of family histories over a long period showed that the occurrence of a case of insanity was usually balanced by a large number of competent persons from the same stock.

PARIS LETTER

(From Our Regular Correspondent)

Paris, Jan. 10, 1913.

Serotherapy in Small-Pox

At one of the recent meetings of the Académie des Sciences Dr. Pierre Teissier, professor of internal pathology at the Faculté de médecine de Paris, reported the results which he has obtained with the subcutaneous or intravenous injection of serum from convalescent patients in thirteen cases of severe small-pox which he treated in company with M. P.-L. Marie. Five patients died of whom two were infants not vaccinated and three had confluent small-pox treated late. In the eight patients who recovered there was one case of early hemorrhagic small-pox which was very severe, three cases of small-pox with hemorrhagic eruptions, three cases of confluent small-pox, and one patient was an infant not vaccinated. When injected early the serum has a favorable effect on the severity of the disease, but when used late its general action is indifferent. The most striking phenomenon is the improvement in the general symptoms: fall of temperature, increase of urine, lessening of the rapidity of the pulse and increase of arterial tension occurring in from twenty-four to forty-eight hours. In the forms which are hemorrhagic from the beginning or hemorrhagic later and treated early the eruption remains discrete and the lesions dry up in the stage of vesiculation before forming pustules and accordingly without leaving scars. In confluent variola the severity is not noticeably diminished, but suppuration can be eliminated or limited; owing to the active growth of the epidermal cells, the skin heals usually without scars. No symptom occurred which could be traced to the action of the serum.

Bread as a Vehicle for Conveying Diphtheria

At the meeting, January 7, of the Académie de médecine, Dr. René Moreau, health physician at Sens, reported a small epidemic of diphtheria traced to a common source, a baker who transmitted the infection along with his bread sometimes to persons whom he did not see. From March 25 to April 15, 1910, this epidemic attacked eleven persons and caused four deaths. It was not restricted to a single commune but extended to three at a distance of from 4 to 6 kilometers (from 2 2/5 to 3¾ miles) and situated at altitudes from 93 to 231 meters (from 305 to 758 feet). This spread was all the more surprising since diphtheria is not frequent in either of the three communes and has not been mentioned since 1905. Although several bakers furnished bread throughout the affected districts, all the patients without exception were patrons of the same baker, whose wife and son were the first attacked. The woman had contracted diphtheria when on a trip to a district where there were at the time several cases of the disease. It is possible that after the sickness of his wife the baker had not been in direct contact with any of his patrons but, whether this is so or not, Moreau asks whether it was not the bread which he baked that served as a vehicle for germs rather than his person or his clothes. It may be objected that the diphtheria bacilli cannot resist a temperature greater than 50 C. (122 F.) and that they would have been killed when the bread was baked. Nevertheless it seems reasonable to admit that the bacilli were not in the dough but on the surface of the loaves. In fact after the bread was taken from the oven it was placed for a time in the bakery which connected with the sleeping-room of the baker's wife and son. Besides, disinfection of the bakehouse and the houses of the patients put a stop to the epidemic, which confirms the supposition that the house was the focus of infection. Although this manner of spreading disease may be rare, it is worthy of consideration when an epidemic springs up among persons who have no apparent mutual relations and when no other cause can be discovered.

Effrontery of a Pharmaceutical Specialty House

Profiting by the agitation raised in the medical profession through discussion of the obligatory reporting of tuberculosis, a pharmaceutical specialty house sent physicians a circular containing a resolution passed by the Syndicat des médecins de la Seine in connection with this subject; accompanying the circular was an advertisement. Moreover, a postcard was enclosed to be sent to the minister of the interior with an expression of opinion for or against the reporting of tuberculosis, and on this card was an advertisement for one of the products of the house. The administrative council of the Syndicat des medécins de la Seine will shortly consider taking measures to prevent the renewal of such a method of advertising done without the knowledge of the *syndicat* and liable to be misconstrued by the profession.

Alcoholism and Lunacy

Since 1867 all the insane in Paris and in the department of the Seine before being admitted to the various asylums have been sent to the clinic of Sainte Anne for a preliminary examination. Each patient has a separate record in which are kept the physicians' certificates, the clinical findings, the information given by the parents of the patient, etc. From these documents Dr. Magnan, physician-in-chief of the Sainte Anne asylum, and Dr. Filassier have taken those which give information as to the effects of alcohol on the individual and his offspring. The findings are instructive. From 1801 to 1868 the number of women admitted into the asylums was greater than that of men, but the proportion of alcoholic insane men is greater than that of alcoholic insane women. The number of the alcoholic insane increases from year to year with an astonishing rapidity. In 1868, of the total number admitted, 14 per cent. of alcoholic insane were men and 1.85 per cent. women. In 1886, 22 per cent. were men and 5.88 per cent. women. Since 1887 the statistics have included not only those whose insanity is due simply to alcoholic excess, but also the insane descendants of alcoholics, and those in whom alcohol has simply been the means of disclosing their mental unsoundness. The figures show a shocking condition: in 1888, 35 per cent. were men and 12 per cent women; in 1898, 41 per cent. men and 16 per cent. women; in 1910, 47 per cent. were men and 20 per cent. were women.

The late Dr. Bourneville collected statistics in regard to the descendants of alcoholics. The figures show that in 3,271 children in his service, 1,156 had alcoholic fathers, 100 had alcoholic mothers, and fifty-three had both fathers and mothers who were alcoholics; in 538 it was not possible to obtain information. The fathers and mothers of the other children were temperate. According to Drs. Magnan and Filassier these figures are now below the true figures, especially concerning alcoholism in the mother, which unfortunately is becoming more and more frequent. Of every thousand infants of alcoholic parents about a third die at birth or in the first two or three years of life and among the survivors are numerous idiots, epileptics, degenerates and moral perverts.

BERLIN LETTER

(From Our Regular Correspondent)

BERLIN, Jan. 3, 1913.

Personal

Professor v. Oppenheim of Berlin has been appointed honorary member of the Società Italiana di Neurologia of Rome.

The Number of Insane in Prussia

As in other years, the number of patients in the Prussian asylums for the insane was again increased in 1910. There were 127,914 patients (71,277 males and 56,637 females) as compared with 57,191 as the average for the period between 1891 to 1900, and 34,781 as the average for the period of 1881-90. As will be noted, the increase in 1910 amounted to 2,733 patients, which really is less than in the previous years. The official report calls attention to the fact that it is not possible to conclude from this continual increase that the number of insane is growing. While it cannot be denied that modern life with its nervous strain is the cause of a greater number of mental diseases, it must also be considered that insane asylums are now more frequently resorted to than formerly, since the aversion against these has disappeared and the good results of hospital treatment are being recognized.

Physicians in Germany in 1912

The medical statistician Prinzing of Ulm published, as in other years, in the last number of the *Deutsche medizinische Wochenschrift* a statistical report as to the number and distribution of physicians in Germany in 1912. These statistics were compiled from the medical directory published annually by Prof. J. Schwalbe of Berlin. There were in Germany 33,527 physicians in 1912. According to official statistics, the population of Germany in the middle of 1912 was 66,303,000; accordingly, there were for each 10,000 inhabitants 5.06 physicians. The increase is greater than in the previous year. About a hundred physicians of the total sum should not be counted, as there are about that many who practice in summer in health resorts and in winter in other cities, and consequently they are counted twice. In 1901 the number of physicians amounted to 27,978, or for each 10,000 inhabitants there were 4.92 physicians.

The number of licenses issued in 1910-11 was much greater than in the previous years; namely, in 1909-10 there were issued 945 licenses and in 1910-11, 1,047. The number of medical preliminary examinations has also been markedly increased in the last few years. While it amounted in 1906-07 to 1,038, it was increased in 1907-08 to 1,335, in 1908-9 to 1,461, 1909-10 to 1,713 and in 1910-11 to 1,858.

INCREASE IN MEDICAL STUDENTS

The number of medical students is also continually increasing. There were in the summer semester of 1905, 6,032; in the winter semester 6,080; in the summer semester of 1911, 11,927; in the winter semester of 1911, 12,446, and in the summer semester of 1912, 13,380. The increase is so great that the number of foreigners, which is also continually increasing, does not affect in any way the enormous increase of German medical students. In the summer of 1909 there were among the medical students of German universities 1,091 foreigners, in winter of 1909-10, 1,491, in summer 1910, 1,499, in winter 1910-11, 1,774, and in winter 1911-12, 1,979.

PHYSICIANS IN THE LARGE CITIES

So far as the individual sections of the country are concerned, an increase of physicians is noted everywhere since the previous year, with the exception of Hessen, Braunschweig and Anhalt. The movement of physicians toward the big cities, which was on a decline during the last few years, is observed again this year in its full extent. The large cities had in 1911, with a population of 14,633,000, 13,866 physicians, or for each 10,000 inhabitants, 9.5.; in 1912, with 14,980,000 of population, 14,981 physicians, or for each 10,000, 10 physicians. The remaining portion of Germany had in 1911, with a population of 50,774,000, 18,969 physicians, or for each 10,000 inhabitants, 3.7, and in 1912, with 51,323,000 of population, 18,546 physicians, that is, for each 10,000, 3.6 physicians. Hence, while the number of physicians in the large cities has increased by 1,115, in other parts of Germany it has decreased by 423.

During the last few years, the increase of physicians in greater Berlin was a little smaller than the increase of population, so that the proportional number of physicians has somewhat decreased, but in 1912 it again increased. In other large cities the number of physicians for 10,000 inhabitants was the greatest in Wiesbaden (in 1911, 24.3, and in 1912, 25.1), and the smallest in Hamborn (in 1911, 2.6, and in 1912, 2.0.).

CONTRACT PRACTICE

On the whole, every year the same conditions are observed. The small number of physicians in the manufacturing cities of the kingdom of Saxony, the Rhine provinces and Westphalia is conspicuous. This observation proves the well-known fact, that in places where physicians have to depend solely on the Krankenkassen population only few will find sufficient income.

MEDICAL WOMEN

The number of women physicians was 151, which shows a great increase. There were in 1908, 55 women physicians; in 1909, 69; in 1910, 102, and 1911, 118. Of the 151 medical women, 124 resided in large cities. They were distributed as follows: 64 in eastern Prussia, 34 in the western part, in the rest of northern Germany 9, in the kingdom of Saxony 10, in Bavaria 17, Würtemberg and Baden each 6, Hesse 3 and in Alsace-Lorraine 2. The number of women medical students in Germany is continually increasing. In 1909 it amounted to 371; in 1910 to 527, and in 1911 to 582; in this foreigners are included.

SPECIALISTS

The growth of specialism deserves a special notice. This thrives mainly in the large cities, although specialists are to be found also in all the smaller cities. A great number of specialists carry on general practice in addition to their specialty, although it is beginning to be more and more recognized that only those physicians who give up general practice have the right to the name of specialists. Among the specialists, the gynecologists are by far the most numerous. If we compute the number of surgeons with that of the physicians who practice surgery in connection with gynecology and orthopedics, the number would follow that of the gynecologists; then follow ophthalmologists, ear, nose and throat specialists, and finally dermatologists and pediatrists. An exact enumeration is not possible, as many of the specialists practice several specialties. Compared with the previous year the number of specialists increased in 1912 by 6.6 per cent; especially a great increase is noted among the gynecologists, whose number increased by 10.1 per cent. Also the number of surgeons and pediatrists increased more than the total number of specialists (by 7.5 to 7.7 per cent.) to the relative number of specialists. This depends on the patronage and prosperity of the population, the scope of the field of practice, the relative attendance of medical societies, and other similar reasons. As compared with the previous year, the number of specialists was markedly increased in several cities, as many of the physicians who are just settling in these places take up specialties. In Munich also many of the old resident physicians have taken up specialties, and in Kiel the great increase is due to the fact that the assistant physicians of the university heretofore did not receive the titles indicating their specialties.

LIFE EXPECTANCY

Following the great number of medical students and the sudden increase of medical preliminary examinations, there is to be expected in the next few years a considerable growth in the number of young physicians. The number of licenses, which amounted in 1910-11 to 1,047, can be estimated for 1911-12 at more than 1,300 and in 1912-13 at 1,400 or 1,500. In consequence of the great additional supply of physicians back in the 80's and 90's the profession was provided with new, younger forces. How this affects the life expectancy can be seen in the statistics for Würtemberg in regard to the ages of physicians:

	Würtemberg		Germany
	1896	1911	1907
Physicians of less than 25 years	2	..	465
25-30 years	132	63	4,341
30-40 years	302	368	11,735
40-50 years	184	356	9,445
50-60 years	86	187	3,728
60-70 years	61	91	1,583
70 and over	34	46	584
Age not known	..	..	17
Total	801	1,111	31,898

The mortality of the whole population and with it of course also that of physicians is comparatively decreasing.

GENERAL OUTLOOK

The prospects of the many who expect to join the profession within the next few years are not very promising, especially when it is considered that the field of practice is being continually more and more limited by the increase of hospital treatment, the methods of tuberculosis therapy, operations of internal malignant tumors, by the decrease of contagious diseases and many other causes.

Cleanliness of Hands Among School Children

A school physician of Charlottenburg has published a very interesting article on the important question of cleansing the hands of school children. He calls attention to the fact that at the present time there are shower-baths in the school buildings in 216 places in the German empire, while arrangements for washing for the simultaneous use of a number of pupils are found only in seventy-three places. This is not a proper condition of things, for, aside from the cleansing and hardening of the entire body, the cleansing of the hands of school children is in many respects even of greater importance than the baths. A shower-bath once a week is sufficient for children, but the hands should be thoroughly cleansed many times a day, especially before meals. The possible ways in which soiling of children's hands may contribute to the transmission of diseases are easily understood. It is necessary that in the first place all toilets should be provided with arrangements for washing; further, that there should be on each floor of the school building at least one opportunity for washing.

LACK OF SUITABLE SOAP

According to the author, one reason for the insufficient use of the facilities at hand is that heretofore there was no soap appropriate for school purposes. The bars of soap that are ordinarily used in families are not suited for use in schools, as they can easily be taken away or thrown on the floor and become crushed. Soap which is commonly fastened to chains in the toilets of restaurants is not suitable. It breaks easily, and as a rule only half of it can be utilized; further, it does not permit thorough cleansing, and consequently it is too expensive. Liquid soaps require too complicated apparatus. The soap paper and soap tablets used in travel are too small and too dear. The same is true of the pieces of soap furnished in the toilets on trains. To place green soap in a dish next to the wash-basin is not feasible, because the floor may be soiled with the suds and thus become slippery, and besides this soap irritates severely the skin of children. The author is of the opinion that the last-mentioned forms of soap should be always considered at first, but still that there should be invented a cleansing article which would be larger and rougher so as to effect a more thorough scouring of the hands of children than is possible with the soaps mentioned.

LOOFA-SPONGE SOAP

As a result of experiments he found that pieces of loofa-sponge (fibers of the sponge gourd) saturated with soap solution answered very well for the purpose of cleansing the hands. The small pieces of sponge take up easily the soap solution and emit it again on moistening with water; they have a good scouring action and the hands of the dirtiest child may be cleansed with it without any trouble. They fit the hand well, and may be used like a nail brush for the cleansing of the space under the nails. Each child when he wishes to wash his hands receives a piece of loofa-sponge, measuring about 1.5 square inches, impregnated with soap, which serves for a single washing. In this way it is possible, where there is suitable accommodation for simultaneous washing, that several children can wash their hands thoroughly at the same time. Near each washing apparatus a receiver must be placed in which the used pieces of loofa can be deposited. The loofa soap can be kept in boxes in the class-room closets, or the pieces of loofa-sponge may be hung up on a wire. The loofa-soap has been used successfully in two public schools. It is necessary to instruct the children how to use the soap. There are, however, marked difficulties in the way of a general introduction of loofa-soap. The soap factories refuse to make it wholesale, because the manufacture is costly and unprofitable.

TOWELS

In the opinion of the author, the towel question seems to be less difficult than the soap question. Towels can be furnished by the school, but should be changed more frequently than is usually the case. Paper towels are also suitable. A prize offered in 1911, by the German society for public baths, for securing the best suitable paper towels will probably lead to progress in this direction. Pupils of the higher classes may very well use their own towels. The towel may be easily carried in the portfolio which the child uses for his books.

Infant Hygiene in Army Families

In Strasburg an organization has been formed among the married men of the garrison at that place for furthering infant hygiene in order to reduce the infant mortality. Every married man in the garrison, except the higher officers, receives at the birth of a child a leaflet in which, in addition to advice with reference to the care and nourishment of the child, the attention of the mother is directed to the necessity of bringing her child at regular intervals to the station for infant hygiene at the post hospital. The persons in charge of the station are informed by the commanding officer of the troops as to the births, whereupon the physician in charge of the station visits the parents at their home in order to give them oral instruction and see to it that the mother, if practicable, nurses the child herself. At the same time he emphatically repeats the injunction that she shall visit from time to time the infant consultation station. Notwithstanding, there are occasions when the dilatory ones have to be notified by means of a postal card. It is proposed to install a nurse as assistant. In a similar way as the nursing premiums are distributed in other places, help is extended only to those who have previously brought their children to the infant welfare station. The number of such children born within a year amounts to about two hundred.

A Peculiar Case of Fake Treatment

The following case, which was reported in a Saxony trade journal, shows that quackery flourishes also in Germany in spite of all the efforts of physicians and authorities to enlighten the public. In one of the smaller cities of Saxony there came to the home of a workman's wife a stranger, a fairly well dressed man, who presented himself as a physician from the neighboring city. The woman showed him her eleven-year-old son who suffered from nervousness, and the "doctor" proposed to treat him with massage. The treatment was performed at once. Three days later the "doctor" came again to repeat the treatment. On this occasion he told the woman that she also was sick. He began to give her also massage. In this way he claimed to find that the woman was suffering from cancer, which could be removed only "if her nature should be united with his." The woman believed him (in true Boccaccio style), let him do as he liked and paid the money he asked for his "work," 1.50 marks. The case is not fictitious; even names and the address are given in the trade paper. [This method is said to be used by a well-known magnetic healer in the middle West of the United States—founder of one of the many isms of the kind—for the alleged purpose of transferring vitality from his "stronger nature" to women and girls among his patients who can be induced to allow it.]

Miscellany

Posology

The determination of the proper dose of medicine is one of the most difficult problems of the art of therapeutics. Schools of medicine have differed over the principles of dosage, and individual practice has varied from the infinitesimal through all degrees of therapeutic efficiency to such large doses as can only do harm by their toxic action. The dosage should vary according to the purpose for which the remedy is given. It is a good plan to follow the principle laid down by Manquat to give the smallest efficacious dose. Especially is this the case when the object is to stimulate the function of an organ, as overstimulation may lead to irritation and defeat its object. In this connection it is wise to consider other circumstances than drugs which may increase the desired function or may lessen the need of it. As Manquat (p. 82) says:

"We should like to note that it is not good practice to seek to secure complete functional correction by means of drugs. If the organism is placed, through hygiene, under the conditions of optimum of function, a small dose of medicine often suffices to bring about restoration of the disturbed function. It is often better to be content with improvement and modestly live according to appropriate hygiene rather than to seek the medicamental triumph of complete functional restoration which will not last. A patient with mitral stenosis, for instance, who knows enough not to ask of his heart more than it can give, will have the greatest chances of continuing long without the aid of medicinal assistance; and when one is at last obliged to resort to digitalis, minute doses, as has been shown by Dr. Huchard, are to be prescribed. To content oneself with producing diuresis, through theobromin, in a patient suffering from renal insufficiency would be a reprehensible practice; it is better, first, to restrain all the endogenous and exogenous intoxications, and prescribe only small doses of the diuretic remedy, which can be repeated whenever necessary. The patient's mode of life and alimentation should first of all be adjusted to their functional forces, while medicinal intervention should be regarded as a therapeutic adjunct.

"There is a case, however, in which a large dose is demanded from the beginning, that is, in the presence of an accident immediately menacing life when an active medicament alone can restore the adequate function of the failing organ. Such is in particular the case in cardiac asthenia capable of endangering life, or in an alarming dyspnea, or in sudden anuria, in which large functional doses are necessary. There should be no hesitation in seeking energetic action, unless some positive contra-indication exists.' The patient's salvation may depend on such action."

Control of Epidemics

In a short editorial under this heading, the Chicago *Journal* gives the principles that should govern. As they apply to any community they are worth quoting:

"The outbreak of contagious diseases in this city can be stopped if parents, physicians and health authorities will work together. Lack of cooperation on the part of any of these means longer life to the epidemic and shorter life to children.

"Parents should take no chances with a 'simple sore throat.' In these days, no epidemic starts from a frank, virulent case of diphtheria. It always begins with some case so mild as to escape diagnosis and treatment. If your child has a sore throat, call a doctor at once.

"Physicians should report all contagious cases promptly; and never should allow themselves to 'guess' whether a case is contagious or not. When in doubt, leave it to a microscope.

"Physicians and health authorities should combine to give the public the benefit of all doubt, in cases whose character is uncertain. No serious harm is done by isolating for a few days a doubtful case which proves to be non-contagious. Twenty deaths may result from failing to isolate a doubtful case that proves to be diphtheria or scarlet fever.

"The death of children in epidemics which can be prevented or stamped out is the worst sort of race suicide."

This is not bad for a lay journal.

The Effective Range of Infection

Here is then the first concrete fact emerging, a human focus—a man suffering from the disease—is essential in most, if not all, of those diseases requiring an intermediate host, before another case, or series of cases, can be infected. This fact narrows the epidemiological horizon. For a long list of diseases it must now be considered as a fundamental article of belief that no second case can occur, no epidemic can break out, unless there is at the beginning one initial case of the disease in a human. For such diseases as the commoner exanthemata and the venereal diseases there can be no dispute on the point; while from primeval chaos bacteriologists and parasitologists have now crystallized the axiom of the necessity for a pre-existing case in such diseases as malaria, filaria, typhus, trypanosomiasis, etc. There are, however, exceptions to this generalization that for the maintenance of infectious disease it is essential that human foci be forthcoming. Such diseases as tetanus, hydrophobia, glanders, anthrax, stand out prominently to remind one that in Nature there is no rule universally applicable, and for such all that can be said is that their intrinsic peculiarities must be noted, not as affecting the main argument, but as serving to remind us that there may be more things in heaven and earth than our epidemiology dreams of.—J. H. L. Cumpston in *Australasian Med. Gaz.*

The Propaganda for Reform

In This Department Appear Reports of the Council on Pharmacy and Chemistry and of the Association Laboratory, Together with Other Matter Tending to Aid Intelligent Prescribing and to Oppose Medical Fraud on the Public and on the Profession

THE CHOLOGEN TREATMENT FOR GALL-STONES

The proprietary Chologen is interesting some of our readers and several have sent us samples and literature. Dr. Philip Marvel, Atlantic City, N. J., for example, writes:

> "By the way, I am to-day sending you by mail a package which the Council on Pharmacy and Chemistry may care to tackle, or it may not. I shall not be insulted any way, but since these chologen preparations are being used a good deal by various globe trotters, who sometimes hook up for a short stay here, I feel it might be of some interest to know 'what fools these mortals be' and how much the profession is being fooled with them."

Chologen as a medical treatment for gall-stones has been before the German public for a number of years, and it is somewhat singular that so simple a method, which could be easily prescribed by the physician if it had merit, should exhibit such remarkable vitality in proprietary form in spite of evidence going to show that it rests on erroneous principles. The Council rejected it as an unscientific mixture. The treatment is somewhat liberal, consisting of the use, in varying successions, of three kinds of tablets: No. 1, calomel and podophyllin; No. 2, calomel, and No. 3, calomel, podophyllin, camphor and menthol. The proprietors tell us that the treatment should be proceeded with in spite of disturbances, such as diarrhea and pain in the abdomen, and that it should be repeated regularly at intervals for some years, so long as any trouble exists or recurrence is threatened. "A course" of Chologen tablets should be taken two or three times a year, No. 1 being given for ten days, then Nos. 1 and 2 for forty days and No. 3 for ten days.

It is worthy of note that experimental work seems to have been performed in the attempt to show that bile produced by this remedy will cause the disintegration and solution of gall-stones. Normal bile has a certain solvent action on gall-stones, but calomel and podophyllin have no demonstrable effect in increasing the amount of bile. We had imagined that these facts were generally known.

It is somewhat discouraging to reflect that some physicians entertain so low an estimate of their ability to prescribe such well-known remedies as calomel and podophyllin that they must use them in the fixed combinations provided by Dr. Glaser. If the self-respecting physician does not consider himself insulted by a proprietary manufacturer who presumes to tell him how to use such well-known remedies, this is a good sign that he needs to take a postgraduate course in materia medica and elementary prescription-writing. We feel that medical writers must be short of subjects when they devote papers to the exploitation of proprietaries consisting of these simple ingredients.

THE DANGER IN PROTONUCLEIN, A PREPARATION CONTAINING THYROID

Protonuclein was the subject of a little article in our Queries and Minor Notes Department, Nov. 16, 1912, page 1812. Dr. Reid Hunt, Washington, D. C., writes:

"*To the Editor*:—I have been requested by a physician to call your attention to certain statements which might well have been added to your reply to J. A. C. in regard to Protonuclein. Dr. Seidell and I examined several samples of Protonuclein some time ago[1] and by chemical and physiologic tests found that they contained the equivalent of 10 per cent. thyroid of 0.1 per cent. iodin strength (the actual amount of thyroid may have been greater or less for we did not know the percentage of iodin in the thyroid used). The dose recommended on the bottle was 6 to 12 grains every three or four hours; this represents from 0.6 to 1.2 grains of some of the commercial thyroid powders, and is sufficient to cause pronounced thyroid effects in many conditions. Protonuclein was advertised as a 'perfectly harmless antitoxin, tissue-builder,' etc., although the dose of thyroid did not differ materially from that in 'Rengo' and 'Marmola,' two anti-fat nostrums which we examined at the same time. We called attention to the danger of using thyroid, the most powerful tissue-destroying drug known, in cases of typhoid, pthisis, etc., for which protonuclein was recommended, though these are conditions in which the physician is supposed to be exerting every effort to build up the tissues.

"You also speak of the 'high' nuclein content (0.28 per cent. phosphorus): the largest recommended dose would contain only about ⅓ grain of nucleic acid—an amount which would probably have not the slightest effect, especially when given by the mouth.

"A sample of 'Protonuclein Special' was found to have twice as much thyroid as the ordinary Protonuclein; this also was stated to be 'perfectly harmless.'"

FULTON'S DIABETIC COMPOUND

We recently[2] had something to say about Fulton's Diabetic Compound. The following letter from Dr. O. C. Reiche, Macungie, Pa., dated Jan. 18, 1913, is of interest in this connection:

"I note the inquiry of Dr. George Y. McCracken, in the current issue, relative to Fulton's Diabetic Compound. I, also, am interested to know what is in the stuff that causes patients to have such blind, misplaced faith in it. Some months ago I had occasion to examine an applicant for life-insurance, and during the examination he admitted that he had been refused by a life-insurance company several years before on account of having diabetes mellitus and that he promptly placed himself under the care of a physician with no resulting improvement. Then his attention was called to this wonderful (?) stuff above mentioned and on taking he 'immediately improved.' On being questioned, however, he admitted that he was still losing weight and still passing large quantities of urine. Yet, he 'immediately improved.' Needless to add, the specimen of urine he gave me contained an enormous amount of sugar. I see this man occasionally and he is virtually a shadow of his former self—yet, he 'immediately improved'!"

"THIS PHYLACOGEN BUSINESS"

We reproduce below an advertisement that Parke, Davis & Co. are publishing in the drug journals of the country. We do this free of charge. Read it carefully. It may help you to realize how our profession—and through it the public—is being exploited by some pharmaceutical houses. In the editorial department, this week, something is said about "this Phylacogen business"—and, by the way, "business" is a most appropriate word to use in this connection. Parke, Davis & Co. have taken a dangerous and unproved agent—one that has not passed the test of scientific investigation—and are putting it on the market apparently with but one object in view, that of forcing it on the profession. Every medical journal of importance that accepts this kind of advertising is getting some of "this Phylacogen business;" every pharmaceutical journal, also, is getting some of "this Phylacogen business;" every uncritical physician who is willing to gamble with his patients' health is getting some of "this Phylacogen business." And the public? Well, the public doesn't matter. Hundreds of thousands of dollars' worth of Phylacogen will be sold; thousands of testimonials will flow in from unthinking physicians; the administration of Phylacogen will become a fad—all to the great financial benefit of Parke, Davis & Co. Then, like most proprietary rockets that describe a blazing parobola across the therapeutic heavens, it will come down, the inevitable stick. The public will forget it; the medical profession will discard it—and the corporation of Parke, Davis & Co. will, figuratively speaking, unctuously rub its hands and murmur: Good business while it lasted!

Don't you want some of this

Phylacogen business?

Here is the most important announcement that we have made to druggists in many months:

We are on the eve of a great promotion campaign on behalf of the Phylacogens—a campaign that will be continent-wide.

We shall publish a series of pointed, striking Phylacogen advertisements in a hundred medical journals.

To every physician on our American mailing list we shall send attractive, convincing Phylacogen literature.

Through our army of detail representatives we shall carry personal Phylacogen messages to the entire medical profession.

We shall use every legitimate means at our command to make known to physicians the remarkable efficacy of the Phylacogens.

This means orders from the doctors. It means a lot of good business for druggists. Don't you want to share in the profits?

Five Phylacogens are now offered:

Rheumatism Phylacogen
Gonorrhea Phylacogen
Erysipelas Phylacogen
Pneumonia Phylacogen
Mixed Infection Phylacogen

Marketed in vials of 10 Cc. capacity, 10 vials in a package.

LET US HAVE YOUR ORDERS

Home Offices and Laboratories,
Detroit, Michigan

Parke, Davis & Co.

"This Phylacogen Business." This is a reduced facsimile of a full-page advertisement appearing in drug journals. In the medical journals advertisements are appearing that claim "90 per cent. of recoveries" in "over 4,000 cases of infection that have been treated with Phylacogens."

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[1] Hunt, Reid, and Seidell, Atherton: Commercial Thyroid Preparations and Suggestions as to the Standardization of Thyroid, The Journal A. M. A., Oct. 24, 1908, p. 1385.

[2] The Journal A. M. A., Jan. 18, 1913, p. 225.

Marriages

William Krauss, M.D., Memphis, Tenn., to Miss Mary Louise Baxter of Nashville, Tenn., December 24.

Frank Louis Brown, M.D., to Miss Bernice Elizabeth Oswald, both of Chicago, January 29.

George Harry Coulthard, M.D., to Miss Erva L. Trow, both of Idaho Falls, Ida., recently.

Clyde Calvin Roller, M.D., to Miss Frances Belle Kempel, both of Ashtabula, O., January 22.

William C. Bryant, M.D., McKinney, Tex., to Miss Nannie Greer of Anna, Tex., January 12.

Claude W. Strait, M.D., Birta, Ark., to Miss Ruby Connor of Memphis, Tenn., January 15.

Mozart Monae Lesser, M.D., to Miss Isabelle Taylor, both of New York City, January 4.

Henry Bell Klie, M.D., Forkland, Ala., to Miss Ruby Peach of Selma, Ala., January 2.

Deaths

Wolfred Nelson, M.D. University of Bishop College, Montreal, 1872; McGill University, Montreal, 1884; for many years a member of the faculty of the College of Physicians and Surgeons in the Province of Quebec; a member of the special sanitary commission sent to Cuba in 1904 to investigate sanitary conditions in that island, and for his services in this capacity made a commander in ordinary of the Royal Order of Isabella the Catholic; a member of the American Association for the Advancement of Science and a fellow of the Royal Geographical Society of London; since 1900 a practitioner of New York; an expert on sanitation with especial reference to yellow fever and other tropical diseases; died at the Hudson Street Hospital, New York City, January 15, from pneumonia, aged 66.

Frank Lorenzo McKee, M.D. Bellevue Hospital Medical College; 1882; of Wilkes-Barre; a member of the American Medical Association; colonel of the Ninth Infantry, N. G., Pa.; coroner of Luzerne County for two terms; for several years in charge of the first aid work in the anthracite coal region; in charge of the commissary and sanitary department during and after the Johnstown flood; supreme medical examiner of the Heralds of Liberty; died in the City Hospital, Wilkes-Barre, January 13, a week after an operation for appendicitis, aged 52.

James R. Mudd, M.D. Washington University, St. Louis, 1872; a member of the American Medical Association; of St. Charles, Mo.; for several years local surgeon for the Wabash Railway; coroner of St. Charles County for twelve years and county physician for twenty-one years; a member of the American Association of Railway Surgeons; once mayor of St. Charles and a bank director; who was operated on in Deaconess Hospital, St. Louis, recently; died in St. Joseph's Hospital, St. Charles, January 14, aged 63.

Simeon Bishop Bell, M.D. Starling Medical College, Columbus, O., 1853; a surgeon of volunteers during the Civil War; through whose donation of land and money in 1893, the establishment of the University of Kansas Medical School became possible; who built, six years ago, on land donated by him, the Eleanor Taylor Bell Memorial Hospital; a resident of Rosedale, Kan., for nearly half a century; died at his home, January 16, from injuries sustained in a fall, two weeks before, aged 92.

Francis W. Mead, M.D. University of Georgetown, Washington, D. C., 1858; a member of the American Medical Association and Association of Military Surgeons of the United States; who went into the United States Public Health and Marine Hospital Service in 1878 and passing through the various grades was made surgeon in 1890; died at his station, the Marine Hospital, Vineyard Haven, Mass., January 18, from pneumonia, aged 74.

George Franklin Hanson, Ph.G., M.D. Cooper Medical College, San Francisco, 1885; of San Francisco; assistant professor of materia medica and therapeutics in his alma mater for several years, and professor from 1897 to 1912; a member of the staff of the Lane Hospital and prominent in the National Guard of California; died suddenly from heart disease, in Stockton, Cal., January 7, aged 56.

Orville Horwitz, M.D. Jefferson Medical College, Philadelphia, 1883; emeritus professor of genito-urinary surgery in his alma mater; formerly surgeon to Jefferson Medical College Hospital, St. Agnes Hospital, the State Hospital for the Insane and Philadelphia General Hospital; consulting surgeon to the Jewish Hospital; formerly a member of the American Medical Association; a member of the Philadelphia College of Physicians, American Surgical Association, American Association of Genito-Urinary Surgeons and American Urological Association; died at his home in Philadelphia, January 28, from spinal sclerosis, aged 52.

Alexander Proudfoot, M.D., C.M. McGill University, Montreal, 1869; formerly professor of ophthalmology and otology in Bishop's College, Montreal; for several years a specialist on diseases of the eye and ear in Chicago; a member of the British Columbia Medical Association; surgeon during the Franco-Prussian War; died suddenly in Los Angeles, Cal., January 17, aged 65.

James W. Robertson, M.D. Detroit Medical College, 1877; a member of the American Medical Association; for several terms mayor and a member of the School Board of Litchfield; surgeon to the Litchfield Hospital; once president of the Minnesota State Medical Association; died January 14, a week after an operation for appendicitis, aged 60.

Charles James Lane, M.D. Philadelphia University of Medicine and Surgery, 1864; acting assistant surgeon, U. S. Army, during the Civil War; twice justice of the peace of Marshall, Mich.; coroner of Calhoun County from 1910 to 1912; died at his home in Marshall, January 5, from marasmus, following a cerebral hemorrhage, aged 75.

James Francis Bothfield, M.D. Boston University School of Medicine, 1888; formerly assistant superintendent of the Westboro (Mass.) Insane Hospital, but since 1895 a practitioner of Newton and a member of the surgical staff of the Newton Hospital; died in a hospital in that city, January 12, from the effects of influenza, aged 47.

Joseph McFarland, M.D. Cleveland University of Medicine and Surgery, 1852; a veteran of the Civil War and a Methodist clergyman since 1866; surgeon of the Fifty-Fifth Battalion Infantry, O. V. M., during the Civil War; died at his home in Bloominggrove, O., January 5, from senile debility, aged 86.

Edgar Charles Syrett, M.D. University of Vermont, Burlington, 1898; physical director for the university during his work there; chairman of the board of health of West Springfield, Mass., for several years and also medical inspector of schools; died at his home, January 5, from pneumonia, aged 40.

Elmer E. Lamb, M.D. Detroit College of Medicine, 1886; a member of the American Medical Association and for fifteen years surgeon for the Republic Iron Company and in charge of the Republic Mine Hospital, Republic, Mich.; died at his home, January 10, from pneumonia, aged 50.

Albert W. Dierking, M.D. Louisville (Ky.) Medical College, 1896; of Oolitic, Ind.; a member of the American Medical Association; while attempting to board a Monon passenger train, near New Albany, January 11, was run over and instantly killed, aged 42.

Robert John Price, M.D. University of Maryland, Baltimore, 1866; for many years physician to the Dorchester County Alms House and a member of the County School Board; died at his home in Vienna, Eastern Shore, January 15, from cerebral hemorrhage, aged 74.

Joseph W. Winsborough (license, Missouri, 1884); for several years assistant surgeon for the Western Division of the Chicago and Alton Railroad; a resident of Missouri since 1874; died at the home of his son in Kansas City, January 10, from senile debility, aged 81.

Henri Hervieux, M.D. Victoria College, Coburg, Ont., 1886; of Montreal; professor of internal pathology in Laval University, Montreal; who sailed for Europe for the benefit of his health, December 4; died on the steamship *Rochambeau*, while returning home, recently.

Benjamin Thomas Winchester, M.D. University of Maryland, Baltimore, 1875; president of the Winchester Manufacturing Company, makers of medical supplies; died at his home in Windsor Mills, Maryland, January 14, from tuberculosis, aged 61.

Robert Bradlee Welton, M.D. Harvard Medical School, 1868; a member of the Medical Society of the State of New York; of Brookline, Mass.; died in the Long Island College Hospital, January 8, after a surgical operation, aged 69.

Albert Clarence Shaw, M.D. Medical College of Ohio, Cincinnati, 1900; Rush Medical College, 1908; died at his home in Eaton, O., January 12, from tuberculosis, which followed a fall and injury of the knee in 1907; aged 45.

Frederick William Kuhn, M.D. Long Island College Hospital, Brooklyn, N. Y., 1896; for several years surgeon of the Richmond Hill (L. I.) Fire Department; died at his home in Morris Park, L. I., January 8, aged 41.

Samuel S. Leith, M.D. Northwestern University Medical School, Chicago, 1899; a member of the State Medical Society of Wisconsin; died at his home in Junction, January 10, from cerebral hemorrhage, aged 44.

Thomas Samuel Murdock, M.D. University of Michigan, Ann Arbor, 1865; for many years a practitioner of Northville, Mich.; died in Ypsilanti, Mich., January 13, from cerebral hemorrhage, aged 74.

James M. Gray, M.D. College of Physicians and Surgeons, Keokuk, Ia., 1883; Kansas City (Mo.) Medical College, 1893; died at his home in Hutchinson, Kan., about January 7, aged 50.

Jasper Newton Sims (license, Indiana, 1897); a member of the Indiana State Medical Association; died at his home in Doverhill, Ind., January 3, from cerebral hemorrhage, aged 60.

Robert C. Alexander, M.D. College Physicians and Surgeons, Keokuk, Ia., 1883; of Nevada, O.; was found dead near Wyandotte, O., January 10, from cerebral hemorrhage, aged 63.

John Calvin Young, M.D. Beaumont Hospital Medical College, St. Louis, 1899; formerly of Roanoke, Ill.; died in Phoenix, Ariz., Nov. 10, 1912, from tuberculosis, aged 42.

George S. Liggett, M.D. Washington University, St. Louis, 1876; a member of the American Medical Association; died at his home in Oswego, Kan., January 11, aged 59.

James L. Quinn, M.D. Miami Medical College, Cincinnati, 1869; coroner of Preble County, O.; died at his home in Eaton, January 7, from bronchial asthma, aged 71.

William H. Jones, M.D. College of Physicians and Surgeons, Keokuk, Ia., 1874; died at his home in Forest City, Ia., January 12, from cerebral hemorrhage, aged 68.

J. F. J. Patten, M.D. Victoria University, Coburg, Ont., 1868; since 1880 a practitioner of St. George, Man.; died at his home, Nov. 15, 1912, from heart disease, aged 67.

Thomas Hawkins Stull, M.D. College of Physicians and Surgeons, Keokuk, Ia., 1877; died at his home in Algona, Ia., January 4, from cerebral hemorrhage, aged 60.

P. Edward Thibodaux, M.D. Tulane University, New Orleans, 1892; of Montegut, La.; died suddenly in Houma, La., January 6, from valvular heart disease, aged 52.

Henry Woodward Jones, M.D. Detroit Medical College, 1874; of New York City; died at his home in White Plains, N. Y., January 14, from diabetes, aged 65.

Jonathan Wingate Winkley, M.D. College of Physicians and Surgeons, Boston, 1894; died at his home in Boston, Nov. 20, 1912, from acute gastritis, aged 81.

Nicholas Louis Talbot, M.D. Miami Medical College, Cincinnati, 1876; died at his home in Austin, Neb., Dec. 25, 1912, from progressive paralysis, aged 62.

Francis G. Arter, M.D. Rush Medical College, 1868; for twenty-four years a practitioner of Chicago; died at his home in that city, January 22, aged 74.

Artemesia Brumback Winter, M.D. Physio-Medical Institute, Cincinnati, 1883; (license, Ohio, 1896); died at her home in Newark, O., January 10, aged 67.

Mortimer Hall Clarke, M.D. Boston University School of Medicine, 1888; died at his home in Auburndale, Mass., about January 14, aged 52.

Edward Perry Bowles, M.D. College of Physicians and Surgeons, New York City, 1874; died at his home in Wolfville, N. S., Nov. 20, 1912.

May McClaren Judy, M.D. Kansas City (Mo.) Hahnemann Medical College, 1909; died at her home in Kansas City, January 4, aged 37.

William Jacob Wagner, M.D. University of Toronto, 1870; died at his home in Toronto, January 10, from nephritis, aged 63.

Significance of Uncomplicated Spastic Paraplegia.—An uncomplicated spastic paraplegia should suggest in the child cortical disease, in the adult disseminated sclerosis.—Judson S. Bury in *Clin. Jour.*

Correspondence

The Diagnostic Doubts of Dr. Cabot

To the Editor:—Allow me to express my approval of Dr. Croftan's letter (The Journal, Jan. 11, 1913, p. 145) concerning Dr. Cabot's paper ("Diagnostic Pitfalls," The Journal, Dec. 28, 1912, p. 2295).

We all make mistakes, and we all have idiosyncrasies. Some men think it advisable to pose as pessimists concerning their own ability or accomplishments. They do not really desire people to rate them as they publicly rate themselves. We frequently see this pose in discussions, and sometimes among our patients, who are always running themselves down. They do not believe it themselves, and they really do not want any one else to believe it; often they are persons of ability.

Only a small number of patients under treatment by any one physician die, and only a small proportion of those that die come to autopsy. If Dr. Cabot's findings were statistically correct, the majority of our patients would recover in spite of mistaken diagnosis and treatment. Although there is no doubt that many of our patients recover in spite of diagnosis and treatment, those of us who are older and have more or less consulting or difficult office practice (receiving only "tough" cases) know that we would not succeed if we did not generally make correct diagnoses. Therefore I agree with Dr. Croftan that Cabot's article is ill-timed, ill-judged, and, being made public, unjust to his brethren in the profession. Such a talk as his should be given only to a small group of men in a confidential, personal discussion. [Dr. Cabot's paper was read and discussed before the Section on Practice of Medicine of the American Medical Association, and its publication approved.—Ed.]

Dr. Cabot entirely overlooks the fact that many diagnoses are made by exclusion, and that finally the case is rounded up to one, or one of two, or one of three causes. In such instances only an exploratory incision or a post-mortem examination could make the diagnosis positive. Such a decision is not a failure in diagnosis; it simply recognizes that difficulties are presented to us which science has not yet given sufficient diagnostic data to solve. But this is no failure on the part of the diagnostician, and the treatment of the patient is often the same, whichever diagnosis is chosen of the two or three possibilities reached by careful exclusion. In other words, the patient and not the name of the disease is to be treated. On the other hand, there are thousands of correct diagnoses made of patients who have no organic disease, and who, on account of the correct diagnosis, receive correct treatment and entirely recover. In other words, Dr. Cabot's paper is a sad proposition to present to laymen, but medicinally, and as far as the welfare of our patients is concerned, it means very little.

Oliver T. Osborne, M.D., New Haven, Conn.

To the Editor:—I have read with much interest, but many doubts, the criticism by Dr. Alfred C. Croftan in The Journal, January 11, on the recent article by Dr. Richard C. Cabot, "Diagnostic Pitfalls." I am a great admirer of Dr. Cabot's unequivocal honesty and sterling integrity.

One must confess that professional honesty can be graded, the same as commercial products or even California fruit, and this superfine Cabot grade, which would proclaim the truth from the housetops because it is truth, no matter what the personal cost or sacrifice might be, is certainly a *rara avis.* Only twice have I met it before: once in a great medical teacher who no longer resides in this country, and again in a prominent surgeon with whom this teacher was long associated.

Dr. Croftan's statement that in Vienna he has "seen 152 consecutive cases correctly diagnosed in every clinical detail" will be hardly accepted by any surgeon who has had experience in operating after diagnoses made by internists. I have found the lily painted as frequently abroad and even in brighter colors than in my own country.

The Cabot grade can best be shown by contrast with one of Dr. Croftan's own statements. "The whole argument is illogical," he says; "fifty men are not necessarily a centipede because one man is a biped." This is trite, it is apropos; its brilliancy smacks of good sound literature. But the Cabot grade would have enclosed this centipede biped wit in quotation marks, for the expression is not Dr. Croftan's. It belongs to the English essayist, Gilbert K. Chesterton ("What's Wrong with the World," p. 2).

Raymond Russ, M.D., San Francisco.

Work of the Full-Time Instructor

To the Editor:—When a standard is established in food or drug analysis, a method of approximation to the standard is also established. Thus, if a sanitary authority fixes a limit of 25 parts per million for sulphur dioxid in gelatin, it also sets forth in detail the process by which the ingredient is to be determined.

I make this prologue because I wish to call attention to the fact that while severe standards are now being required for medical colleges, no definite methods of ascertaining compliance therewith are being furnished, nor, as it seems to me, are some of the standards clearly defined.

Take, for example, the "full-time" instructors. What constitutes full time? Surely, it is not meant that the instructor is to spend all his, or her, waking hours in the teaching work. It is thought by many that research work should be performed by such teachers in the hours not actually occupied with students; but research work is not teaching, and students may not get direct benefit from the time that the instructor spends in the research laboratory. It is likely that many instructors will find research more attractive than the lecture-room, as to both immediate and prospective returns in fame and fortune, so that the student will be neglected. Will full-time registry prevent the teacher from preparing text-books or contributing within or without his specialty to journals and encyclopedias, or serving without compensation on commissions of inquiry under national, state or municipal authority, along lines of his teaching work? Some years ago I was a member of a milk commission. The service was without compensation. The report has been pronounced one of the most important yet rendered in the matter, and the information that I obtained in the course of service on the commission was of much value to my students in the department of hygiene. The service was carried on without loss of an hour from the prescribed schedule of my work at the college. Would such a service interfere with full-time registry? What about vacation work? Medical schools in this country are not usually in session between the middle of June and the middle of September. Suppose a teacher should take up some work for compensation during this period, would the "full-time" condition be broken?

From conversations with teachers in medical schools, I have learned that some consider that the full-time requirement means that no time shall be given to routine medical practice, but that teaching in two institutions or accepting expert duty does not conflict. I have not so understood the condition, but it may be worth while for those who are promoting the system to inquire how far the several institutions are complying with the requirements. The history of reform in American medical education shows too many instances of colleges deliberately keeping the word of promise to the ear and breaking it to the hope to permit us to suppose that in this serious matter they will all be true without supervision.

Henry Leffmann, M.D., Philadelphia.

[Comment.—The term "full-time instructors" as applied to medical colleges means exactly the same as if applied to a scientific school or a college of liberal arts. No one thinks of arguing that a teacher in our standard colleges of liberal arts should be permitted to engage in private business in all except the strictly class-room hours. So for medical colleges the object sought by the requirement is to secure teachers who are paid sufficient salaries so that their life-work and their chief interests may be devoted to the training of medical students. The teaching of modern medicine, particularly in the laboratory branches, can no longer be satisfactorily done by busy practitioners or by others who can devote only fragments of their time to teaching, and who are required to look to other unrelated lines of work for their livelihood. As to research in the medical school, the expert teacher must of necessity be engaged in research if he is to keep up with the rapid developments of his subject and if he is to bring into the medical college the spirit of investigation with which every medical student should become imbued. If the teacher by his own research is fully up to date in his subject and has something worth while to add to the world's knowledge of that subject it would by no means detract from his usefulness as a teacher for him to use his spare moments in reporting such facts, or in writing a book on that subject. Unless he is an authority in his subject he would scarcely be in position to write a text-book. Again, expert duty along the lines of the subject taught might really add to an instructor's teaching ability. Vacation time also is the instructor's, to be used as he may see fit. No outside work, however, should be allowed to interfere with his first work as a medical teacher. The "full-time" teacher is one whose work *is in the college;* his private library is there; his research work is there; his interests are there; he can be readily found by the students to whom his work is a constant inspiration. Instead of the empty, lifeless laboratory of former times headed by the busy practitioner, the full-time teacher's laboratory is an active, orderly place—a constant and present example to those who are fortunate enough to become his pupils.—Editor.]

The Special Package Evil

To the Editor:—There is much food for thought in the editorial from the New York *Sun* (The Journal A. M. A., Oct. 5, 1912, p. 1307) warning the public against physicians who prescribe proprietaries, blaming these physicians for the all-too-prevalent tendency of the public toward self-medication, and lauding the old-fashioned prescription because it at least cannot easily be duplicated.

It is but too true that the prescribing of proprietaries fosters self-drugging. When a patient learns that the medicine prescribed is "ready-made" he shrewdly concludes that it was not made for his ailment in particular, but that it must fit a series of similar conditions. Hence, if it is found of value, he will hereafter use it for all symptoms similar to those which caused his physician to prescribe the proprietary. He also will find little difficulty in finding symptoms in the ailments of his friends which will warrant a recommendation to patronize his remedy.

But there is another objection to the prescribing of ready-to-take proprietaries. Even if the preparation is the best possible medicine that could be selected for the particular case, the very fact that it was ready-made is bound to lessen the patient's confidence in his physician—about as much as one would lose faith in a tailor caught in palming off a ready-made suit.

While the patient has a right to know what medicines he is taking, it is desirable for the reasons just given that physicians take pains to give their prescriptions a character of individuality, and to avoid whenever possible giving the appearance of prescribing ready-made medicines.

Physicians who would follow this advice should bear in mind that almost every proprietary article is put up in a distinctive package, and also that the druggist is most likely to dispense it in this package. As a result it is more than likely that the patient will find it out if a proprietary is prescribed, no matter whether it is Fellows' Syrup with the name blown in the glass or the very ethical and probably valuable atophan with its neat little "star-bespangled" box, even if the physician takes pains to write special directions and the druggist removes the printed label and affixes his own. And it must be understood that the druggist has good reasons for dispensing the proprietary in its original container. In the first place, many physicians have acted on the manufacturer's assertion that druggists are prone to substitute, and therefore tell their patients the kind of container in which their medicine should come, thus making it suicidal for the druggist to transfer the proprietary to a regular prescription box or bottle. The second reason is that the druggist must often use the peculiar style of container as a warrant for the high price that he must charge, for almost every proprietary is more expensive than 99 per cent. of the ordinary prescriptions of physicians.

It would be most instructive and also decidedly advantageous if physicians would make it an invariable rule to ascertain the style in which a proprietary remedy whose employment they contemplate is put up. They will then see what steps they must take in order that a prescription for such a proprietary remedy may not be the cause of its indiscriminate use, or subject them to the criticism of prescribing ready-made medicines.

W. C. Wescott, Ph.G., M.D., Atlantic City, N. J.

Disinfection of Schoolrooms

To the Editor:—In your issue of Dec. 14, 1912, p. 2171, is a miscellaneous item dealing with a paper on the above subject read by me at the Fifteenth International Congress on Hygiene and Demography. The item in question, after outlining the suggestions contained in my paper, concludes: "The Journal is disposed to wonder as to the reception which would be given to this mode of disinfection. The continuous odor of phenol throughout the school building, which would perhaps be even carried home in the scholars' clothing, might arouse protest which would interfere with the carrying out of the plan."

May I respectfully point out that you have misunderstood my meaning in this connection? The paragraph in my paper to which the above quotation relates reads as follows:

> "To avoid the objectionable odor inseparable from the use of certain disinfectants of low efficiency (necessitating proportionately low dilutions), I would advocate the use of one of the modern high-testing disinfectants in a dilution equivalent to 1 part pure carbolic acid [phenol] in 25 parts of water—say one with a Rideal-Walker coefficient of 20, the dilution of which, equivalent to 1:25 carbolic acid would be 1:500. Taking the cost of such a preparation at $1.50 per gallon, a superficial area of 10,000 square feet could be disinfected daily for a week at a cost of approximately 40 cents."

I do not, as suggested in your note, recommend the spraying of schoolrooms with a 1:25 phenol solution. Such a course would be impracticable not only on the ground mentioned in The Journal, but also on that of expense. With the use of a preparation such as I have indicated, on the other hand, neither of these disabilities applies, as may be gathered from the fact that practical experiments in schoolroom disinfection with a bactericide of this nature are at present being officially carried out by the education authorities of New York, Boston, Philadelphia, Pittsburgh, Toledo and other cities.

In view of the weight attaching to any pronouncement in The Journal, I trust that you may be able to find space for the publication of this letter as the most effective means at my disposal of correcting a misconception which must constitute a serious obstacle to a much-needed reform.

J. T. Ainslie Walker, New York.

What Vital Statistics Should Be.—Vital statistics are, in short, not vital; they deal with death, not life, with the "finished product" only of our slack, slipshod methods. They ought to deal, not with the dead, but who they were, and why and how they died, and why they were not saved. Suppose the factory manager merely knew at the end of the year his total product! Suppose that even this piece of information related, not to the way business went last year, but to the way it went five years before! The modern scientific manager must know not just the total product, he must know also all about the product, the kind, the quality, the cost, and why it is not better for the price. The modern vital statistician must know not only the deaths, but why the health department is not stopping them; what its funds are; how they are spent or wasted; what work is being done; how much of value each division does; and all to one end of saving life.—Hill in *Journal-Lancet.*

Queries and Minor Notes

Anonymous Communications will not be noticed. Every letter must contain the writer's name and address, but these will be omitted, on request.

PROPORTION OF PHYSICIANS TO POPULATION

To the Editor:—Please give the latest figures showing the proportion of physicians to population in the various states.

William Z. Dahl, M.D., Eagle, Colo.

Answer.—The following table is based on the population figures of the Census of 1910 and the number of physicians shown by the third edition of the American Medical Directory.

State	Population	Physicians	People to Each Physician
Alabama	2,138,093	2,418	884
Arizona	204,354	247	868
Arkansas	1,574,449	2,596	606
California	2,377,549	4,767	499
Colorado	799,024	1,772	451
Connecticut	1,114,756	1,564	713
Delaware	202,322	246	822
District of Columbia	331,069	1,350	245
Florida	752,619	974	773
Georgia	2,609,121	3,022	863
Idaho	325,594	420	775
Illinois	5,638,591	9,988	565
Indiana	2,700,876	4,984	542
Iowa	2,224,771	3,653	609
Kansas	1,690,949	2,688	625
Kentucky	2,289,905	3,601	636
Louisiana	1,656,388	1,930	858
Maine	742,371	1,176	631
Maryland	1,295,346	1,972	657
Massachusetts	3,366,416	5,648	593
Michigan	2,810,173	4,104	685
Minnesota	2,075,708	2,262	918
Mississippi	1,797,114	6,032	298
Missouri	3,293,335	6,037	546
Montana	376,053	512	734
Nebraska	1,192,214	1,796	664
Nevada	81,875	144	569
New Hampshire	430,572	704	612
New Jersey	2,537,167	2,884	880
New Mexico	327,301	430	761
New York	9,113,614	14,815	615
North Carolina	2,206,287	1,849	1,193
North Dakota	577,056	594	973
Ohio	4,767,121	7,513	635
Oklahoma	1,657,155	2,620	633
Oregon	672,765	1,041	646
Pennsylvania	7,665,111	11,345	676
Rhode Island	542,610	751	723
South Carolina	1,515,400	1,275	1,189
South Dakota	583,888	651	897
Tennessee	2,184,789	3,338	655
Texas	3,896,542	5,888	662
Utah	373,351	427	874
Vermont	355,956	679	524
Virginia	2,061,612	2,359	874
Washington	1,141,990	1,630	701
West Virginia	1,221,119	1,639	745
Wisconsin	2,333,860	2,652	880
Wyoming	145,965	235	621
Army, Navy, P. H. S.	....	968	...
Total	91,972,266	142,190	640

LITERATURE ON THE PREVENTION OF INFANT MORTALITY

To the Editor:—Please refer me to literature on the study of the prevention of infant mortality. We are planning to have a children's welfare conference here, and want to use the literature in regard to the work.

Mary W. Miller, Harrisburg, Pa.

Answer.—The following may be referred to:

Herrman, Charles: Suggestions for Reducing the Infant Mortality from Summer Diarrhea, *Arch. Pediat.*, July, 1907.

The Conservation of Child Life in Pennsylvania, *Bull. Pennsylvania State Board of Health*, August, 1910.

Hoffman, H. H.: Saving the Babies, *Harper's Weekly*, Sept. 30, 1911.

Infant Mortality, *Bull. New York City Board of Health*, April, 1912.

Infant Mortality and Infant Vitality, *Bull. New York State Board of Health*, May, 1912.

Neff, J. S.: Efficiency in Child Saving, *Ann. Am. Acad. of Political and Social Sc.*, 1912, xli, 69.

Infant Mortality and Its Relation to the Employment of Mothers, Volume 13 of the Report of Conditions of Woman and Child Wage-Earners in the United States, Senate, 61st Congress, 2d Session, Document 645, Washington, Government Printing Office, 1912.

American Association for Study and Prevention of Infant Mortality, Transactions, 1910, 1911, 1912; Secretary, Dr. Frank S. Churchill, 1259 North State Street, Chicago.

Newmayer, S. W.: Warfare Against Infant Mortality, *Ann. Am. Acad. Political and Social Sc.*, xxxvii, 288.

Infant Mortality and Milk Stations, Report of the New York Milk Committee, 105 East 22d Street, New York City.

The Department of Child Hygiene of the Russell Sage Foundation, 400 Metropolitan Tower, New York City, has literature on the subject.

CAUSE OF INITIAL CHILL AND ACUTE CONGESTION IN PNEUMONIA

To the Editor:—How soon after the initial chill does infection with the pneumococcus take place? If only after exudation, what is the cause of the chill and acute congestion in lobar pneumonia? It is stated that exudation takes place in about twenty-four hours. What would be the best means to prevent infection of the congested lung? I have had cases that appeared to be pneumonia, but which never went further than the stage of congestion, infection evidently not taking place. These are perhaps only cases of acute congestion of the lung. It seems that it would be a good thing if they could all be stopped there. I do not think that the books I have are entirely clear as to the cause of the initial chill and acute congestion if infection does not take place until exudation occurs. M. T. CLARK, M.D., Temple, Okla.

ANSWER.—It is usually believed that the chill and accompanying fever are due to the entrance into the blood of the toxins of the disease, and, in the opinion of some pathologists, pneumococci are present in the blood at the same time. If this view is correct, the infection must have occurred previous to the chill. As the pneumococcus is found frequently in the mouth and throat of normal persons and is present in the bronchial secretions in cases of bronchitis, it is evident that infection in the sense of the beginning of pneumonia must be due to a change in the virulence of these organisms and the invasion of tissues which are not affected in the other conditions due to the pneumococcus. It is quite possible that further studies on immunity in pneumonia may result in discovering a means of aborting the disease in the congestive stage, but so far we know of none. The occurrence of pneumonia of one or two days' duration has been observed in a few cases, and it is easy to see how such cases give rise to the view that some remedy has aborted the pneumonia. It is probable that a considerable number of cases go no further than the congestive stage, and are regarded by enthusiastic observers as having been aborted by their favored remedies.

EXPERIMENTAL PNEUMONIA

To the Editor:—1. Will rabbits injected with a fatal dose of virulent pneumococci die of pneumonia or a septicemia? 2. Is it possible to produce a simple pneumonia in rabbits, and how? 3. Are guinea-pigs susceptible to the pneumococci and to pneumonia? 4. Please refer me to books and articles covering experimentation in pneumonia in the lower animals.

T. J. WEST, M.D., Makaweli, Kauai, T. H.

ANSWER.—1. Rabbits injected hypodermatically with virulent cultures of pneumococci usually develop a septicemia without a definite pneumonia comparable to the lobar pneumonia of man.

2. By very careful gradnation of the dose of pneumococci injected, it has been possible to cause the development of a lobar pneumonia in rabbits. The pneumococci used in these experiments have, as a rule, been injected into the trachea or bronchi.

3. Yes.

4. The following may be referred to:

Riesman, D., and Kolmer, J. A.: Studies in Experimental Pneumonia, *Tr. Assn. Am. Phys.*, 1912.
Wadsworth, A. B.: Pneumococcus Infections in Animals, *Jour. Exper. Med.*, July, 1912.
Lamar, R. V., and Meltzer, J.: Experimental Pneumococcus by Intrabronchial Insufflation, *Jour. Exper. Med.*, February, 1912.
Truche, Cramer and Cotoni: Virulence of the Human Pneumococcus for the Mouse, *Ann. de l'Institut Pasteur*, June, 1911.
Friedlander: Versuchungen über die Infection des Meerschweinchens, *Centralbl. f. Bakteriol.*, 1911, lix, 103.
Rasquin, E.: Etude expérimentale sur la pathogénèse de la pneumonie chez le lapin, *Arch. de méd. expér. et d'anat. path.*, 1910, xxii, 804.
Strouse, S.: Experimental Studies of Pneumococcus Infections, *Jour. Exper. Med.*, September, 1909.
Wadsworth, A.: Experimental Studies on the Etiology of Acute Pneumonitis, *Am. Jour. Med. Sc.*, 1904, cxxvii, 851.
Prudden, T. M.: A Study of Experimental Pneumonitis in the Rabbit Induced by the Intratracheal Injection of Dead Tubercle Bacilli, *New York Med. Jour.*, 1891, liv, 617.

FLIES WHICH DEPOSIT EGGS WHEN THEY STING

To the Editor:—Can you give me information regarding a parasite found in Cuba, Jamaica, Honduras and other tropical countries, known as the dust or skin gnat-fly? These flies burrow into the skin and by eggs; the larvae appear in successive crops. Any information regarding the treatment will be appreciated. M. M. H.

ANSWER.—The description given, without a specimen, does not enable us to identify the insect; we do not find the names given by our correspondent as synonyms of any names known to us. The parasite referred to is possibly the burrowing flea, *Sarcopsylla penetrans*, or one of the flies, the *Dermatobia noxialis* or the *Chrysomyia macellaria*. The latter is known also as *Lucilia* or *Compsomyia macellaria*, commonly called the screw-worm fly. *Dermatobia noxialis* is said to be especially troublesome in Panama, while *Chrysomyia macellaria* has a wide range of distribution in North and South America. The female fly of *Chrysomyia* deposits her eggs in the tissues of the host. The larvae develop from the ova with surprising rapidity, in some cases the moving maggots being seen in the skin within a few moments after the sting is discovered. The larvae in the tissue produce a violent inflammatory reaction with great collateral edema, so that from a sting on the lip the edema may spread to the point of obstructing respiration and deglutition. Unless the larvae are removed, suppuration and necrosis occur. *Chrysomyia macellaria* is an important pest of domestic animals, but does not frequently attack man. The lesions produced by it, unless properly treated by the injection of chloroform and extraction of the larvae, are occasionally fatal. A description of *Dermatobia noxialis* and the lesion caused by it may be found in the article of Dr. J. Lee Adams, Jr., "Tropical Cutaneous Myiasis in Man," THE JOURNAL, April 3, 1904, p. 947. Another fly the larvae of which burrow into the skin is *Ochromyia anthropophaga*, found only in Africa. A general bibliography of myiasis in man may be found in an article by N. C. Gilbert, "Infection of Man by Dipterous Larvae," *Archives of Internal Medicine*, October, 1908, p. 226.

If our correspondent can obtain specimens of the insect in question and will send them to the Bureau of Entomology at Washington, he will doubtless obtain information in regard to its scientific name, etc.

EFFICIENCY OF COMMERCIAL BARIUM SULPHATE IN ROENTGENOGRAPHY

To the Editor:—I have some commercial barium sulphate which I wish to mix with water and milk or buttermilk to give to patients for *x*-ray work. I have used bismuth subcarbonate heretofore. Please tell me about the toxicity of commercial barium sulphate. Is it better to use the commercial or the pure salt? Are the bismuth salts considered better for *x*-ray work than the barium?

J. P. DEWITT, M.D., Canton, Ohio.

ANSWER.—We find nothing definite with reference to the use of commercial barium sulphate. There is danger that the barium sulphate might be contaminated with sulphid or possibly with carbonate, in which case it might enter into solution in the intestine and produce toxic symptoms. Dr. G. Schwarz reports (*Berl. klin. Wchnschr.*, July 22, 1912, p. 1424) two cases of substitution for barium sulphate, one of carbonate, the other of barium oxid. In the case in which barium carbonate was used, rather serious symptoms of poisoning occurred. In view of this danger, if barium sulphate is used it would be preferable to secure the chemically pure salt. The preparation could be easily tested for the barium sulphid or carbonate by warming with dilute hydrochloric acid, filtering and adding to the filtrate dilute sulphuric acid. If a precipitate should occur immediately, one would be justified in assuming the presence of a barium compound soluble in dilute acid. A more detailed method for the determination of the purity of barium sulphate is published in the *Apotheker-Zeitung*, No. 49, 1912, p. 465, contributed by the firm of E. Merck, Darmstadt. It is here recommended that only an absolutely pure barium sulphate prepared with a special reference to its use for roentgenography should be employed. The risk of poisoning would probably be greater with impure barium salts than with the bismuth compounds. Intoxication by absorption of bismuth from the intestinal canal seems to be rare. Probably the cases of poisoning by bismuth salts have been due to the decomposition of the nitrate, and are really cases of nitrous poisoning.

PUBLIC SERVICE CHANGES ARE STILL BEING PUBLISHED

To the Editor:—I have noticed the omission of the weekly report of army medical orders. These were of interest to many readers and often served as a directory of our medical friends in the service.

W. C. FISHER, M.D., New York City.

ANSWER.—If our correspondent will pardon us, we will correct his statement by saying that he cannot have noticed the *omission*—for there has been no omission—but that he has failed to note the *change of position* of the weekly reports of the medical officers of the Army, the Navy and the Public Health Service. Nearly a year ago, realizing that these lists of changes were purely ephemeral matter, they were transferred to the advertising pages immediately following the reading matter. In order to inform our readers concerning this change, an explanatory note appeared for several weeks at the bottom of the page where the changes in the public service had formerly been printed. The position of the Public Service department is indicated each week in the Digest of THE JOURNAL—the last item on the second page of the cover.

LITERATURE ON HOSPITAL CONSTRUCTION

To the Editor:—Through the efforts of the Waukesha City Medical Society and the women's clubs we have secured a fund of $15,000 for the erection of a municipal hospital, designed to accommodate both private and city cases. The hospital committee of the city council is now ready to consider plans and is looking to us to present plans and specifications with our endorsement. Can you give us any help? B. M. Caples, Waukesha, Wis.

Answer.—The following original articles have appeared in The Journal:

Haven, Alfred C.: The Lake Forest Hospital for Contagious Diseases, Jan. 17, 1912, p. 253.

Ochsner, A. J.: Practical Points of Economy in Hospital Construction, Sept. 21, 1907, p. 990.

Sturm, M. J.: Planning and Construction of Hospitals for Smaller Cities and Towns, Feb. 20, 1909, p. 610.

Thompson, W. G.: Modern Hospital Construction, Sept. 21, 1907, p. 993.

Holmes, Bayard: The Hospital Problem, Aug. 4, 1906, p. 318; A Suggestive Plan for a Modern General Metropolitan Hospital of Five Hundred Beds, March 28, 1908, p. 1025.

The following books may be found of assistance:

Modern Hospitals, published by the American Architect, 50 Union Square, New York. $5. (Reviewed in The Journal, Nov. 9, 1912, p. 1741.)

Biggs, Hermann M.: Comments on Some Plans of Hospital Construction, D'ept. of Health, New York, Monograph Series 7, September, 1912. (Reviewed in The Journal, Nov. 9, 1912, p. 1741.)

Galton: Healthy Hospitals, Oxford University Press, 91 Fifth Ave., New York. $2.75.

Ochsner and Sturm: Organization, Construction and Management of Hospitals, Cleveland Press, Chicago. $7.

In addition, the following are articles which have appeared in various other periodicals:

Aikens, Charlotte A.: Some Common Blunders in Hospital Construction, *Nat. Hosp. Rec.*, 1907, x, 16.

Beilhach, P. H.: Natural Versus Mechanical Ventilation of Hospitals, *Mil. Surg.*, 1907, xx, 199.

Goldwater, S. S.: Cost of Modern Hospitals, *New York Med. Rec.*, Oct. 14, 1905.

Goodrich, Annie W.: Some Common Points of Weakness in Hospital Construction, *Am. Jour. Nursing*, 1903-4, iv, 93.

Hucker, A. B.: Notes on the Requirements of Modern Hospital Architecture, *St. Paul Med. Jour.*, February, 1904.

McMullen, B. H.: Small Hospitals for Small Places, *Jour. Michigan Med. Soc.*, July, 1908.

Ochsner, A. J.: Hospital Construction in American Cities and Towns, *Lancet-Clinic*, Nov. 12, 1904; Hospital Construction, *Illinois Med. Jour.*, October, 1908.

Simpson, W. J.: Infectious Hospitals, *Jour. State Med.*, London, 1903, xi, 521; Plans for a Model Modern Hospital, *Nat. Hosp. Rec.*, 1907, x, 10.

Smith, G. A.: Application of the Cottage System to the New Hospitals, *Mil. Surg.*, 1907, xx, 199.

Vander Veer, Albert: The Essentials of Modern Hospital Construction, *Albany Med. Ann.*, July, 1902.

Dunbar, A. W.: A Description of Recent Hospital Construction in the United States Navy, *U. S. Naval Med. Bull.*, October, 1912, p. 473.

LITERATURE ON INTRATRACHEAL INSUFFLATION

To the Editor:—Please refer me to literature on intratracheal insufflation. J. J. Fabian, M.D., Grand Rapids, Mich.

Answer.—The following may be referred to:

Landon, L. H.: Practicability of the Meltzer-Auer Method of Continuous Intratracheal Insufflation, *Univ. Penn. Med. Bull.*, July-August, 1910.

Lilienthal, H.: First Case of Thoracotomy in a Human Being; Anesthesia by Intratracheal Insufflation, *Ann. Surg.*, July, 1910.

Elsberg, C. A.: Intratracheal Insufflation (Meltzer); Its Value in Thoracic Surgery, *Ann. Surg.*, July 1910; Anesthesia by the Intratracheal Insufflation of Air and Ether, *Ann. Surg.*, February, 1911.

Meltzer, S. J.: Intratracheal Insufflation, The Journal, Aug. 12, 1911, p. 521.

Quimby, W. C.: Intratracheal Insufflation as Anesthetic Method, *Boston Med. and Surg. Jour.*, October, 1911.

Auer, J., and Meltzer, S. J.: Status of Respiration in Methods of Differential Pressure Compared with That Under Method of Intratracheal Insufflation, *Jour. Exper. Med.*, December, 1911.

Woolsey, W. C.: Intratracheal Insufflation Anesthesia, *New York State Jour. Med.*, April, 1912.

Elsberg, C. A.: Intratracheal Insufflation Anesthesia, *New York State Jour. Med.*, September, 1912.

Leighton, W. E.: Anesthesia by Intratracheal Insufflation of Air and Ether, *Jour. Mississippi Med. Assn.*, September, 1912.

Boothby, W. M.: Intratracheal Insufflation Anesthesia, *Ann. Surg.*, January, 1913.

TESTS FOR THE IDENTIFICATION OF HUMAN BLOOD

To the Editor:—Please give me references to tests for the positive identification of human blood. S. M. L.

Answer.—These tests are given in works on medical jurisprudence. We refer you especially to Peterson and Haines' "Legal Medicine and Toxicology," 1904, ii, 722, and Whitthaus and Becker's "Medical Jurisprudence, Forensic Medicine and Toxicology," 1909, iii, 809.

LITERATURE ON RESUSCITATION FROM DROWNING

To the Editor:—Please refer me to literature on the various methods of resuscitation of the apparently drowned, dealing especially with the early history of the subject and with the methods employed within the last five or ten years at the various life-saving stations throughout the United States. R. J. C.

Answer.—As a rule, in compiling references in answer to inquiries, we do not search the literature for the history of the subject. The following articles in recent literature may be referred to:

Resuscitation from Drowning, The Journal, Aug. 20, 1908, p. 779.

Schäfer, E. A.: Artificial Respiration in Apparent Death from Drowning, *Berl. klin. Wchnschr.*, March 29, 1909.

Kuhn, F.: Resuscitation by Artificial Ventilation of the Air-Passages, *München. med. Wchnschr.*, Sept. 13, 1910; abstr. in The Journal, Oct. 22, 1910, p. 1510.

Frazier, C. H.: Resuscitation by Cardiac Massage, The Journal, May 20, 1911, p. 1448.

Asphyxia from Submersion: Drowning, The Journal, Sept. 30, 1911, p. 1132.

Death by Drowning, The Journal, Aug. 26, 1911, p. 744.

Resuscitation, *Bull. Pennsylvania State Board of Health,* No. 35, May, 1912.

Hitchings, F. W.: Resuscitation from Drowning, The Journal, Nov. 23, 1912, p. 1873.

Lewin, L.: Apparatus for Resuscitation of the Apparently Drowned or Asphyxiated, *München. med. Wchnschr.,* Nov. 19, 1912.

SUBSTITUTE FOR COFFEE WANTED

To the Editor:—Can you give me a formula for a good substitute for coffee—something that will give the warmth and nutrition and please the taste reasonably well and will be cheaper in price but will give none of the bad effects of coffee? I suppose some of the commercial articles serve reasonably well, but their prices are entirely above a reasonable first cost, and, besides, I should like to know what I am prescribing. I am sure that you will agree with me that a good substitute for tea and coffee would be of great benefit to our race, and this is a matter for the profoundest attention of the medical profession.

John W. Givens, M.D., Orofino, Idaho.

Answer.—Roasted barley is used and so is chicory, which latter we discussed in an editorial, Nov. 9, 1912, p. 1722. Perhaps some of our readers can suggest other substitutes they have found acceptable.

THERAPEUTIC EFFECTS OF SODIUM HYPOSULPHITE

To the Editor:—Please give me the therapeutic effects of hyposulphite of soda, especially as to its laxative and purgative effects. L. T. L.

Answer.—Sodium thiosulphate ("hyposulphite") resembles sodium sulphite. The following is the statement of their properties by Cushny: "Solutions of these salts have been used to a limited extent as antiseptic mouth-washes in aphthae, and have been prescribed in some forms of fermentation in the stomach. They were formerly reputed to be of benefit in cases of pyemia from their supposed action as antiseptics in the blood, but have never been shown to be of any real value." We find nothing stated as to laxative properties, but think it would be inadvisable to use these salts for that purpose.

COMBINED OFFICE AND RESIDENCE FOR PHYSICIAN

To the Editor:—Have you a collection of sketches of plans for physicians' houses, combining house and office? If not, please give me references to a few. F. P. McCarthy, M.D., Erie, Pa.

Answer.—We have no collection of such plans, but have printed several within the last year (as listed below)—and we are willing to print more.

Simpson, Jesse P.: Combined Office and Residence, The Journal, Feb. 10, 1912, p. 431.

York, N. Albert: Combined Office and Residence, The Journal, March 9, 1912, p. 728.

Bales, C. W.: Combined Office and Residence, The Journal, March 30, 1912, p. 957.

Jorgensen, P. P. M.: Garage Built Into Rear of House, The Journal, April 6, 1912, p. 1055.

Chamberlain, A. R.: Another Type of Combined Office and Residence, The Journal, May 4, 1912, p. 1394.

COMPATIBILITY OF ASPIRIN AND POTASSIUM CITRATE—VACCINE TREATMENT OF ACNE

To the Editor:—1. Is aspirin—acetylsalicylic acid—compatible with potassium citrate? If so, would it not be a good way to administer aspirin in potassium citrate in rheumatic conditions? 2. Is the vaccine or bacterin treatment of acne proving satisfactory?

E. I. Whitehead, M.D., Stella, Neb.

Answer.—1. Yes.

2. The reports given seem to be favorable in certain cases.

ANATOMIC DIFFERENCES BETWEEN INFANTS AND ADULTS

To the Editor:—Please refer me to literature on anatomic differences between infants and adults. H. H. M.

ANSWER.—The following may be referred to:

Cotton: Anatomy, Physiology and Hygiene of Childhood, Chicago Med. Book Co.; price $1.50.
Levison, L. A., and Daehtler, H.: The Essential Differences Between the Physical Findings in Childhood and Adult Life, THE JOURNAL A. M. A., Sept. 17, 1910, p. 1008.

Medical Education and State Boards of Registration

COMING EXAMINATIONS

KANSAS: National Hotel, Topeka, February 11. Sec., Dr. H. A. Dykes, Lebanon.
MISSOURI: St. Louis, February 24-26. Sec., Dr. Frank B. Hiller, State House, Jefferson City.
NEBRASKA: Lincoln, February 12-13. Sec., Dr. C. P. Fall, Beatrice.

ANNUAL CONFERENCE ON MEDICAL EDUCATION, LEGISLATION AND PUBLIC HEALTH

The annual Conference on Medical Education and Legislation under the auspices of the Council on Medical Education and the Council on Health and Public Instruction will be held at the Congress Hotel, Chicago, Monday and Tuesday, Feb. 24 and 25, 1913.

On Monday, February 24, the Council on Medical Education will hold its ninth annual conference, the session to begin at 9 a. m. Besides remarks from the chairman, Dr. Arthur D. Bevan, and the report by the secretary, Dr. N. P. Colwell, the program will consist of the following addresses:

"Hospitals and Their Relationship to Clinical and Postgraduate Medical Teaching." Dr. Horace D. Arnold, dean of the Harvard University Graduate School of Medicine, Boston.

"The European Side of Medical Education." Mr. Abraham Flexner of the General Education Board, New York City.

"Necessity of a Readjustment of Preliminary and Collegiate Education." President Harry Pratt Judson, University of Chicago.

"Organization of the Medical School." Dr. Edward H. Bradford, dean of the Harvard Medical School, Boston.

"The Importance of Harmony and Uniformity of the State Licensing Boards." Dr. Herbert Harlan, president of the Maryland State Board of Medical Examiners, Baltimore.

"The Medical Profession and the Public." Dr. George H. Simmons, editor of THE JOURNAL of the American Medical Association, Chicago.

"The Medical Profession and Medical Education." Dr. J. A. Witherspoon, president-elect of the American Medical Association and professor of medicine, Vanderbilt University Medical Department, Nashville, Tenn.

The annual Conference on Medical Legislation will be held Tuesday, February 25. Besides the address by the chairman, Dr. H. B. Favill of Chicago, the reports of committees and the following addresses will be given:

"Medical School Supervision." Dr. E. B. Hoag, St. Paul.

"State Police Power and the Practice of Medicine." Mr. A. C. Umbreit, attorney for the Wisconsin State Board of Medical Examiners.

"Control of Ophthalmia Neonatorum in Massachusetts." Dr. Mark W. Richardson, secretary of the State Board of Health, Boston.

"Municipal Regulation of the Milk-Supply." Prof. E. O. Jordan, Chicago.

"Antivivisection Agitation and the Forces Behind It." Dr. W. B. Cannon, Boston.

"Progress in Vital Statistics Legislation in the United States." Dr. Cressy L. Wilbur, Washington, D. C.

"Forty-Three Years of Medical Legislation; Criticism and a Program." Dr. Frederick R. Green, Chicago.

ANNUAL MEETING OF FEDERATION OF STATE LICENSING BOARDS

The Federation of State Licensing Boards will hold its annual meeting at the Congress Hotel, Chicago, Tuesday, Feb. 25, 1913. Papers on the following subjects will be presented:

"Is Universal Reciprocity to Be Desired?"

"Should Medical Boards Require One or More Years of College Work Preliminary to the Study of Medicine?"

"Should One or More Years in a Hospital Be Required for Admission to the Examination for Medical Licensure?"

"Rules and Regulations Governing Examinations for Medical Licensure."

"Qualification of Examiners."

"What Fee Should Be Required for the Examination?"

"Means of Keeping Politics Out of State Board Affairs."

These topics are of practical and vital interest to medical colleges, medical examining boards, the profession at large and the public.

ANNUAL MEETING OF ASSOCIATION OF AMERICAN MEDICAL COLLEGES

The twenty-third annual meeting will be held at the Congress Hotel, Chicago, Feb. 26, 1913. The program consists of reports of committees on pedagogics, equipment, research and medical education, and the following papers:

"Some Problems of Medical Education," Dr. Egbert Le Fevre, New York.

"The Divided School," Dr. C. R. Bardeen, Madison, Wis.

"The Business Management of the Medical School," Dr. W. C. Borden, Washington, D. C.

The Committee on Medical Education will recommend advancing the entrance requirements to one year of college work in physics, chemistry, animal biology and one modern language. The discussion on these papers is open to all those who are interested in medical education.

Medical Economics

THIS DEPARTMENT EMBODIES THE SUBJECTS OF POSTGRADUATE WORK, CONTRACT PRACTICE, LEGISLATION, MEDICAL DEFENSE, AND OTHER MEDICOLEGAL AND ECONOMIC QUESTIONS OF INTEREST TO PHYSICIANS

PROPOSED LEGISLATION ON PUBLIC HEALTH

Since the last summary appeared in THE JOURNAL, information received from various sources shows that bills have been introduced in many of the state legislatures on subjects relating to public health. A summary of these bills follows:

ARKANSAS

The most important health bill introduced in the Arkansas legislature is Senate Bill 30, introduced by Senator Hughes. This is entitled "An act for the proper protection of the public health and for other purposes." It is intended to take the place of the law creating the state board of health which passed the legislation at its last session, but which failed to become effective owing to the mysterious disappearance of the text of the law after its passage. Section 1 provides for the appointment by the governor of a state board of seven persons, one from each congressional district, each member to be a graduate of a reputable medical college, with at least seven years' experience and of good professional standing. Sections 2 to 6 contain the usual provisions for appointment, meetings and powers of the board. Sections 7 to 13 provide for a bureau and registrar of vital statistics. Sections 14 to 20 provide for a local board of health in cities of the first and second class. Section 21 provides for a hygienic laboratory which shall have charge of the enforcement of the pure food law and for other purposes. This laboratory is to be maintained in connection with the medical department of the University of Arkansas. Sections 22 to 31 provide for expenses, reports, employees' salaries, violations of the law, etc. The bill seems to be a comprehensive one, which if passed would greatly advance public health matters in the state.

CALIFORNIA

Bills have been introduced to provide for an appropriation of $100,000 for four state hospitals for tuberculosis; for a physical examination as a prerequisite to a marriage license; for the sterilization of idiots, the insane, habitual drunkards, paralytics and confirmed criminals; for the prevention of marriages between first cousins, and for the increase of the age of consent from 16 to 18 years. The usual antivaccination law has been introduced to prohibit any public or private school from preventing any child from attending on account of its not being vaccinated. The board of health has asked for laws requiring the certification of hospitals, giving the state board supervision over the pollution of salt water as well as over the water-supplies for cities and for a law regulating cold storage.

COLORADO

Colorado has up to date supplied the prize freak law for 1913. It is in the form of an amendment to a new medical practice act, introduced by Dr. E. E. Kennedy, a member of the house of representatives. The amendment provides that surgeons operating for appendicitis are to submit the appendix for examination following the operation. In case the appendix proves to be normal, the physician is to be deprived of any fee for the operation and is to be liable to fine and imprisonment. The decision as to the normal condition of the appendix is to be made by a committee of three physicians to be named by the patient or by his relatives. The usual rash statements to the effect that "90 per cent. of all operations for appendicitis are unnecessary," etc., have appeared in the local newspapers in connection with this bill.

INDIANA

The state board of health has asked for the passage of bills to require proof of physical fitness as to condition for marriage license; to provide free antitoxin for those unable to pay for it; to create the office of state sanitary engineer and placing the health commissioners of the various counties under the supervision of the state board of health; to prohibit the sale of morphin, cocain and other habit-forming drugs and to provide for the medical supervision of the health of school children.

IOWA

The state board of health is preparing a bill to extend the duties of its district members and to provide an adequate appropriation for the work of the state board. The present appropriation ($5,000) is one of the smallest made by any state, and the board intends to ask for $35,000 for the coming year.

KANSAS

A bill providing for the registration of trained nurses will be introduced at the request of the Kansas state association of nurses. Another bill provides for the appointment of county health physicians from a list of three competent resident physicians in any county, nominated by the county medical society, and requires attendance at at least one session of the school for public health officers at the University of Kansas after Jan. 1, 1915. A bill has also been introduced to require the reporting of all communicable diseases and specifying twenty-seven diseases as coming under this head. The most important and dangerous bill which has yet been introduced, however, is House Bill 76, said to be prepared in the interest of one of the largest packing firms in Omaha. This bill provides that the state board of health shall be reorganized by the appointment of four business men, four physicians and one attorney. The object of the bill is to secure a majority of men on the board who can be influenced by commercial interests. Undoubtedly one object is to secure the removal of Dr. S. J. Crumbine, the present effective secretary, whose work in the prosecution of violators of the food laws of the state is well known. House Bill 75 provides for a board of chiropractic examiners. Two bills have been introduced in the house to amend the vital statistics law. Another bill provides compensation for medical health officers.

MISSOURI

A bill providing for the inspection of all hospitals, reformatories and public institutions has been introduced in the house.

NEBRASKA

A commission to revise the Nebraska code has drafted a bill giving vitality to the constitutional amendment creating a board of control for the several state institutions. The bill provides that the board of control shall have supervision over the deaf, blind, feeble-minded, drunkards, insane, inmates of penitentiaries and schools of correction, tuberculosis hospitals and all other state charitable, reformatory and penal institutions.

NEW HAMPSHIRE

House Bill 124, introduced by Mr. Wilkins, is to regulate the practice of suggestive therapeutics. It provides that any person over 21 who is a graduate from a regularly chartered school and who is of good moral character shall be allowed to practice suggestive therapeutics, and to administer suggestion for the cure or relief of mental and physical diseases.

NEW YORK

The usual antivivisection bill has been introduced by Senator McClelland. It provides for a commission of two physicians, two active members of antivivisection organizations and one supposedly neutral person to be appointed by the governor, to report the present conditions and extent of animal experimentation in the state and the present condition of enforcement of the law regulating scientific research. Governor Sulzer has appointed a commission of eight persons to investigate health conditions in the state, with a view to recommending improvement in the existing public-health laws. The commission is of high personnel and will undoubtedly be of great assistance in strengthening the health laws of the state. The members of the commission are: Dr. Herman Biggs of New York, chairman; Homer Folks of Yonkers, secretary; John Kingsbury, Yonkers, assistant secretary; Dr. Edward R. Baldwin, Saranac Lake; Ansley Wilcox, Buffalo; Miss Adelaide Nutting, a professor of nursing and health at Columbia University; Dr. John C. Otis, of Poughkeepsie, and Dr. W. E. Milbank of Albany.

MICHIGAN

The state board of health has asked for an appropriation of $25,000 for the coming year. Representative Glasner has introduced a bill requiring the physical examination of both parties as a condition for marriage licenses.

MINNESOTA

A bill has been introduced for a legislative reference bureau, similar to the one in Wisconsin. This will be of service in formulating public-health legislation. Another bill provides for the amending of the midwife law. Dr. W. T. Stone, a member of the house, has introduced a bill to stamp out pulmonary tuberculosis, and one to create a state tuberculosis commission and appropriating $500,000. A bill has also been introduced to provide for a tuberculosis sanatorium in each congressional district, and a bill to prohibit the use of common drinking-cups.

PENNSYLVANIA

The Morals Efficiency Committee has presented a bill to require a health certificate for a marriage license.

OHIO

House Bill 13 provides for the preservation of the health of factory employees, House Bill 27 provides what persons may enter into a marriage contract, House Bill 37 provides for the expenses of persons quarantined on account of contagious diseases, House Bill 51 prohibits advertising to cure sexual diseases, House Bill 58 prohibits the use of opium, House Bill 71 regulates the sale of hypodermic syringes, House Bill 85 regulates the conduct of tenement houses, and House Bill 90 provides state care for persons addicted to the use of morphin, cocain, etc.

TEXAS

Senate Bill 17 is an optometry bill. A bill providing medical supervision for schools is in preparation.

WISCONSIN

A bill has been introduced restricting marriage licenses to those physically and mentally sound and not closer related than first cousins; also a bill providing for the restriction of bovine tuberculosis.

Book Notices

Surgery of the Brain and Spinal Cord. Based on Personal Experiences. By Prof. Fedor Krause, M.D., Geh. Medizinalrat, dirigierender Arzt am Augusta Hospital zu Berlin. English Adaptation by Dr. Max Thorek, Surgeon-in-Chief, American Hospital, Chicago. Volume II. Cloth. Price, $7. Pp. 819, with 94 Illustrations. New York: Rebman Company, 1912.

This volume deals entirely with surgery of the brain in reference to epilepsy and tumors, and with Volume I, which appeared in 1910, furnishes a complete presentation of the surgery of the brain. These volumes are not presented as textbooks on the subject, but rather as an extended report of its present status, based on the personal experiences of the author, amplified by the work of his contemporaries in surgery, neurology and pathology, and illustrated by a veritable atlas of cuts and half-tone figures.

Epilepsy in all its clinical and surgical forms is presented in exhaustive detail. After some introductory remarks on physiology, jacksonian epilepsy is presented with such completeness that it is impracticable to record the details. The subject is treated under the general headings of etiology, tumors, infantile paralysis, injuries at birth, jacksonian epilepsy without anatomic findings, and the results of cortical excisions. Under "General Genuine Epilepsy," the results of some observations and experiments, and the use of Kocher's valve formation treatment are recorded. Under the heading of "Results Obtained from Operations for Epilepsy," a careful analysis of his work is presented, and the indications for operating, and the time, place, technic and course after operations are given in detail. Traumatic and reflex epilepsy are given due consideration. In all, over 200 pages are devoted to epilepsy and each phase of the subject from the symptomatology to the pathologic findings is presented with characteristically German thoroughness.

Neoplasms of the brain are presented under the headings of general symptoms of cerebral pressure, focal symptomatology, scheme of localization in the cerebellum and neoplasms of the frontal brain, central region, temporal lobe, isle of Riel, parietal lobe, occipital lobe, posterior fossa of the skull and at the base of the skull. Over 300 pages are devoted to this part of the book.

The value of the various chapters of the text is greatly enhanced by the citation of the details of observations covering the various clinical, diagnostic and operative features, and the illustrations are among the most satisfactory that we have ever observed. The translator has performed his difficult task with satisfactory results and the work of the publisher is excellent.

Oxidations and Reductions in the Animal Body. By H. D. Dakin, D.Sc., F.I.C. Monographs on Biochemistry. Cloth. Price, $1.40 net. Pp. 135. New York: Longmans, Green & Co., 1912.

Although the energy developed in the animal body is essentially all derived from the oxidation of foodstuffs, yet the chemical processes by which these substances are oxidized and their latent heat set free still remain among the most obscure of all biologic mysteries. There is no lack of incentive to investigate the chemistry of animal oxidations, since diabetes, acidosis and many other human diseases are unmistakably dependent on abnormalities of oxidation; but the problems involved have been so difficult as to discourage all but the best-trained and most persistent of chemists. Only within a very few years has any considerable progress been made in this field, and that progress is clearly and thoroughly recorded in this monograph by Dr. Dakin, himself one of the foremost of the investigators on animal oxidations. We welcome this new member of the series as a worthy addition to the invaluable set of "Monographs on Biochemistry."

A Guide to the Dissection of the Dog. By O. Charnock Bradley, M.D., D.Sc., F.R.S.E., Principal of the Royal (Dick) Veterinary College, Edinburgh. Cloth. Price, $3 net. Pp. 241, with 69 illustrations. New York: Longmans, Green & Co., 1912.

It is a serious question whether the methods of teaching anatomy in even our leading medical schools have kept pace with the development of medicine and surgery in other lines. It is also a question whether our present methods of teaching human anatomy and the anatomists turned out by our medical colleges are up to the standards of fifty years ago, when the field of surgery was far more limited than at present. In fact, it is doubtful whether the scientific world to-day could present an anatomic laboratory which, either in actual instruction given or in workmanlike dissections produced, could equal that of Sir John Hunter. One difficulty is that the medical student and surgeon of to-day is not willing to take the time to train his fingers as was the anatomist of previous generations. Too often we see the untrained medical student destroying structures on the cadaver without gaining any clear idea as to their structure or relation, but serenely satisfied with the kind of "dissection" which he is doing. No manual training-school would permit its students in the beginning to practice with saw, hammer or chisel on mahogany or rosewood as long as there was plenty of pine on which to learn the use of tools. For the same reason no medical student should be allowed to touch human anatomy until he has first acquired experience in dissection on the bodies of lower animals. For this reason, in addition to its scientific value, Dr. Bradley's dissection manual of the dog ought to prove of practical value to teachers and students of anatomy. It is comparatively small, with pages of convenient size, and is well written, well illustrated and inexpensive in price.

St. George Mivart's book on "The Cat," which has been of great value to the student of anatomy, is more elaborate and expensive and has been on the market for many years. Wilder & Gage's well-known book has also been in use for years. Dr. Bradley's book is timely and should be welcomed by teachers and students of anatomy. It is much easier in the average city to secure a supply of anatomic material for work on the dog than on the cat. While chiefly of interest to the prospective medical student, the book will also be of value to those who desire any accurate knowledge of the anatomy of the dog for practical reasons. Dr. Bradley has followed the Baden and Stuttgart modification of the B. N. A. His book will fill a manifest want as practically all of our literature on this subject consists of translations from the German.

Hypnosis and Suggestion. Their Nature, Action, Importance and Position Among Therapeutic Agents. By W. Hilger, M.D. Translated by R. W. Felkin, M.D., F.R.S.E., with an Introduction by Dr. Van Renterghem. Translated by A. Newbold. Cloth. Price, $2.50. Pp. 233. New York: Rebman Company.

The advice of Dr. Meltzer to medical students not to try to qualify themselves as psychotherapeutists is in general sound. Still one may read with more or less profit the works of Du Bois and others which so enthusiastically advocate such methods. The present work in its English translation is the latest of this class published in this country and comes under the above-qualified statement. It is the production of one who has studied the subject, and he reports a large number of successes besides giving full references to other writers. Every experienced medical practitioner uses suggestion consciously or unconsciously, and its value is universally recognized. As regards hypnotic treatment, however, the case is different and we believe that it is probably well that it is so. One cannot help feeling a little incredulity in reading the accounts of permanent cures of chronic alcoholism and some other conditions that are reported. The book is well written and the translator has done his work well. Dr. Van Renterghem's introduction gives a useful historical sketch of hypnotism in modern medicine.

Manual of Medicine. By A. S. Woodwark, M.D., M.R.C.P., Junior Curator of St. Bartholomew's Hospital Museum. Cloth. Price, $3.75. Pp. 409. New York: Oxford University Press, 1912

The author states in the preface that one of the purposes of his book is to supply a "convenient reference" to the busy practitioner, and the book seems to fulfil its mission. The diseases are grouped according to the organ or region affected. There is a good chapter on immunity. In the discussion of insanity is a paragraph on moral insanity of which the author says, "This may occur at any age. It is characterized by kleptomania, incendiarism, sexual indecencies, dipsomania, homicide and suicide. Any type of insanity may exhibit moral delinquencies, but moral insanity is important as a type of imbecility seen in the habitual criminal." It is doubtful if American alienists would agree to this.

Kidney Diseases. By W. P. Herringham, M.D., F.R.C.P., Physician to St. Bartholomew's Hospital. With Chapters on Renal Diseases in Pregnancy by Herbert Williamson, M.D., F.R.C.P., Assistant Physician-Accoucheur to St. Bartholomew's Hospital. Cloth. Price, $5.50. Pp. 378, with illustrations. London: Henry Frowde, 1912.

This work considers the diseases of the kidney as seen by the internist, and is really a consideration in detail of all the kidney cases the author has had the opportunity to examine. These cases are classified according to the clinical diagnosis. As each group of cases is described, there are interesting discussions as to the etiology and the relation of the various symptoms to the physical and urinary findings. Many of the cases were followed to autopsy and photomicrographs showing the most interesting lesions are scattered throughout the book. The chapters on renal diseases in pregnancy by Herbert Williamson take up the relation of eclampsia to the kidney, and the relation of the various types of kidney disease to pregnancy. An interesting fact brought out in the chapter on renal calculus is that in forty-four cases of renal lithiasis the stones were almost entirely composed of lime salts, and no uric acid stones were found. Either the old analyses are wrong or the chemistry of renal stone has changed in recent years. The relation of kidney disease and heart disease is discussed, and treatment is considered in an excellent manner. The author's exact technic of baths, sweats and packs is minutely described. One is told how to observe the patient during these procedures, and what to do for complications, should they arise.

Microbes and Toxins. Dr. Etienne Burnet, of the Pasteur Institute of Paris. With a Chapter by Elie Metchnikoff. Translated from the French by Dr. Charles Broquet and W. M. Scott, M.D. Cloth. Price, $2 net. Pp. 316, with 71 illustrations. New York: G. P. Putnam's Sons, 1912.

The growing importance of the subject of microbiology makes it appropriate that the principal facts should be given to the public, without entering into such technical details as will be of interest only to professional bacteriologists. This has been done in the present volume, which gives a clear account of the character of microbes, both of the bacteria and the protozoa, with their action in the production of toxins and their relation to infection. The discussion of the subject of immunity appears to be especially valuable. The translation is excellent. While this work is not specifically medical, many practitioners will find it useful as a means of enriching their knowledge of this important subject.

Principles of Microbiology. A Treatise on Bacteria, Fungi and Protozoa Pathogenic for Domesticated Animals. By Veranus Alva Moore, B.S., M.D., V.M.D., Professor of Comparative Pathology, Bacteriology and Meat Inspection, New York State Veterinary College. Cloth. Price, $3.50. Pp. 506, with 101 illustrations. Ithaca, N. Y.: Carpenter & Co., 1912.

A thorough examination of this work shows that it has been carefully prepared to meet the needs of the veterinary student, whose field of microbiology is essentially different from that in which the medical student finds his chief interest. The general principles of the science and the laboratory technic are stated clearly and with thoroughness. This section would do equally well for the study of the medical student. The study of the specific organisms is, however, somewhat lacking in detail and naturally the organisms considered are different from those that are of chief importance to the physician. The work is well illustrated.

Stomatology in General Practice. A Text-Book of Diseases of the Teeth and Mouth for Students and Practitioners. By H. P. Pickerill, M.D., Ch.B., M.D.S., Hon. Stomatologist to the General Hospital, Dunedin. Cloth. Price, $5.50. Pp. 268, with 65 illustrations. London: Henry Frowde, 1912.

Few medical men could tell without investigation where the University of Otago is situated. It will not be uninteresting therefore to note that the author of the present work is at the head of the dental school of this university, which is an independent school of the University of New Zealand, located at Dunedin. The work attempts to fill the gap between dentistry and medicine. The author says, with reason, that it should be compulsory for every medical student to attend a short course on dental surgery or stomatology. Such a course is obligatory in the University of Otago, and the present publication is an amplification of lectures delivered to a postgraduate class of medical practitioners and also to medical students.

The work includes the anatomy and physiology of the teeth, stomatitis, gingivitis, caries of the teeth, deformities of the jaw and teeth, fractures of the jaw, oral tumors, etc. The surgical treatment of the teeth is limited practically to the local treatment of deep cavities, pericementitis and alveolar abscess. The operation of extraction is described, but the filling of teeth is merely mentioned. The technic of mechanical dentistry is not entered into. The surgery of the jaw and especially the treatment of fractures is described more fully.

Of the importance of the field covered by this volume there can be no doubt, and the student or practitioner who wishes to explore it cannot well choose a more competent guide than the author of the present work.

Developmental Adhesions Affecting the Lower End of the Ileum and the Colon. By H. M. W. Gray, M.B., F.R.C.S., Surgeon and Lecturer on Clinical Surgery, Royal Infirmary, Aberdeen, and William Anderson, M.B., Ch.B. Paper. Price, 1 shilling. Pp. 26, with 9 illustrations. Aberdeen: The University Press, 1912.

This is a short article with eight full-page illustrations. The authors believe that those adhesions which are known as Lane's terminal ileac kink, Jackson's membrane and the splenic pericolic adhesions and mesosigmoid adhesions are of congenital origin; therefore they are against Lane's explanation that the bands are the result of the crystallization of the lines of strain, but no convincing proof is offered of the congenital origin of these bands. Brief histories of ten operative cases are given.

The authors believe that all bands of this kind should be divided and the raw surface, if any, covered with peritoneum or omentum. An unwarranted optimism is shown when speaking of results by the statement, "All our cases have been relieved of their pains." The effect of this, however, is lost, for on the next page the following sentence is found: "It is but fair to say that a good many of our cases have been so recently operated on that permanency of results cannot be talked of." This sums up the situation: too much generalization on too little evidence.

Clinical Disorders of the Heart-Beat. A Handbook for Practitioners and Students. By Thomas Lewis, M.D., D.Sc., M.R.C.P., Lecturer in Cardiac Pathology, University College Hospital Medical School, London. Cloth. Price, $2 net. Pp. 104, with 48 illustrations. New York: Paul B. Hoeber, 1912.

This little book is devoted to a systematic consideration of "Sinus Irregularity," "Heart-Block," "Premature Contractions," "Tachycardia," "Auricular Fibrillation" and "Alternation of the Pulse." The first chapter is devoted to a consideration of the recognition and identification of the cardiac mechanism. So much light has been thrown on the significance of cardiac irregularities by experiment that a new chapter must be added to text-books to embrace it. Not only do changes in the regularity and character of the pulse denote cardiac disease, but often also by a knowledge of these changes the part of the myocardium involved can be told.

This book is a clear and full exposition of our present knowledge. Lewis has described the recognizable disorders of rhythm so that they can be recognized without unusual instruments or means of investigation. The book is commendable and is needed. It covers the newest field in the study of heart diseases.

Enzymes. Six Lectures delivered under the Herter Lectureship Foundation at the University and Bellevue Hospital Medical College. By Otto Cohnheim, A. O. Professor of Physiology, Heidelberg. First edition. Cloth. Price, $1.50 net. Pp. 173. New York: John Wiley & Sons, 1912.

These lectures, delivered before an audience of physicians and medical students, contain a clear and concise discussion of enzymes by a recognized authority and investigator in that field. The various topics are considered primarily from the biologic point of view. The ferments in the alimentary canal, the blood and the tissues are reviewed, as well as the methods of obtaining and purifying enzymes, the general properties of the enzymes, and their mode of action. To physicians this volume should be of special interest.

Society Proceedings

COLLEGE OF PHYSICIANS OF PHILADELPHIA

Meeting held Dec. 4, 1912

The President, Dr. George E. de Schweinitz, in the Chair

Dr. John B. Deaver read a paper entitled: "A Review of 534 Operations on the Mammary Gland." It will appear in The Journal.

Results with Tuberculin in Advanced Chronic Ambulatory Tuberculosis

Dr. A. P. Francine and Dr. H. J. Hartz described a series of cases of chronic fibroid type; the patients had developed a fair resistance, yet there was a gradual deterioration in spite of weight and strength. The tuberculin used was the tubercle bacilli extract after the method of S. G. Dixon. The injections were given, as a rule, once a week. All the patients were sufficiently improved to return and to remain at regular work during or following the course of the tuberculin. This paper will appear in The Journal.

DISCUSSION

Dr. James Tyson: The evidence as to the actual effect of the tuberculin treatment as given in this paper is the clearest I have yet heard. The cases are limited, the duration and method of treatment are well stated and the results are definitely indicated.

Dr. John B. Deaver: It may seem strange for a surgeon to discuss the treatment of tuberculosis by tuberculin. For a long time, however, I have advocated the treatment of many surgical lesions with tuberculin. I am glad to see that the doctors are waking up, and I feel that tuberculosis surely will be cured along purely scientific lines.

Dr. S. Solis-Cohen: I should like to ask Dr. Francine on what signs, symptoms or principles the injections were discontinued. In my experience in the treatment of pulmonary tuberculosis with tuberculin I have seen in certain selected cases an additional impetus to recovery. When a patient has been improving but, reversing the prophet's injunction, ceases to do well, then, perhaps, by timely injection of tuberculin for a limited period, we can arrest the retrograde movement, or even convert it into progress. Apart from this, I have never found any remarkable results. In some cases, however, the result was worth while. Dixon's tuberculin I have no personal experience with, but the paper illustrates its value. Two other preparations I have used. One is "tuberculinum purum" from which are extracted the harmful albumoses to which the untoward symptoms of Koch's early preparation were attributed. Then, second, there is Latham's method of administration by the mouth, instead of hypodermically. Latham used "tuberculin residue," and to follow up his observations in his own way, I used the same thing. It is commonly termed "T. R." The tuberculin residue may be administered by mouth, in an initial dose of 1/100,000 mg., increased, if necessary, to as much as 1/100 mg. The general rules of cautious increase apply here as everywhere. Latham prefers to give the tuberculin in horse-serum because he thinks that the absorption is better. I find that beef-juice or skimmed and diluted milk or whey answer just as well. Certain manufacturers have now at my request undertaken to put it up in tablet form in various strengths. I have seen as good results from this as from its hypodermic use and find it a very convenient method of administration with ambulant patients, the most readily controlled when prolonged administration is indicated and when the administration is intermitted and renewed from time to time.

Dr. George E. de Schweinitz: While not entirely germane to the subject of pulmonary tuberculosis, I desire to confirm the high value which Dr. Francine has placed on the proper use of tuberculin as a therapeutic agent in so far as various tuberculous lesions of the eye are concerned, particularly those that affect the uveal tract, the sclera and the cornea, and since this remedy has come into vogue these ocular lesions have yielded much more readily than they did under other and older therapeutic measures.

Dr. A. P. Francine: The glandular involvement was, a tuberculosis of the glands uncomplicated by any pulmonary localization, and these glands were on the point of breaking down. In regard to the length of treatment, no definite rule can be laid down. The injections must be adapted to the patient's resistance, general health, improvement, etc. I should think a period of a year should be the outside limit of treatment. After a reasonable period, should the patient not maintain the improvement, there is no objection to repeating the course. I have never given tuberculin by mouth. I prefer tuberculin of a mild toxicity, which our experience has proved Dixon's fluid to be. The patients were all practically afebrile and had developed a fair resistance (through prolonged treatment) and were in fair general health.

Medicolegal

Sufficient Allegations to Show Liability for Malpractice

(Williams vs. Union Pacific Railroad Co. (Wyo.), 124 Pac. R. 505)

The Supreme Court of Wyoming reverses a judgment rendered for the defendant on a demurrer to the plaintiff's petition on the ground that it failed to state facts sufficient to constitute a cause of action. The court says that it was to be observed that the plaintiff alleged in the petition, among other things, that the defendant did not furnish the plaintiff with proper hospital accommodations in the hospital provided for injured employees, and did not treat him properly therein, and did not furnish him the services of skilful or competent physicians or trained or capable nurses, and did not use or exercise due or reasonable care in the selection of such nurses and physicians and surgeons as were furnished to the plaintiff. With reference to cases of this character, it may be said that in general it has been held that a railroad company is not liable for the negligence of its surgeons if it has used reasonable care in their selection. The court thinks that is the correct rule. It is also held that the duty of a charity hospital ends with the selection of capable surgeons and nurses. But on demurrer everything alleged in the petition must be taken as true. In that sense the defendant admitted that it did not furnish the plaintiff the services of skilful or competent physicians or trained or capable nurses, and did not use due or reasonable care in the selection of such nurses and physicians and surgeons as were furnished to the plaintiff.

It was necessary that the petition should by appropriate allegation show that the absence of due and reasonable care in selecting a skilful and competent physician and surgeon was a proximate cause of the injury received at the hands of the surgeon. Among other allegations, it was alleged that the physician furnished did, in the performance of the operation, "carelessly and negligently, and unnecessarily cut a large hole in the neck of the plaintiff's bladder." The words "carelessly" and "negligently," as thus used, were synonymous with the word "unnecessarily." The latter negatived the necessity of cutting the bladder in the performance of the operation, while the former referred to the manner of doing, and not to the necessity of doing. The necessity of cutting the bladder in the performance of the operation rested in the judgment of the surgeon, and called into activity his power to perceive and perform, which was the measure of his skill. If, therefore, he performed an act unnecessary to the operation with or without negligence, such act would be attributable to error of judgment or want of skill.

By the plaintiff's petition it was alleged, in substance, that damage resulted from and by reason of the failure and neglect of the defendant to furnish a skilful and competent surgeon, and the negligence, unskilfulness and incompetency of the defendant's physician and surgeon so furnished. On the issue joined no recovery could be had without showing want of due and reasonable care in selecting the physician and surgeon and that the physician and surgeon selected was in fact incompetent and unskilful.

Statute of Frauds Not Involved in Case Made by Physician

(Williamson vs. Green (Ala.), 58 So. R. 974)

The Court of Appeals of Alabama reverses a judgment rendered for the defendant Williamson, in this action for an amount claimed by the plaintiff, Green, as due by account for professional services rendered by him as a physician or surgeon to one Clifford Acklin at the request of the defendant. The court says that the defendant pleaded, for one thing, the statute of frauds, setting up that the contract sued on was not in writing and was void; the same being for the debt of one Dan Acklin or Clifford Acklin. The evidence offered by the plaintiff tended to show that the defendant, after he had seriously injured Clifford Acklin by striking him on the head with an ax, by a message or direction given by him to one Esslinger, authorized the plaintiff to be called to assist in the treatment of the injured man, and that the plaintiff rendered the service as claimed under his employment for the defendant pursuant to such message or direction. The testimony of Esslinger as to the defendant authorizing or directing the employment of the plaintiff was flatly contradicted by the testimony offered in behalf of the defendant. According to the version given by the defendant and other witnesses in his behalf of what occurred between him and Esslinger, he did no more than indicate to Esslinger a willingness to stand for Dan Acklin, the father of the injured man, for a physician's bill not to exceed $10, not however then or subsequently agreeing to do this, but merely directing Esslinger to tell the physician who was then attending on the injured man to come to his (the defendant's) house, and that he would then determine if he would stand for the bill of another physician.

As the court sees the evidence, that for the plaintiff showed an employment of him by the defendant to render professional services to the injured man, while the opposing evidence was to the effect that the defendant did not in any way agree to be bound for those services, either in his own behalf or for another, for whose obligation he was to stand or be liable. In that condition of the evidence, no phase of it showed the making of a contract by the defendant the validity of which was dependent on a compliance with the requirements of the statute of frauds. In other words, there was no evidence tending to support a plea of the statute of frauds. The defendant by his pleas having tendered an issue under that statute, but no such issue being involved in the evidence adduced in the trial, the plaintiff was entitled, on appropriate request to that end, to have withdrawn from the consideration of the jury an issue raised by the pleadings but not by the evidence in the case. His request of a written charge, to the effect that the statute of frauds had nothing to do with the case as developed in the evidence, was a proper request for an instruction to the jury as to the issues in the case to which their consideration should be confined, and it should have been given.

Failure to Call Attending Physicians as Witnesses

(Rump vs. Woods (Ind.), 98 N. E. R. 369; Mortimer vs. Daub (Ind.), 98 N. E. R. 845)

The Appellate Court of Indiana, Division No. 2, holds, in the first case, that the fact that the plaintiff in a personal injury case does not call the physician who attended him at the hospital to testify as to his injuries should not be considered by the jury as detrimental to the plaintiff's case. And, in the second case, the Appellate Court of Indiana, Division No. 1, holds that an instruction was correct which told the jury that the law recognizes the relation of physician and patient as confidential, and that if the confidential privilege is claimed by the patient, the physician is not a competent witness to testify as to matters communicated to him as such by the patient in the course of his professional services, rendered in such case, and further that the fact that such physician is not called by the plaintiff as a witness should not in any manner influence the verdict.

Current Medical Literature

AMERICAN

Titles marked with an asterisk (*) are abstracted below.

American Journal of Obstetrics and Diseases of Women and Children, York, Pa.

January, LXVII, No. 421, pp. 1-216

1 *Effects of Industrial Strain on Working Women. R. S. Morton, New York.
2 Progress of Year in Obstetrics. G. L. Broadhead, New York.
3 Bougie Removed from Abdomen Ten Weeks After Introduction per Vaginam. J. Douglas, New York.
4 Diagnosis of Extra-Uterine Pregnancy. S. M. Brickner, New York.
5 Fistula in Ano. S. E. Tracy, Philadelphia.
6 Fibroid Tumor of Stomach with Perforating Ulcer; Transgastric Resection; Recovery. R. E. Skeel, Cleveland.
7 *Septic Pelvic Thrombophlebitis. K. I. Sanes, Pittsburgh.
8 *Complete Absence of Milk in Primipara. F. Reder, St. Louis.
9 *Some Moral and Ethical Aspects of Feticide. E. A. Weiss, Pittsburgh.
10 Some Complications of Uterine Fibroids Demanding Early Diagnosis and Immediate Operation. J. E. Sadlier, Poughkeepsie, N. Y.
11 *Some Reasons for Advising Early Operations for Fibroid Tumors of Uterus. R. B. Hall, Cincinnati.
12 *Selection of Anesthetic for Abdominal and Pelvic Surgery. R. E. Skeel, Cleveland.
13 Diagnosis and Operative Treatment of Diseases of Genitalia in Female Insane. B. S. Schultze, Jena, Germany.
14 *Conservative Operations on Ovaries, Including Report on 112 Cases. W. H. Humiston, Cleveland.
15 Preparatory Treatment for Nursing and Care of Nursing Mother. E. P. Davis, Philadelphia.
16 Methods of Encouraging Breast-Feeding and Contra-Indications to Breast-Feeding. M. H. Fussell, Philadelphia.

1. Abstracted in The Journal, Oct. 19, 1912, p. 1483.

7, 8 and 9. Abstracted in The Journal, Sept. 28, 1912, p. 1212.

11, 12 and 14. Abstracted in The Journal, Oct. 5, 1912, p. 1317.

Archives of Internal Medicine, Chicago

January 15, II, No. 1, pp. 1-120

17 *Cysts of Entameba Tetragena. S. T. Darling, Ancon, C. Z.
18 *Syphilitic Aortitis; Its Diagnosis and Treatment. W. T. Longcope, New York.
19 *Minute-Volume and Alveolar Air in Pulmonary Emphysema. C. F. Hoover, Cleveland.
20 *Ventilation of Steel Sleeping Cars. T. R. Crowder, Chicago.
21 *Modification of Technic of Wassermann Reaction. A. F. Coca and E. S. L'Esperance, New York.
22 *Chemistry of Renal Calculi. M. Kahn, New York.
23 Causes of Variation in Platelet Count. W. W. Duke, Kansas City, Mo.

17. **Cysts of Entamoeba Tetragena.**—Three cases of infections by *Entamoeba tetragena* are reported by Darling. These cases illustrate the cyst production of *E. tetragena*, its intermittency, the absence of cysts during acute symptoms and their presence in formed stools long after the subsidence of acute symptoms. The gradual disappearance of cysts in moist chamber preparations with a concomitant loss of infectiousness of the stool, and the loss of infectiousness by drying for seven weeks are shown. The development of amebulas within the cysts and their emergence and fate in the fecal mass is described. It would appear that infection in man is the result of the contamination of food with a small amount of fecal matter containing a great many cysts, during the first day or two after passing. In one experiment, kittens were fed with a pure culture of tetragena cysts forty-eight hours old. This caused lesions in the small bowel in which large trophozoites were found with the nuclear characters of *E. tetragena*, *E. histolytica* and *E. nipponensis*. Darling believes that this not only favors the opinion held of the identity of *E. histolytica* and *E. nipponensis* with *E. tetragena*, but it shows that specific identification of histolytica and nipponensis cannot be made from the large vegetative trophozoites alone, but the essential features of the life cycle must be seen. The very great importance of examining the stools of all convalescent and recovered cases of entamebic dysentery for cysts, and thus detecting "carriers" is made apparent, for it is the cyst that is the infecting agent and not the large trophozoite.

18. **Syphilitic Aortitis.**—The clinical cause and history of Longcope's cases of syphilitic aortitis were very carefully analyzed by him. He concludes from his study that syphilis produces a characteristic lesion of the aorta, which is responsible, as is shown by autopsy statistics and the Wassermann reaction, for most aneurysms, about 75 per cent. of cases of aortic

insufficiency in adults, many cases of dilatation of the aorta, and a certain group of cases of angina pectoris. The infection of the aorta probably takes place during the secondary stage, and though the symptoms and signs of syphilitic aortitis with the complications may develop within a few months of infection, the process usually remains latent, or unrecognized for an average of sixteen to seventeen years. Thus, syphilitic aortitis is probably a common cause for the presence of a positive Wassermann reaction in so-called latent syphilis. The early symptoms and signs of syphilitic aortitis are a positive Wassermann reaction, precordial pain, slight dyspnea, attacks of paroxysmal dyspnea and angina pectoris, cardiac hypertrophy, increased pulsation of the vessels of the neck and signs of dilatation of the aorta. The precordial pain, paroxysmal dyspnea and angina pectoris are temporarily or permanently relieved by repeated injections of salvarsan, but in certain instances these symptoms, especially after large doses, may be aggravated for the first forty-eight hours after injection. The paroxysmal dyspnea, which may be regarded as acute bronchiospasm, and possibly the angina pectoris in syphilitic aortitis, is dependent on the inflammatory reaction in the wall of the aorta, and may be regarded as reflex disturbances set up by the syphilitic process involving the root of the aorta.

19. **Minute-Volume and Alveolar Air in Pulmonary Emphysema.**—The essential result of Hoover's observations of pulmonary emphysema is the direct evidence that in emphysema the patient suffers from an impaired alveolar ventilation of the lung and not an impairment of the lung as the organ of external respiration. Furthermore, the evidence seems very conclusive that the alveolar air constitutes a very diminished part of the minute-volume of air. So the minute-volume in any given case of emphysema is not a measure of alveolar ventilation. Hoover concludes that this diminution of the proportion of alveolar air must be due to an increase of the dead space. How, he asks, can we account for an increase of the dead space in pulmonary emphysema? Can the increase of the dead space be explained best by bronchiolar spasm, bronchiolar atony, or swelling of the bronchial mucosa? Bronchiolar atony, that is, an elongation and broadening of the bronchioles, seems the most consistent with an increase of the dead space. Bronchiolar spasm or swelling of the bronchial mucosa could give an increase of the dead space only by an inspiratory enlargement of that portion of the air passage which lies between the alveoli and the larynx. Hoover is now investigating this phase of the subject experimentally and will report later on his results.

20. Abstracted in The Journal, October 5, p. 1316.

21. **Modification of Wassermann Reaction.**—The technic proposed by Coca and L'Esperance is described as follows: Antigen.—The muscular tissue is dissected out from the heart of a recently slaughtered ox, and, after being finely comminuted in a meat grinder, is shaken well with about ten volumes of 95 per cent. alcohol. The alcoholic extract is filtered after five to ten days and evaporated nearly to dryness with the use of an electric fan. The sticky residue is extracted with ordinary ether and the ether extract again evaporated with the use of the fan, supplemented finally with gentle warming. The resulting residue is then extracted with water-free ether in small quantity and the clear solution obtained by centrifugation is mixed with five volumes of acetone. After thorough shaking, the fluid is poured off the waxy precipitate, which is then shaken several times with fresh portions of acetone. The stock solution is a filtered 2 per cent. solution of the lipoids in pure methyl alcohol. For each series of tests a fresh emulsion is made by diluting one part, by volume, of the stock solution up to ten parts with physiologic salt solution (Ringer's). Of this 0.2 per cent. emulsion, 0.4 c.c. has never produced the slightest hemolysis when mixed with 0.1 c.c. of a 5 per cent. suspension of sheep's blood, nor is that amount anticomplementary with 0.01 c.c. of guinea-pig's serum (indicator 0.1 c.c. of 5 per cent. sensitized sheep's blood).

Complement.—This function is supplied by 0.1 c.c. of a 1 to 10 dilution of fresh guinea-pig's serum in physiologic salt solution. Whenever this serum is naturally hemolytic for sheep's blood-corpuscles, the natural hemolysin is to be removed by the cold separation method, one to two hours at 0 C. in contact with washed sheep's corpuscles. Indicator.—Two per cent. sheep's blood corpuscles sensitized with two to three minimum hemolytic doses of immunized rabbit's serum are used as indicator. To each tube is added 0.25 c.c. of this suspension, representing 0.1 c.c. of the usual 5 per cent. suspension. In the practical performance and reading of the Wassermann test the authors proceed as follows:

1. All the reagents entering into the reaction of fixation can be most conveniently diluted 1 to 10 with physiologic salt solution. The sensitized sheep's blood suspension may be 2 per cent. (unit=0.25 c.c.) or 5 per cent. (unit=0.1 c.c.).

2. Five different amounts of a 0.2 per cent. emulsion of ox-heart lipoids are to be combined with 0.2 c.c. of the patient's diluted serum and 0.1 c.c. of the diluted guinea-pig's serum. The five amounts of antigen are 0.1, 0.05, 0.02, 0.01 and 0.001. A series of examinations with non-luetic sera should be made for the purpose of determining the lower limit of pseudo-reaction.

3. If complete fixation of complement occurs with all of the five quantities of "antigen," or with only the smallest two or three quantities, we report a "strongly positive" reaction; if with 0.001 c.c. hemolysis has not been prevented, but fixation has occurred with all the other combinations or with the lesser one or two quantities of "antigen," we report a "positive" reaction; if hemolysis is not prevented with 0.001 nor with 0.01 c.c., but fixation occurs with any of the other amounts of the "antigen," we report a "weakly positive" reaction.

22. **Chemistry of Renal Calculi.**—Kahn found that the large majority of renal stones are composed of the oxalate of lime; sometimes the calcium salt is the only component of the stone. Uric acid and the urates are found in small quantities in all renal calculi, but it is rare to find a nephric stone composed mainly of uric acid or the urates. The shape, color, consistency, etc., of a stone do not constitute criteria of its chemical composition. Gouty tophi are not always composed of uric acid or the urates. In three concretions examined, a negative murexid test was invariably obtained.

Archives of Ophthalmology, New York

January, XLII, No. 1, pp. 1-115

24 Retinal Changes in Adolescents. A. Knapp, New York.
25 *Eye Troubles Caused by Use of Hair-Dyes. J. S. Fernandez, Havana, Cuba.
26 Peribulbar Implantation Cyst After Removal of Staphyloma of Cornea. B. Samuels, New York.
27 Calcareous Degeneration of Cornea and Lens Capsule. F. Tooke, Montreal.
28 Short Clinical Accounts with Microscopic Demonstrations of Two Cases of Tumor of Optic Nerve. R. Sattler, Cincinnati.
29 Clinical Course of Conjunctival Affections Associated with So-Called Trachoma Bodies. M. Cohen, New York.
30 Acquired Retraction Movements of Eyes. R. Salus, Prague.
31 Chemistry of Senile Cataract. A. Jess, Würzburg.
32 Hemianopic Pupillary Paralysis and Hemiopic Prism Phenomenon. A. Jess, Würzburg.

25. **Eye Troubles Caused by Hair-Dyes.**—All hair-dyes in use at the present time, Fernandez says, are more or less toxic in effect, and may give rise, under certain circumstances, to general and local eye troubles. The injurious effects experienced are of two classes, inflammatory and toxic, although both may be present at the same time. The trouble may be only ocular in character, or it may affect the general system as well as the eyes from the start. The dyes which do the most harm are those containing anilin derivatives. As they are very easily prepared, these are the dyes most generally used. Fortunately, as the anilin derivatives are powerful colorants, a smaller quantity of the dye is necessary to produce the desired results, and there is, therefore, less danger to the eyes and the general health. Fernandez suggests an act of legislature placing the manufacture of hair-dyes and similar cosmetics in the hands of chemists or other persons skilled in the use of drugs, whose duty it would be to use the least harmful substances and to mix them accurately. The irritant action of many of the hair-dyes gives rise to the formation of vesicles on the scalp, the dried fluid from which produces crusts and causes the hair to fall out in tufts. This condition is accompanied by intense itching of the scalp; general indisposition and lowness of spirits, followed by vertigo; slight renal disturbances are frequently seen, and sometimes albuminuria or even uremia may set in; cephalalgia, sleeplessness, dyspnea, delirium arrhythmia and vomiting may occur, and there is almost always edema of the face and eyelids. The ocular disturbances may at times be the only sign of poisoning and they may occur without pruritus or other skin disorders. Some authors consider dermatitis to be the result of the poisoning; but Fernandez believes it the portal of absorption, because the

irritation of the skin and the accompanying vesicles makes the process of absorption very much easier. The effects, however, are due in most cases to the nature of the coloring substance and the susceptibility of the user. The edema extends to the eyelids and closes them, and as this condition is usually followed by chemosis, the patient experiences great difficulty in opening his eyes and is, consequently, much alarmed. In most of the cases observed by him, the vision was not impaired, because as soon as the edema of the eyes subsided, the patient got well; the fundus was not affected.

Boston Medical and Surgical Journal

January 16, CLXVIII, No. 3, pp. 73-108

33 *Antitoxin Administration. W. H. Park, New York.
34 Importance of Venereal Disease. J. H. Cunningham, Boston.
35 Relation of Accident and Injury to Pulmonary Tuberculosis from Medicolegal Point of View. J. B. Hawes and A. Drinkwater, Boston.
36 Chronic Focal Suppuration of Head with General Symptoms, Especially in Adults. F. P. Emerson, Boston.
37 Fracture of Fifth Metatarsal Bone by Inversion of Foot. W. P. Coues, Boston.
38 Brain Tumor; Operation; Autopsy Findings. E. D. Bone and A. H. Peabody, Waverley, Mass.

33. **Antitoxin Administration.**—Two things are emphasized by Park in speaking of the administration of diphtheria antitoxin as possibly tending to a better treatment. The giving of larger doses than are necessary does not, he says, do harm, except the expense to the city or patient; but an insufficient first dose, and in suitable cases the fact of not giving it intravenously, may be a serious mistake. There is a great advantage in giving all in one injection, instead of in two to four injections. Two goats were used, one receiving 15,000 units subcutaneously in one injection and the other, four doses of 5,000 units each at intervals of about eight hours. At the end of eighteen hours, there were 12 units in each c.c. of the blood in the goat receiving 15,000 units, and only 3½ units in the one receiving the divided doses, because only the first portion had had any possibility of being absorbed. It is only at the end of the third day that 20,000 units in divided doses equals in effect the single dose of 15,000 units; and during the first day there has been but one-third the effect. His opinion is that we should give in the first dose all that we think is required for the entire disease; and if we find it necessary to give a second dose, we have misjudged the amount necessary. He is certain that much of the good effect believed to be due to the second and the third doses has been due to the fact of the further absorption of the first dose. At the Willard Parker Hospital they are practically eliminating the second dose, and the results seem as good as at Kingston Avenue Hospital, where the same size initial dose is repeated in later doses. We should keep in mind that we give a thousand times as much antitoxin as is required for the amount of toxin in a case. The great excess is for the purpose of pushing it out into the tissue fluids of the diseased parts and wherever toxin may have passed. Speaking of the intravenous injection, he urges it not only in cases of malignant diphtheria but in all cases of tetanus. The difference, during the first day, in the amount of antitoxin in the blood when injected intravenously and when injected subcutaneously, is very great. At the end of six hours, one has with a suitable amount by the subcutaneous method two units, and by the intravenous method 20 units in each c.c. As the hours pass, the one diminishes and the other increases; but even at the end of twenty-four hours there are 12 units against 6 units. Park feels certain that 5,000 units given intravenously have as much effect as 20,000 given subcutaneously. The serum must always be warmed to blood-heat before injecting. In all cases of septic diphtheria, Park would give a dose intravenously; but in mild and early cases, he regards it as sufficient to give it subcutaneously. Intramuscular injections are absorbed in about one-half of the time required by the subcutaneous ones, when the serum stays in the muscle-substance; but, in practice, it often escapes.

Bulletin of Johns Hopkins Hospital, Baltimore

January, XXIV, No. 263, pp. 1-32

39 Baltimore Epidemic of Streptococcus or Septic Sore Throat and Its Relation to Milk-Supply. L. P. Hamburger, Baltimore.
40 *Effect of Hypersensitiveness to a Tuberculo-Protein on Subsequent Infection with Bacillus Tuberculosis. C. R. Austrian, Baltimore.
41 Consideration of Milk-Supply of Baltimore. W. W. Ford, Baltimore.
42 Malum Perforans in Diabetes Mellitus. J. T. Sample and W. L. Gorham, Baltimore.

40. **Effect of Hypersensitiveness to Tuberculo-Protein.**—The findings in Austrian's series of experiments are unique, for so far as he has been able to determine, an acute lethal tuberculosis had not previously been produced in rabbits with the small infecting doses of human type of tubercle bacilli here used. Several of the sensitized rabbits after inoculation developed the clinical picture described by Theobald Smith in rabbits inoculated with the bovine type of the organism. Eight of the sensitized animals developed dyspnea and five died from tuberculosis within sixty-seven days after inoculation. In five sensitized and in two control animals, tubercles developed at or near the site of the intravenous inoculation. The significance of this is not clear, inasmuch as, contrary to expectation, the animals in which it developed showed no apparent difference in general reaction from that shown by those in which no local lesion developed. With the exception of two pairs of animals, the tuberculosis which developed was more extensive and more severe in the sensitized rabbits than in the non-sensitized infected controls. Austrian concludes that hypersensitiveness produced in guinea-pigs and in rabbits by sensitization with a protein obtained from the bacillus tuberculosis, human type, by water extraction, exerts a baneful or a neutral influence on a subsequent tuberculous infection. Whether or not a similarly produced condition of hypersensitiveness would influence differently the course of infection with a very few organisms cannot be stated.

Bulletin of Medical and Chirurgical Faculty of Maryland, Baltimore

January, V, No. 7, pp. 93-127

43 Noise and Insomnia. L. F. Barker, Baltimore.
44 Injurious Effects of Loud Noises on Organ of Hearing. H. Friedenwald, Baltimore.
45 Eliminating Noise from Baltimore. W. T. Watson, Baltimore.

Canadian Medical Association Journal, Toronto

January, III, No. 1, pp. 1-86

46 Surgical Treatment of Exophthalmic Goiter. H. A. Bruce, Toronto.
47 Case of Hemolytic Jaundice with Splenomegaly. F. McPherson and H. Orr, Toronto.
48 Standardization of Disinfectants. J. T. A. Walker, New York.
49 Operative Treatment of Cleft Palate. P. Weatherbe, Halifax.
50 Results of Treatment of Syphilis as Shown by Wassermann Reaction. G. S. Strathy and G. Bates, Toronto.
51 Apparatus for Continuous Aspiration. P. K. Menzies, Toronto.

Illinois Medical Journal, Springfield

January, XXIII, No. 1, pp. 1-124

52 Pioneer Medical School in Illinois. C. E. Black, Jacksonville.
53 Clinical Value of Gonorrhea Complement Fixation Test. V. D. Lespinasse and M. Wolff, Chicago.
54 Principles and Advanced Methods in Vaccine Therapy. F. M. Wood, Chicago.
55 Brill's Disease—Mild Typhus Fever—in Michael Reese Hospital. S. Strouse, Chicago.
56 Milk. J. W. Van Derslice, Oak Park.
57 *Essentials of New Chicago Milk Ordinance. W. O. Nance, Chicago.
58 Sluder Method of Tonsillectomy. A. M. Corwin, Chicago.
59 Influence of Spina Bifida on Prolapse of Genitalia. H. F. Lewis, Chicago.
60 Pathogenesis of Glandular or Secondary Form of Infantile Tuberculosis. J. Ritter, Chicago.
61 *Bronchial Asthma Due to Hypersusceptibility to Hens' Eggs. K. K. Koessler, Chicago.
62 Muscle Degeneration and Osteoma. L. Ryan, Chicago.
63 Case of Cranial Injury Associated with Spinal Lesion. A. B. Eustace and R. C. Hamill, Chicago.
64 Combination Operations Between General Surgeon and Otolaryngologist. J. C. Beck, Chicago.
65 Some Pleasures of County Secretary. S. W. Weir, Marshall.
66 County Society Bulletin. W. H. Watterson, Waukegan.

57. **New Chicago Milk Ordinance.**—The essential provisions of the new ordinance are set forth by Nance as follows: 1. Two grades of milk that may be sold in Chicago are established, the one known as "inspected" milk; the other "pasteurized." "Inspected" milk (1) is to be produced on farms inspected and approved by the health department and shall score not less than 65 points out of a possible 100 (after January, 1915, 70), on a score card which is practically a copy of that recommended by the United States government. These points relate to equipment and methods and cover the condition of the health, comfort, feeding and watering of the cows, the condition of the milk-room, stable and utensils and

methods of handling the cows and of caring for the milk from its first production to its storing and transportation. 2. Inspected milk shall not contain more than 100,000 bacteria per c.c. from October 1 to May 1, and not more than 150,000 from May to September. 3. The farmer or dairyman must procure a department permit subject to the condition that every case of contagious disease in connection with the dairy shall be reported at once. 4. Before June 30, 1913, the producer must file certificates showing that his cows have been inspected by a competent veterinarian and are free from tuberculosis and other infectious diseases. 5. Every milk can must be plainly marked with the serial number of the permit, and the grade of milk and each container must bear the name of the day of the week on which the milk was first enclosed in the bottle. 6. Both grades of milk, inspected and pasteurized, must be kept at a temperature not higher than 60 F. from the time of its production to the time it reaches the consumer. After June 1, 1914, the temperature must be at least as low as 55 F. Milk that meets all of these requirements is allowed to enter the city and be sold without any formality. Milk produced in conformity with standards slightly lower than these, from dairies scoring at least 55 points, and not containing more than 750,000 bacteria per c.c. from October to May, and 1,000,000 from May to October, must be pasteurized and may be sold as such, plainly marked as to grade and dated with the name of the day of the week the milk was pasteurized. Pasteurization must be efficient and under the provisions of the ordinance the health department must inspect the pasteurizer and the plant and surroundings. The pasteurizing equipment must be such that 99 per cent. of all bacteria and pathogenic bacteria are killed in the milk treated therein at the temperature specifically provided for in the ordinance. A further section of the ordinance provides that pasteurized milk shall not contain more than 50,000 bacteria per c.c. from October to May, and not more than 1,000,000 from May to October.

61. **Bronchial Asthma.** Koessler emphasizes the fact that there exists a form of bronchial asthma which is undoubtedly due to a diathetic allergy or anaphylaxis toward hen's egg. In most cases of bronchial asthma the causative factor lies in an allergic reactivity of the individual. The multiplicity of asthmatogenous substances is explained by the multiplicity of proteins, which may be split into anaphylatoxins.

Journal of Abnormal Psychology, Boston

January, VII, No. 5, pp. 313-384

67 Psychology in Medical Curriculum. A. Meyer, Baltimore.
68 Somatic Sources of Somatic Delusions. E. E. Southard, Boston.
69 Psychoanalysis and Society. T. Burrow, Baltimore.
70 Color Sense in Relation to Emotion of Sex. G. H. Taylor, Sydney.

Journal of Iowa State Medical Society, Clinton

January, II, No. 7, pp. 447-518

71 Ideals of Surgery. A. M. Pond, Dubuque.
72 Raynaud's Disease. A. L. Wright and O. C. Morrison, Carroll.
73 Postoperative Acute Dilatation of Stomach. C. E. Ruth, Des Moines.
74 Chronic Pancreatitis and Its Management. W. Jepson, Sioux City.
75 Hemorrhagic Diseases of New-Born. L. E. Kelley, Des Moines.
76 Echinococcus Cysts of Liver, with Report of Two Cases. E. J. Harnagel, Des Moines.

Journal of Maine Medical Association, Portland

January, III, No. 6, pp. 1127-1172

77 Eugenics. H. W. Miller, Augusta.
78 Insanity and Heredity. J. B. MacDonald, Hathorne, Mass.
79 Medico-Surgical Transition Period. H. F. Twitchell, Portland.

Laryngoscope, St. Louis

December, XXII, No. 12, pp. 1317-1395

80 Laryngectomy for Cancer. G. W. Crile, Cleveland.
81 Technic of Intranasal Operations on Lacrimal Apparatus. S. Yankauer, New York.
82 Transplantation of Piece of Cartilage Into Septum to Prevent Perforation After Submucous Resection. R. H. Brown, Chicago.
83 Nasal Septum. W. R. Butt, Philadelphia.
84 Vincent's Angina in Children. J. A. Mulholland, New York.
85 Large Papilloma of Epiglottis Removed by Fulguration. R. H. Johnston, Baltimore.
86 Relation of Diseases of Posterior Sinuses to Painful Conditions of Ear. J. H. Bryan, Washington, D. C.
87 Case of Afebrile Sinus Thrombosis and Cerebellar Abscess Complicating Acute Otitis Media in Adult. J. Auerbach, New York.
88 Vincent's Angina; Its Frequency and Importance of Its Recognition. T. H. Halsted, Syracuse, N. Y.
89 Relation of Dietetic Errors to Disturbances of Upper Respiratory Tract. E. W. Collins, Denver.

New York Medical Journal

January 11, XCVII, No. 2, pp. 57-108

90 Spasm of Pylorus and Congenital Pyloric Stenosis. H. Koplik, New York.
91 *Amebiasis and Results of Tests for Determination of Occult Blood in Feces. R. C. Rosenberger and T. C. Terrell, Philadelphia.
92 Newer Teachings of Diseases of Alimentary Canal. M. I. Knapp, New York.
93 Pernicious Anemia. G. W. McCaskey, Fort Wayne, Ind.
94 Crotalin in Treatment of Epilepsy and Nerve Disorders. J. R. Woodruff, Rochester, N. Y.
95 Instruction in Child Hygiene. M. S. Macy, New York.
96 Tuberculous Meningitis. S. Schaeffer, New York.
97 Vanadium Selenium in Cancer. F. von Oefele, New York.
98 Auscultatory Method of Blood-Pressure Readings. J. F. Prendergast, Philadelphia.

January 18, XCVII, No. 3, pp. 109-164

99 Superficial Metastatic Growths in Diagnosis of Deep-Seated Malignant Tumors. W. W. Babcock, Philadelphia.
100 Edema of Lids. G. W. Vandergrift, New York.
101 Bismuth Paste in Ear and Nose. G. M. Coates, Philadelphia.
102 An Hermaphrodite? W. S. Mills, New York.
103 Treatment of Pellagra. G. M. Niles, Atlanta, Ga.
104 Rhinology and Laryngology in General Practice. W. Ferguson, New York.
105 *Incipient Tuberculosis of Larynx. R. Pettit, New York.
106 Normal Human Blood-Serum in Treatment of Hemorrhagic Diseases of Infants and Children. J. E. Welch, New York.
107 Eyestrain in Children. E. W. Shipman, Richmond Hill, N. Y.
108 Origin of Medical Journalism. V. Greco, New York.

91. **Protozoa in Feces.** There were 150 examinations made of 137 males and 146 examinations on 141 females by Rosenberger and Terrell. In the males the number of instances of ameba was 112. Cercomonas occurred in two cases and cercomonas with ameba in two. Among the females, eighty-one harbored ameba; cercomonas occurred forty-four times and cercomonas with ameba thirty-one times. Among the males, thirty-six were in the hospital under one year and were positive for ameba, while in eight who were inmates less than one year, no ameba was found. In sixty-six who were in the hospital over one year, ameba was present, and in twelve who were inmates more than one year no parasites were found. Among females, twenty-nine had ameba who were in the hospital under one year, and twenty-four were negative on being incarcerated less than one year. Ameba was present in fifty-two inmates over one year and absent in thirty-one over one year.

The method of examination consisted in simply taking a drop of the material, placing under a microscope, and examining under ordinary conditions, without a warm stage. The organism encountered corresponds to *Amoeba coli*, as in no case examined was there a history of diarrhea or dysentery; the majority, if not all the patients, being subject to chronic constipation. While the parasites were found motile in quite a number of cases, yet encysted forms were most common. Apparently the parasites seemed to be more abundant during the warmer months than in the early spring; whether this really was the case or not is a matter of conjecture. In no case except one, was there a gross evidence in the stool of blood, and only in this case was there a suggestion of red cells being engulfed by ameba. A few stained preparations showed the peculiar picture of *Amoeba coli*. In a number of cases from other wards of the hospital sixty-nine examinations were made. These specimens were not obtained by a special purge. Forty-one gave no evidence of intestinal parasites; twelve showed ameba; seven showed cercomonas, and seven were not examined for parasites on account of the unsuitable condition of the specimen. In fifty-two other examinations of thirty patients, nineteen contained ameba and twenty-five showed no parasites; seven showed cercomonas.

These studies were interesting in showing the great prevalence of ameba, especially where no history of diarrhea or dysentery or abscess of the liver was obtainable, and also as to the occurrence and persistence of the reactions for occult blood. Three tests for occult blood were used in most cases; these were the turpentine and guaiac test, benzidine, and a modified Meyer's reagent. A modification of Van Deen's test was also tried and was far superior to the common guaiac test and more reliable than benzidine. Among the females, of 141 cases, sixty gave a positive reaction to Meyer's reagent; forty-seven had positive reaction of turpentine and guaiac, and fifty gave a positive reaction with benzidine. In this group of 141, only two cases of hemorrhoids were obtainable and in this group of the whole three tests 37 per cent. were positive. Individually, Meyer's reagent was positive in 42.5 per cent., turpentine and guaiac in 33.3 per cent., benzidine 35.4 per cent. In the males, of 122 tests, seventy-seven were positive to Meyer's reagent, or 66.2 per cent., while of 137 tested with turpentine and guaiac reagent sixty-two gave positive reaction, or 45.2 per cent. Grouping both reactions 53.7 per cent. gave positive evidence of the tests for occult blood. In this group of cases three instances of hemorrhoids occurred. In the sixty-nine cases examined in ordinary routine examinations, forty-six were negative to the tests for occult blood; ten cases gave a positive reaction with animal parasites, and thirteen gave a positive reaction for blood with no parasites. Among the insane patients in the females, there were forty-one cases negative for occult blood but showing ameba; forty cases were positive to occult blood and ameba, and twenty-five were positive for blood and negative for ameba. Among the males, forty-six cases were negative for occult blood but showed ameba; sixty-six were positive for occult blood and ameba; eleven were negative to ameba and occult blood, and fourteen were positive for blood and negative for ameba.

105. **Incipient Tuberculosis of Larynx.**—Pettit's method of treating tuberculosis of larynx which he says has healed from 70 to 85 per cent. of the cases in which it was applied, consists of submucous cauterization of the diseased tissues, with electricity. Cocainization should be thorough. The instrument is introduced cold, applied on the selected site, and enough current is turned on to produce a fairly bright cherry red, and pressure is applied until the tip of the electrode has sunk into the tissues to a depth corresponding to the vertical extent of the lesion. The application is continued until the whitened cauterized area has reached the apparently normal tissues; the current is then turned off, and the instrument quickly withdrawn, care being taken to avoid the posterior pharyngeal wall, epiglottis, and base of tongue, burns in which localities causing more subsequent pain and discomfort than the operation itself. Pettit cautions that the submucous cauterization should not be applied in all cases of beginning tuberculosis. Superficial ulcers on the posterior wall, particularly those on the cords, do better on the old method of lactic acid applications, but when the ulcer is situated on the surface of a tumor or on an infiltrate or where there is a tumor or infiltration or granulation without ulceration, there is found its field of usefulness and the results are eminently satisfactory. The only dangers of the method are the infliction of burns on structures extrinsic to the larynx, acute edema and perichondritis. Perichondritis or any severe inflammatory reaction of the larynx or epiglottis can be avoided by the observance of one or two cautions. The cautery should not be too hot; a white heat is dangerous. The puncture should not be too deep, nor should more than two separate punctures be made at one sitting. The immediate neighborhood of the cricoarytenoid joint should also be treated with great respect; penetration of the capsule of this joint is liable to be followed by a most intense inflammatory reaction with exfoliation of the arytenoid cartilage. The operation is of questionable value, if not contraindicated, in the case of weak, nervous, irritible individuals in whom advanced pulmonary lesions are present; or when the patients are poorly nourished, suffering from digestive disturbance and lack of appetite. A mild intermittent fever is not a contraindication; in the presence, however, of a continuous or of a septic febrile movement the operation should not be performed. Following the operation the patient should be put upon a fluid diet, preferably milk; if, however, milk is not well borne, albumin water, cold broths, and soups, without pepper or salt, may be substituted. Rest for the larynx is important, and if possible the patient should be made to communicate his wants entirely by writing. On the first and second day, insufflations of morphin and an antiseptic powder of equal parts may be given, and by the third or fourth day the antiseptic powder alone is sufficient. In about a week, or when the slough has separated, instillations of menthol in oil in 2 or 3 per cent. solution should be made; this loosens and aids in expelling the secretions from the wounded surface and also has an analgesic effect upon the same. Small doses of creosote or guaiacol carbonate are also useful at this time. Tonics and the general treatment of tuberculosis must not be neglected. In the event of great shrinkage of the tumor or infiltrate, but not its complete reduction, the operation may be repeated within two or three months. But such cases are rare, says Pettit, and in the vast majority of patients, submucous cauterization of a tuberculous infiltration, tumor, or granulation in the manner above described, is followed by a speedy disappearance of the same and generally by a complete restoration of the normal functions of the larynx.

Southern Medical Journal, Nashville, Tenn.

January, VI, No. 1, pp. 1-72

109 *Some Economic Questions Related to Syphilis. I. Dyer, New Orleans.
110 Syphilis of Eye. D. Roy, Atlanta, Ga.
111 Syphilis of Ear. N. M. Heggie, Jacksonville, Fla.
112 Syphilis of Nose and Throat. H. H. Martin, Savannah, Ga.
113 Gumma of Urethra; Report of Two Cases. W. P. Dey and J. L. Kirby-Smith, Jacksonville, Fla.
114 Importance of Recognition of Syphilis in Circulatory Disease. J. T. Halsey, New Orleans.
115 Effect of Anti-Syphilitic Remedies on Wassermann Reaction. W. Litterer, Nashville, Tenn.
116 Hygiene of Syphilis. O. Dowling, New Orleans.
117 *Typhus Fever, with Report of Cases. J. E. Paullin, Atlanta, Ga.
118 *Treatment of Arteriosclerosis by Physiologic Methods. J. M. Swan, Rochester, N. Y.
119 Obstructions in Urethra and Their Removal. A. G. Douglas, Birmingham, Ala.
120 Typhoid: Diet and Treatment. J. G. Wilkinson, Ragland, Ark.
121 Dietetic Treatment of Enteritis in Infants. W. M. Salter, Repton, Ala.

109. Abstracted in The Journal, Dec. 7, 1912, p. 2090.

117. **Typhus Fever.**—Paullin summarizes the features of his six cases as follows: Onset has been sudden, with chills as a rule; intense aching pain in back, persistent headache, in two cases severely distressing to the patient, and remaining throughout the course of the disease; delirium was present in one case; prostration has been quite marked in all of the cases. The eyes are generally bright and shiny, the face flushed, tongue heavily coated; between the fifth and eighth day of the disease the characteristic eruption appears first on the chest and abdomen, rapidly spreading to the back, arms, forearms, hands, neck, face, legs and feet; although it is stated that frequently it is absent from the face. The rash resembles somewhat the typhoid roseola, it is more extensive and of a brighter color, masculopapular, varying in size from 1 to 12 mm. in diameter, appearing rapidly over the body, becoming petechial in places and not completely disappearing under pressure. In these cases the rash has completely disappeared before the subsidence of the fever, leaving behind a darkish brown discoloration which soon disappears. The rash has not been observed on the buccal mucosa. No particular flushing has been noted in these cases.

The temperature is high from the onset and having within the first few days reached its fastigium maintains this with very slight remission for ten to fifteen days, when it ends by lysis or crisis. With a normal temperature the patients feel well and headache disappears. The pulse, as a rule, is full, good volume, occasionally dicrotic; slow in comparison with the heighth of fever. The spleen has been palpable at the first examination in all of the cases except one, the percussion area of splenic dulness is here increased. The border is hard and firm. The largest spleen extended 3.0 cm. below the costal margin. All the cases have shown a slight leukocytosis, the highest count 12,400, the lowest 8,000. Repeated Widals with the *B. typhosus* and *B. paratyphosus* have been negative. Blood cultures have been made on all cases except the first two; all remaining sterile. Most patients have had a slight bronchitis at the beginning of the disease and in two it persisted throughout its course. There have been no relapses in these cases and no complications. Treatment has been symptomatic; no specific is at present known for the disease.

118. Abstracted in The Journal, May 11, 1912, p. 1474.

United States Naval Medical Bulletin, Washington, D. C.

October, VI, No. 4, pp. 473-654

122 Recent Hospital Construction in United States Navy. A. W. Dunbar, U. S. Navy.
123 Few General Principles of Hospital Construction. F. W. Southworth, U. S. Navy.

124 Ventilation of War Vessels. R. H. Robinson, U. S. Navy.
125 Plans and Description of Hospital Ship for United States Navy. E. M. Blackwell, U. S. Navy.
126 Prevalence of Frambesia (Yaws) in Guam and Its Connection with Etiology of Gangosa. W. M. Kerr, U. S. Navy.
127 Nitrous Oxid-Oxygen Anesthesia. H. F. Strine and R. B. Duncan, U. S. Navy.
128 Eight Hundred and Twenty Complement-Fixation Tests on 451 Patients; Modified Emery Technic. E. P. Huff, U. S. Navy.
129 Diagnosis and Dosage in Uncinariasis in Navy. J. F. Leys, U. S. Navy.
130 Character and Genesis of Thermic Myospasms, with Observations on Myalgia Thermica. W. L. Mann, U. S. Navy.

West Virginia Medical Journal, Wheeling

January, VII, No. 7, pp. 219-254

131 Management of Cardiorenal Cases Exhibiting High Blood-Pressure. L. Litchfield, Pittsburgh.
132 Cholelithiasis and Pancreatitis; Their Surgical Treatment. J. K. Oates, Martinsburg.
133 Importance of Early Recognition of Cancer, or Cancerous Lesions. W. Neill, Charles Town.
134 Hemorrhage of New-Born Infant. S. G. Moore, Elkins.
135 Treatment of Non-United Fractures. R. H. Dunn, Huntington.
136 Whooping-Cough; Its Nature and Prevention. W. C. Rucker.
137 Spontaneous Cure of Malignant Disease. A. Marcy, Riverton, N. J.

FOREIGN

Titles marked with an asterisk (*) are abstracted below. Single case reports and trials of new drugs are usually omitted.

Annals of Tropical Medicine and Parasitology, Liverpool

December, VI, No. 4, pp. 415-503

1 *Resistance of Cimex Lectularius to Various Reagents, Powders, Liquids and Gases. B. Blacklock.
2 Resistance of Ornithodorus Moubata to Various Sheep-Dips. B. Blacklock.
3 Three New African Species of Genus Tabanus. H. F. Carter.
4 *Hemoglobin Metabolism in Malaria. II. Influence of Quinin. G. C. Simpson and E. S. Edie.
5 Cultivation of One Generation of Malaria Parasites (Plasmodium Falciparum) in Vitro by Bass' Method. J. G. Thomson and S. W. McLellan
6 Sex of Mosquito Larvae. H. A. Adie.
7 Some Effects of Occurrence of Myxosporidia in Gall-Bladder of Fishes. H. B. Fantham and A. Porter.
8 Trypanosomes of Game and Domestic Stock in Northeastern Rhodesia. A. Kinghorn and W. Yorke.
9 Development of Trypanosoma Rhodesiense in Glossina Morsitans. A. Kinghorn, W. Yorke and L. Lloyd.

1. **Resistance of Cimex Lectularius.**—The results of Blacklock's experiments have shown that the bedbug whether in the larval or adult stage is not readily killed by depriving it of human blood. It may thus remain alive and active for months in houses which have ceased to be inhabited. Houses on being reoccupied after being empty for months may still be found infested with bugs. Bedbugs may transmit certain diseases from one human being to another. Therefore it is inadvisable that bugs and human beings should occupy the same house. Human beings must be protected from the attacks of bedbugs. There is no evidence that bedbugs can be cleared out of a house by insecticide powders. Experiments suggest that powders are of very limited utility. The same applies to liquid remedies. Gaseous substances present the best prospect of success. Of such substances, sulphur dioxid is cheap and effective. Sulphur dioxid gas under pressure for two minutes, kills with certainty all stages in the cycle of development of the bug, including the egg.

4. **Hemoglobin Metabolism in Malaria.**—Increased excretion of urobilin, according to the authors, may occur after the administration of quinin in doses of 10 to 30 grains a day. A similar result follows injection of blood pigment or hemolytic drugs. Quinin probably possesses the power of determining hemolysis in the body, though the exact mechanism of its action must be further investigated. Individual or pathologic idiosyncrasy may exaggerate this action and so account for the influence of quinin in blackwater fever.

Bristol Medico-Chirurgical Journal, London

December, XXX, No. 118, pp. 289-389

10 Some Diseases Bearing Names of Saints. R. Fletcher.
11 Problem of Medical Education. W. C. Swayne.
12 Barber Surgeons. G. Parker.
13 Tuberculin and Immunity. J. W. Taylor.
14 The Bristol Medical Library. C. K. Rudge.

British Journal of Children's Diseases, London

December, IX, No. 108, pp. 529-597

15 Case of Precocious Development in Boy Aged Six Years. E. C. Williams.
16 *Cutaneous Reaction to Tuberculin in Childhood. C. P. Lapage.
17 Case of Interstitial Keratitis. J. Allan.

16. **Reaction to Tuberculin in Childhood.** The reaction to tuberculin is regarded by Lapage as being specific, and it is a broad rule that all cases infected with tuberculosis give a reaction. The subcutaneous method gives the highest percentage of results, but for practical purposes the cutaneous method is the most suitable. Human tuberculin should be used because bovine tuberculin does not give reactions in all cases. The substances used to dilute the tuberculin do not in themselves cause a reaction in the strengths they are now used. The nature of the reaction is not yet proved. The results of the clinical examination and the tuberculin test are confirmatory of one another, the reaction occurring far more frequently in those showing symptoms pointing to tuberculous infection. The roentgenographic examination and the cutaneous tuberculin test correspond fairly closely if their results are properly interpreted. A reaction indicates that the subject has been infected with tuberculosis and does not mean that the disease is progressive or even active. There is at present no method of performing the test to afford a means of distinguishing between active and passive disease, but research may find such a method. A marked reaction or a reaction in a healthy person may be of good import and need not bear a sinister interpretation. Slight reactions seem to occur more often in cases negative or only possible clinically.

A negative result may follow the test in children infected with tuberculosis: (1) if the disease is advanced; (2) if there is cachexia; (3) in very acute disease; (4) in mixed infections or cases complicated by acute disease.

A single negative test does not exclude tuberculous infection, repetition of the test increasing the percentage of positive results considerably (28 per cent.). Even a negative result on repetition of the test does not always exclude infection, because some cases are only positive on the third application and others positive to Roentgen-ray examination, but cases neither advanced nor cachectic in nature do not react to repeated tests. Therefore, judged by the Roentgen-ray examination, the cutaneous tuberculin test cannot be regarded as absolutely reliable in excluding tuberculous infection. In some cases the first test may stir up powers which have not given a reaction at the first test, but which produce a reaction at the second test. With the exceptions noted above, and excluding faulty technic, a negative result to the test applied twice can for all practical purposes be held to mean that there has been no infection with tuberculosis. There is greater difficulty in diagnosing occult tuberculosis after the age of two years. In indicating tuberculous illness the test is of greatest value in young children. As judged by the cutaneous test on children attending at a hospital, tuberculous infection occurs in 32 per cent. up to the age of 2 years, in 51.2 per cent. from 2-5 years, in 60 per cent. from 5-10 years and in 60.8 per cent. from 10-14 years. Even in cases negative to clinical examination, infection occurs in 14.7 per cent. up to the age of two years, in 31.4 per cent. aged from 2-5 years, in 30.7 per cent. aged from 5-10 years and in 51.2 per cent. aged from 10-14 years. In other words tuberculous infection is common in early life, increases rapidly in frequency up to the age of ten years, and then increases steadily but less rapidly, until at the end of school age at least 60 per cent. of children have become infected. Even in cases negative to clinical examination about 50 per cent. have become infected.

British Medical Journal, London

January 4, I, No. 2714, pp. 1-52

18 Insect Porters of Bacterial Infections. C. J. Martin.
19 Gall-Stones. B. Moynihan.
20 Introductory to Advanced Course on Tuberculosis. S. Delepine.
21 Cult of Iodin and Dread of Skin. J. L. Thomas.
22 Aberrant and Recurrent Osteomyelitis. R. C. McGuire.
23 Primary Sarcoma of Both Biceps Muscles. E. Scott-Carmichael.
24 Cocain Poisoning. C. Bose.
25 Experiment to Illustrate Effect of Size of Population on Rate of Selection of New Bacterial Races. W. J. Penfold.

Edinburgh Medical Journal

January, X, No. 1, pp. 1-96

26 Direct Laryngoscopy, Tracheo-Bronchoscopy and Esophagoscopy. A. L. Turner and J. S. Fraser.

27 Function of Royal Medical Society in Medical Education. R Hutchison.
28 Primary Cancer of Vermiform Appendix; Report of Six Cases. J. M. Graham.
29 Tumor Formation and Allied Pathologic Processes. A. J. Brock.
30 *Incontinence of Urine in Children. J. W. Simpson.

30. **Incontinence of Urine in Children.**—For the purpose of treatment the composition of the urine is divided by Simpson into the following groups: 1. In some cases the urine presents no abnormal features. This "normal" condition is often seen in a case of incontinence following some debilitating illness which has reduced the strength of the patient. 2. The urine is found extremely acid, loaded with urates, of high specific gravity and often diminished in quantity. 3. The urine is found to be neutral or alkaline, usually of low specific gravity, often containing triple phosphates, sometimes also a few pus cells with a trace of albumen, frequently much increased in quantity. 4. Urine may contain bacilli. In Group I (normal urine cases) the treatment consists in giving a tonic to try and improve the general condition of the child. When this has been improved the administration of belladonna should be begun. In giving belladonna, Simpson usually begins with 10 minims of the tincture two or three times a day, and gradually increases the doses up to 20 to 25 minims. He has never given larger doses of belladonna, but he has used approximately larger doses of atropin. Even with the smaller doses of belladonna the child may complain of difficulty in seeing, dry mouth, etc., and when such is the case one must proceed carefully before increasing the dose. Simpson has, however, never had very much trouble in using belladonna, but once or twice with atropin he has seen well-marked symptoms of poisoning. With the great majority of patients he does not prescribe beyond 15 minims thrice daily, but says it is advisable to continue this for a considerable period.

Group II—(Urine extremely acid, etc.).—Here one must first reduce the acidity of the urine, and this is most easily accomplished by the use of citrate of potash in doses of 10 grains thrice daily; even larger doses may be required. When the acidity has been reduced, the belladonna should be begun. If the child's general health is not very good, 2 or 3 minims of liquor strychnin added to the prescription is often beneficial. It is inadvisable to give meat when the child is suffering from this "acid" condition. Group III—(Alkaline urine, etc.).—In these cases dieting is of the first importance, all carbohydrate food as far as possible being prohibited. If the urine is very alkaline, acid sodium phosphate may be given; when the alkalinity of the urine has been reduced belladonna should be used in the manner stated above.

Group IV—(Bacilli in urine).—A pure culture of *B. coli* is frequently obtained in such cases. If the urine is very acid it is wise at first to reduce the acidity by giving citrate of potash, then urotropin in 5 to 10-grain doses thrice daily often proves of immediate benefit. If there is mixed infection salol is often more efficacious. Mixed infection cases are often very troublesome, however, and a vaccine may sometimes be used with great advantage. In the treatment of enuresis Simpson has tried a large number of other drugs, such as ergot, antipyrin, epinephrin, thyroid, etc., but he has rarely seen any good results follow after belladonna has been used unsuccessfully. Ergot, however, he says, ought to be tried if belladonna fails. Simpson has used thyroid frequently, but the results obtained have been disappointing. He would, however, always try in those cases in which the child is markedly backward mentally. He has never felt warranted in using the huge doses sometimes recommended (15 grains in the day), his maximum dose being 5 grains daily. If the child is highly nervous and suffers from disturbed sleep, night terrors, etc., the addition of 5 to 10 grains potassium bromid given with the last dose at night of belladonna often does good.

Glasgow Medical Journal

January, LXXIX, No. 1, pp. 1-79

31 Ovum in Relation to Sterility and Abortion. J. Lindsay.
32 Lesions of Bilharzial Disease. A. R. Ferguson.
33 Three Cases of Pancreatitis with Two Recoveries. A. MacLennan.

Lancet, London

January 4, I, No. 4662, pp. 1-80

34 Insect Porters (Carriers) of Bacterial Infection. C. J. Martin.
35 *Recovery from Infective Endocarditis (Streptococcal). H. Hemsted.
36 Rupture of Spleen and Liver; Operation; Recovery. W. H. Evans.
37 *Glycosuria in Tuberculous Meningitis. R. S. Frew and A. E. Garrod.
38 Removal Through Mouth of Tooth-Plate Impacted in Esophagus for Two and a Half Years. S. Thomson.
39 *Treatment of Pulmonary Tuberculosis with Small Doses of Tuberculin. N. D. Bardswell.
40 *Value of Complement Fixation Test in Tuberculosis. L. S. Dudgeon, W. O. Meek and H. B. Weir.
41 Radical Operation for Malignant Disease of Testis. S. Pringle.
42 Case of Diphtheritic Enteritis. H. M. Cargin.
43 Facial Wrinkles and Emotional Grimace. W. A. Hollis.

35. **Infective Endocarditis (Streptococcal.)**—In Hemsted's case, a young married woman of 21, the subject of a congenital lesion of the endocardium, became infected from a tooth abscess. Ulceration of the mural endocardium resulted in innumerable infarcts in the lungs and a few in other tissues. Streptococci were isolated on several occasions from the blood-stream, and the patient, after being ill for nearly a year, has completely recovered. She was treated with autogenous vaccines and autogenous serum. In the early stages scattered pulmonary infarcts produced a picture closely simulating acute tuberculosis pleuritis.

37. **Glycosuria in Tuberculous Meningitis.**—The authors examined forty-one cases of tuberculous meningitis. In all but three of the cases the diagnosis of tuberculous meningitis was confirmed by post-mortem examination. The remaining three cases presented the characteristic symptoms of the disease, and in each of them the tubercle bacillus was found in the cerebrospinal fluid. In fifteen of the forty-one cases (36.6 per cent.) glucose was found in the urine at some period in such quantity that when equal volumes of urine and Fehling's solution were mixed when hot, but without reboiling, conspicuous reduction occurred. In the earlier cases examined an osazone, with the appearance and melting-point of glucosazone, was obtained, the urine was found to be dextro-rotary, and estimations of the glucose yielded figures between 0.25 and 1 per cent. In eleven of the remaining twenty-six cases partial reduction of the hot Fehling's solution was obtained without reboiling and this at the same period of the disease at which pronounced glycosuria appeared in the other fifteen cases. In the remaining fifteen cases of the series no reduction of Fehling's solution was obtained at any time. In each case daily or more frequent examinations were made, from the time when the diagnosis of tuberculous meningitis was made until the death of the patient, and as regards the period of onset of glycosuria the results were as follows: In two cases sugar was first found in the urine twenty-four hours before death; in ten cases forty-eight hours before death; in one case seventy-two hours; and in one case ninety-six hours. One patient developed glycosuria nine days before death, and this was, unfortunately, the only case of the glycosuria series in which no necropsy was allowed. Once developed the glycosuria persisted for the remaining days of the patients' lives, and it will be seen that in the great majority of instances the sugar only appeared in the two last days of life.

In their clinical features the glycosuria cases presented no striking differences from those in which no sugar appeared in the urine, nor was there any obvious influence of sex or age in this respect. As far as could be judged the liability to glycosuria is not greater at one age than at another. Of twelve patients with glycosuria, seven had optic neuritis and five had none; whereas among thirteen without glycosuria the proportion was eight with to five without. Certain other clinical features, such as the duration of the illness, the degree of fever and depth of unconsciousness, appeared to be equally without influence on the development of glycosuria. The organs which play recognized parts in the causation of glycosuria were examined with special care. In no instance did naked-eye or microscopic examination of the pancreas show any morbid changes in that gland to which the occurrence of the glycosuria could be ascribed. The same may be said of the thyroid and adrenal glands. In some cases miliary tubercles were present in them, but this was equally true of cases in which no sugar was excreted and of the glycosuric cases. The characters and distribution of the tuberculous lesions elsewhere than in the meninges differed in different cases, but as far as could be judged the differences of distribution bore no obvious relationship to the presence or absence of glycosuria. In a number of fatal cases of tuberculosis without meningitis, in which the urine was examined during the last days of life, no sugar was ever found. It seems highly probable to the authors that the presence of the meningitis is the factor which determines the occurrence of glycosuria.

39. **Tuberculin in Tuberculosis.** The dosage of tuberculin given by Bardswell to his patients was never outside the limits of 1/1,000 to 1/600 milligram, T. R. being the preparation used in every instance. Thirty patients in all were treated, over periods varying from a minimum of six weeks to a maximum of twenty-five weeks. Thirteen of these cases had less than six inoculations. The remaining seventeen cases were patients with well-marked lung disease. The cases were for the most part of an unfavorable type clinically. In the case of all the patients thus treated the injection of the small dose of tuberculin nearly invariably resulted in a satisfactory immunizing response, as shown by the rise in the opsonic index. The repeated immunizing responses were not, however, associated with any appreciable alteration in the clinical condition, in respect to such essential factors as reduction of temperature, diminution in the amount of sputum, disappearance of tubercle bacilli, etc. In fact, Bardswell was unable to detect any difference whatever in the progress of the tuberculin-treated patients as compared with the progress of similar types of patients who, living under precisely similar conditions, were not having tuberculin. It is of some interest to note that in no case did the weekly repetition of the small doses of tuberculin give rise to any hypersensitiveness.

Considering only the seventeen patients whose treatment extended over periods ranging from a minimum of seven weeks to a maximum of twenty-five weeks, the results are as follows: Of twelve cases of moderately advanced disease after a period of five years since discharge, four, or 33 per cent. are well and the remainder are dead. Of those who have died, two lived for over four years, three lived for over three years, two lived for over one year and one lived three months only after discharge. Two of the four patients who are well lost their bacilli before they left the sanatorium. The five cases of very advanced disease all died within twelve months of their discharge. The conclusion Bardswell arrives at is that the tuberculin, from a clinical point of view, was a negligible factor, and in no wise influenced either the immediate or the ultimate prospects of the patients to whom it was given.

40. **Complement Fixation Test in Tuberculosis.**—The authors show that in cases undergoing treatment other than by tuberculin injections the reaction was positive in about 84 per cent. of cases; in every case in which the patient was under treatment with tuberculin the reaction was positive; in fourteen out of nineteen cases of "arrest," in which the disease had been quiescent for periods varying from a few months to seven years, the reaction was positive (73 per cent.) Of the 109 cases of pulmonary tuberculosis in which a positive reaction was obtained, fifty-six gave a "strong" reaction, twenty-eight, a "medium," and twenty-five a "weak" reaction. In cases of tuberculosis other than pulmonary, mostly cases of so-called "surgical" tuberculosis, the reaction was positive in 57 per cent. of cases, while the blood of presumably healthy "contacts" gave in every case a negative reaction. Extended investigations on the effect of treatment on the reaction are promised in the near future.

Annales de Gynécologie et d'Obstétrique, Paris

December, XXXIX, No. 12, pp. 705-764

44 *Eugenics. (De l'eugennétique.) A. Pinard.
45 *Serotherapy of Uncontrollable Vomiting of Pregnancy. G. Fieux.
46 Operative Treatment of Malformations of the Uterus. P. E. Goullioud. Commenced in No. 11.

44. **Eugenics.**—Pinard says that he has been told that it is immoral and bad form to discuss the function of reproduction with young men and women, even to educate them in the necessity for improving the race in their offspring instead of helping to deteriorate it. He replies to such protests that it is the highest form of morality to ensure the conservation and the amelioration of the human race. Young procreators already have applied foresight to the instinct of reproduction to the extent that they have voluntarily limited the number of births. It is but a step farther to ensure conditions for the births which will bring the offspring above the average. Pinard adds that his long experience as an obstetrician has convinced him that the ignorance of the procreators is the principal cause of the birth of degenerates. The practice of eugenics will ensure a more fortunate, or at least a less unfortunate, race than is living now; the future of the race depends on conditions before procreation.

45. **Serotherapy of Uncontrollable Vomiting of Pregnancy.**—Fieux adds two more to the two cases he has previously reported in which conditions rapidly improved under subcutaneous injection of normal human serum, horse-serum or serum from another pregnant woman. The serum from the pregnant woman seemed most effectual, but in every instance the condition began to improve at once under the serotherapy. Serum from a pregnant woman probably contains antibodies explaining its favorable action, but the cause of the action of the "paraspecific serotherapy," the horse-serum, is still a mystery. In one of the cases the vomiting in a previous pregnancy had been uncontrollable likewise, compelling induction of abortion. In the second pregnancy the vomiting commenced in the second month and soon entailed extreme prostration with headache, insomnia and 5 per thousand acetone in the urine, and rapid respiration. After injection of 2 c.c. of horse-serum the amount vomited dropped from 900 c.c. to 400, 300 and 200 c.c. in the three following days, but the pulse increased to 100 and the output of urine dropped to 200 c.c. The vomiting then resumed its former severity, and the fourth evening 15 c.c. of serum from another woman, three months pregnant, was injected. The following night the patient was very restless and dyspneic, and the next day the prostration was extreme, the temperature 37.8 C. But thirty-six hours after the injection of serum a sudden change for the better was observed and rapid recuperation followed. Three weeks later, as there was a little morning nausea, an additional injection of 15 c.c. of horse-serum was given, after which there was no further trouble. In another case the woman began to vomit before the end of the first month and vomited up to fifty-seven times a day. The pulse soon ran up to between 104 and 110, and the prostration was so intense that she was given oxygen to inhale. Under injection of 20 and 15 c.c. of horse-serum, with an interval of two days, the vomiting was arrested.

Presse Médicale, Paris

December 21, XX, No. 105, pp. 1061-1072

47 Diagnosis of Acidosis. M. Labbé and H. Bith.
48 Infection from Oysters. (Les infections d'origine ostréaire.) L. Lagane.
49 Weakness of the Heart-Beat. (Le syndrome hyposphyxique.) A. Martinet.

December 25, No. 106, pp. 1073-1080

50 Technic for Avoiding Operative Pneumothorax. (Un nouveau genre d'appareils à baronarcose.) R. Danis.

Revue Mens. de Gynécologie, d'Obst. et de Pédiatrie, Paris

December, VII, No. 12, pp. 689-760

51 *Citric Acid to Check Coagulation in Puerperal Phlebitis. P. Guéniot.
52 Low Implantation of the Placenta: Six Cases. G. Baux.

51. **Citric Acid in Prophylaxis of Puerperal Thrombosis.**—Guéniot cites the case reported by Chantemesse in 1908 in which thrombosis was induced by too long administration of calcium chlorid to control multiple intestinal hemorrhage in typhoid fever. When signs of phlebitis developed he gave citric acid, and under its influence the phlebitis disappeared, but the blood became so fluid that the hemorrhages started again. Guéniot has found that women with uterine fibromas frequently had the blood coagulability increased by one-third, but under small doses of citric acid the patients recovered after removal of the fibromas, with no signs of postoperative phlebitis. He reports here in detail the case of a young woman with signs of mild puerperal phlebitis, to whom he administered 12 gm. of citric acid on each of the two following days, with the con-

sequence that the phlebitis was arrested and all signs of it gradually subsided. Guéniot agrees with Chantemesse that administration of citric acid may prevent the spread of phlebitis, but that at the same time it exposes the patient to accidents from too rapid disintegration of the clots. The subject needs further study, especially comparison of the coagulability of the blood before, during and after the citric acid is given.

Berliner klinische Wochenschrift

December 23, XLIX, No. 52, pp. 2441-2480

53 *Criminal Abortion. L. v. Lingen.
54 Chemical Action of Thorium X on Uric Acid and Other Organic Substances. W. Falta and L. Zehner.
55 Thorium X in Treatment of Pernicious Anemia. E. Prado-Tagle.
56 Treatment of Psychoneuroses. R. Friedlaender and H. Vogt.
57 *Paraldehyd Poisoning. (Fall von Paraldehydvergiftung und seine Behandlung.) L. Fornaca and G. Querelli.
58 Inheritance of "Acquired Properties." (Das Problem der Verebung "erworbener Eigenschaften.") R. Meyer.
59 Operative Treatment of Chronic Obstipation. F. Karewski. Commenced in No. 51.

53. **Criminal Abortion.**—Lingen remarks that in Russia as well as elsewhere the number of criminal abortions is constantly increasing. In his service (St. Petersburg) it has tripled in a few years, and is ten times as large as in 1894. In August, 1911, there were 123 cases of abortion, the curet being applied in eleven cases in one day. The deaths from following sepsis amounted to 1.7 per cent. of 899 cases last year, a small proportion in comparison with Winter's 16 per cent. in eighty cases of operative septic abortion, and Koblanck's seven deaths in forty treated expectantly and twenty-nine deaths in 121 operative cases. He discusses the diagnosis and treatment, but adds that he knows of no way and means to stem this tide of criminal abortions. Experience has shown that legislation, no matter how strict, is unable to control it. Only the enlightenment of the public in regard to the dangers of criminal abortion can improve conditions, and this task belongs first and foremost to medical men.

57. **Paraldehyd Poisoning.**—A physician of 48 was healthy until 32, when a fracture of the right parietal bone healed, leaving a tendency to intractable insomnia. He used various sedatives, until finally he was taking 5 gm. of veronal a day for five years, and then at 42 he changed to paraldehyd, increasing from 2 gm. a day to 12 and 15 in the course of five years. Then symptoms developed strongly resembling those of chronic alcoholism, and finally, after taking 500 gm. in the course of one week, there was an attack of delirium tremens with one epileptic seizure. The delirium reached its height in four days, the temperature was high, the pulse weak and rapid and the patient perspired copiously. Then under the influence of opium, improvement began, and by the ninth day the patient seemed physically and mentally absolutely normal, except that there is still persisting insomnia, and there is a little doubt as to completely normal cerebration. The case teaches that even very large doses of paraldehyd, causing severe intoxication, may yet be eliminated so completely that little damage results, although the outcome might not be so favorable in individuals with intestinal disturbance. Besides delirium, motor excitement, involuntary defecation and micturition, intense diaphoresis and rise in temperature, abnormal polyuria and intense thirst seemed to be features of the paraldehyd poisoning.

Correspondenz-Blatt für Schweizer Aerzte, Basel

December 20, XLII, No. 36, pp. 1353-1384

60 Progress in Grinding Spectacles. (Brillenkunde.) C. A. Hegner.
61 Case of Gangrenous Balanitis. Tièche.
62 The Psychic Factor in Whooping-Cough. (Einige Beobachtungen über das psychogene Moment beim Keuchhusten.) E. Oberholzer.

Deutsche medizinische Wochenschrift, Berlin

December 19, XXXVIII, No. 51, pp. 2393-2440

63 *Typhoid in Rabbits. (Versuche, Kaninchen zu Typhusbazillenträgern zu machen und sie therapeutisch zu beeinflussen.) P. Uhlenhuth and T. Messerschmidt.
64 *Diagnostic Importance of the Bone Reflexes. (Knochenreflexe.) H. Bickel.
65 *Restricting Intake of Fluids in Bronchitis. (Durstkuren bei chronischen Bronchialerkrankungen.) G. Singer.
66 Joint Disease. (Zur Pathologie und Therapie der Gelenkerkrankungen.) E. Plate
67 Tuberculous Origin of Disturbances in Menstruation. (Menstruationsstörungen.) J. Hollos.
68 *Tardy Empyema of the Mastoid Process. (Spätempyeme des Warzenfortsatzes.) C. Lüders.
69 *Hydrochloric Acid in Treatment of Pernicious Anemia. (Die Salzsäurebehandlung der perniziösen Anämie.) A. C. Croftan.
70 Absorption of Sodium Salicylate. (Untersuchungen über die Resorption von Natron salicylicum bei verschiedenen Applikationsweisen.) E. Levin.
71 Defective Rubber Gloves. (Löcher im Gummihandschuh.) C. Credé-Hörder.

December 26, No. 52, pp. 2441-2472

72 *Impairment of the Memory and Its Treatment. (Die Gedächtnisschwäche—Mnemasthenie.) P. Ranschburg. Commenced in No. 51.
73 Tuberculin Treatment of Tuberculosis. (Probleme der spezifischen Tuberkulose-Behandlung.) E. Levy.
74 The Protective Ferments. (Einige Untersuchungsergebnisse und klinische Ausblicke auf Grund der Abderhaldenschen Anschauungen und Methodik.) A. Fauser.
75 General Infection from Pyocyaneus Bacillus. C. Kleineberger.
76 Hypersusceptibility to Arsenic. (Beobachtungen über Arsenüberempfindlichkeit.) C. Staeubli.
77 Leukocyte Inclusions. (Diagnostische Bedeutung der Döhleschen Leukozyteneinschlüsse.) A. Belak.
78 Operation for Extensive Hare-Lip. (Zur Operation sehr grosser, mit kompletter Kieferspalte einhergehender Hasenscharten.) W. Neumann.
79 Serodiagnosis of Syphilis. (Weitere Erfahrungen mit Azetonextrakten bei der Serumdiagnostik der Syphilis.) F. Munk.

63. **Rabbits as Chronic Typhoid-Bacillus Carriers.**—Uhlenhuth and Messerschmidt found it possible to make rabbits chronic carriers by inoculating them in the gall-bladder with typhoid bacilli. The longest duration of the carrier stage was six months. The inflammatory changes in the gall-bladder, the course of the cases and the negative results of attempts to immunize the rabbits—all were similar to what is observed in man. The inoculation of tubercle bacilli in the gall-bladder sometimes induced a fatal syndrome resembling human typhoid fever in every particular. The positive outcome of the experiments supplies a basis for future research on the cure of typhoid by medicinal means.

64. **Bone Reflexes.**—Bickel has been in a position to make a systematic and comprehensive study of the bone reflexes in over 200 patients with disease of the nervous system. He found that what he calls the radius-periosteum reflex is the only bone-reflex phenomenon which occurs as regularly as the knee-jerk and Achilles tendon reflex. The absence of the radius reflex or a difference on the two sides was almost invariably a sure sign of pathologic conditions, as determined by the course of the case. He elicits the reflex with the Traube hammer, grasping the patient's hand so as to hold the arm in adduction and slight pronation, flexed at the elbow at an angle of 100 or 120 degrees. The patient can stand or be seated, except that in dubious cases he must recline so that the forearm can lie relaxed on the abdomen. The blow is struck on the lower third of the radius shaft or possibly on the styloid process of the radius. The forearm becomes flexed, generally accompanied by slight pronation; in exceptional cases the reflex movement is merely the pronation alone. This radius reflex can be readily elicited in the healthy, particularly when they are reclining. Bickel regards it as almost the equivalent—for the arm—of the knee-jerk and Achilles for the leg. None of the other bone reflexes can be compared with it for regularity or reliability. A peculiar feature of the bone reflexes is that the reflex movement may occur on both sides when only one side is tapped, or it may occur on the opposite side alone. In two cases of tumor of the brain he found the bone reflexes exaggerated on the sound side. The bone reflexes sometimes give a positive response when the tendon reflexes are negative. If it is difficult to decide whether a slight paresis of one arm is the work of some peripheral neuritic process or of some minute cerebral focal trouble on an arteriosclerotic basis, and the nerve trunks in both arms are equally tender to pressure and the triceps reflex shows no difference on the two sides, the discovery of exaggeration of the radius or ulna reflex on the paretic side would sustain the diagnosis of some cerebral focal trouble. In one case of incipient syringomyelia he found the triceps reflex on one side merely attenuated, while the radius and ulna reflexes on this side were already abolished. With other affections of the nervous system, especially incipient multiple sclerosis, the bone reflexes may warn of organic trouble earlier and more decidedly than the tendon reflexes. When the bone and tendon reflexes gave contradictory findings

it always proved to be merely that one had outraced the other. It is unnecessary to study the bone reflexes in the legs, as the tendon and plantar reflexes are all that can be desired.

65. **Restriction of Fluids in Treatment of Chronic Bronchitis.** – Singer relates the details of nine typical cases to demonstrate the remarkable benefit liable to follow systematic restriction of the intake of fluids, "thirst cures." The principle is the same as that of Oertel's and Karell's methods of treating plethora, dropsy and failing compensation, by restricting the diet and especially the ingestion of fluids. Physicians are too inclined to overlook regulation of the intake of fluid, he remarks; they devote their attention almost exclusively to the output, neglecting this important outpost. By limiting the fluids ingested, the amount of secretion dropped at once in his cases of bronchiectasia, gonorrheal putrid bronchitis, asthma and abscess in the lung. The intake of fluids must be gradually restricted, commencing with three "thirst days" in which the total amount of fluids, given in water, milk and soup should not exceed 400 to 200 c.c. fluid. He allows 200 or 300 c.c. of white wine, fractioned, and one or two oranges or slices of lemon if the patient suffers from thirst. The third or fourth day the patient is allowed to drink freely up to 1.200 or 2.000 c.c. of fluids. Singer says that we all drink more than is really necessary, and that the above restriction may seem hard to some; in that case he gives a few drops of some sedative, possibly opium, which he has found very useful to combat the thirst with nutrient enemas. Allowing a day of let-up on the restrictions twice a week, the "thirst cure" is kept up for four or six weeks. The weight drops a little at first, but on an abundant mixed diet the patients soon regain and surpass their original weight. The method should not be applied on suspicion of tuberculosis or nephritis or to much-debilitated patients. A number of charts and roentograms are given; in one case of putrid bronchitis the amount of sputum dropped from 300 c.c. to 120 and 70 c.c. by the second day after commencing the "cure." It is possible that changes in the osmotic tension may cooperate in the symptomatic benefit derived. Observing the above precautions the method is not particularly exacting nor difficult for the patients to comply with.

68. **Tardy Suppuration in the Mastoid Process.** Lüders has had four cases of this kind recently and six others in a previous series, a total of ten cases of suppuration in the mastoid process after an interval of up to two years after disease of the middle ear had apparently entirely healed. All but one of the patients were children. The symptoms in one case were severe pains in the side of the neck along the sternocleidomastoid muscle, pains more severe than could be elicited by pressure on the mastoid process itself. In another case the pains extended into the shoulder. Auscultation of the mastoid process was of great importance for the diagnosis. This was done by Dahmer's method of parallel auscultation. A phonendoscope with a single tube is placed on the right mastoid process and the tube carried to the left ear and a second phonendoscope is placed on the left process and carried to the right ear. The vibration of a tuning fork set on the top of the head is heard less distinctly with the right ear, for example, if the left mastoid process contains pus. This test never failed in his experience to reveal disease of the mastoid process after acute otitis media. The destructive lesion found in the mastoid process was quite extensive in all his cases, and it required from four weeks to four months for healing to be complete. The mastoid antrum was intact in every case. The pneumococcus was responsible for the trouble in three cases, the streptococcus in one. The middle-ear affection had definitely healed long before the mastoid trouble began, and the symptoms of the latter fluctuated and were separated by periods of apparent health. The cases reported teach the necessity for keeping patients under supervision for weeks at least after the healing of a middle-ear process, and they should be instructed to apply for medical aid at the slightest sign of trouble behind the ear or in that vicinity.

69. **Hydrochloric Acid in Pernicious Anemia.**—Croftan's work in this line is familiar to our readers. See THE JOURNAL, Aug. 13, 1910, p. 593.

72. **Impairment of the Memory.**—Ranschburg says that prophylaxis of nervous impairment of the memory should be along the lines of general hygiene for the nervous system, but, in addition, there should be a special hygiene of the memory. This, he declares, lies in training the mind to observe, grasp and correlate details to blend them into a comprehensive whole. Modern psychology has worked out a number of rules to guide in the training and rejuvenation of the memory, as he relates in detail. He calls attention to the waste of time and effort in requiring children to learn by the fractioned method, that is, to learn about a subject in small portions at a time, each without sense and interest until the whole are brought together to form the complete subject. This scrappy way of learning fails to impress the subject on the memory. The permanent memorizing of a subject is best accomplished by spacing the attention and repetitions given to it. For instance, if fifty repetitions are necessary to ensure complete memorizing, let only twenty be done the first day, ten the next day, five or ten after a few weeks, and the remaining ten or fifteen repetitious be strung along, one or two at a time, at intervals of months or years. The subject is then impressed indelibly on the memory; the same number of repetitions done in one or two days would by no means have accomplished this. This important fact applies not only to strictly educational matter, but to all impressions and all subjects which we wish to have permanently impressed on the memory. Questioning on the subject being memorized helps also to fix it in the memory; this calls attention to the weak points in the remembrance of the subject. Acute functional exhaustion of the memory requires treatment as for cerebral asthenia in general. The memory should be strengthened by exercise and training, but this should never be done during times of fatigue or worry. The methods most effectual for this are those which seek to sharpen the attention and perception. The memory for figures can be improved by exercises calling on the ear and eye for close attention and capacity for reproduction. He has some third party enunciate clearly single figures at intervals of a few seconds, aiming to reproduce in the patient's mind, through the hearing, some well-defined figures; a few seconds, minutes or hours later the patient is asked to repeat these figures in the sequence in which he heard them. The same principle is applied in training the eye to remember figures; single figures are shown the patient, at first in big type, but gradually the type is reduced to ordinary print. The heard figures are reproduced visually and the visualized figures are reproduced by the hearing in the next set of exercises, and more complicated figures are used, such as the house or telephone number, year, etc. Better results are possible with this simple method than with any of the so-called mnemonic methods. It is important to train the patient in the figures he is liable to use most in every-day life. A quarter of an hour a day is enough for such exercises at first. Another useful exercise is to write out a list of the names of acquaintances and try to remember the persons that go with the names. Another exercise is to cut out from old magazines a number of portraits and, keeping the names covered, try to remember from the picture the name of the original of the portrait, and vice versa. On meeting a new acquaintance, special attention should be paid to the name and it should repeatedly be called up in the mind, with the remembrance of the person's appearance. Repetition of this at longer and longer intervals, through weeks, will aid materially in training the memory. Absent-mindedness may be the result of unhygienic sexual practices, or worry on their account, or of physical fatigue or weakness, and the occupation or mode of life should be regulated to permit intervals for rest and recuperation. Psychotherapy may be required to dispel obsessing ideas interfering with normal trains of thought and memory. A stay in a sanatorium, with courses of electricity and massage, by improving the general health may restore the memory to normal conditions. Iron and arsenic seldom do much good; preparations containing phosphorus have proved more useful in Ranschburg's experience. A rural life with care of farm and garden and light work in general, with out-of-door sports, may also prove useful, or a long sea voyage or trip to the moutains or seashore.

Jahrbuch für Kinderheilkunde, Berlin

December, LXXVI, No. 6, pp. 645-760

80 Urobilin and Urobiligen in Infants' Urine. (Zur Frage Urobilinurie und Urobilinogenurie bei Brustkindern.) S. Ostrowski.
81 *Angina and Scarlet Fever. F. v. Szontagh.
82 Intestinal Stenosis in the New-Born Child with Rectal Plug of Mucus and Epithelium. (Rektaler Schleimepithelpfropf und Darmstenosen beim Neugeborenen.) Trumpp.
83 Congenital Stenosis of the Pylorus in Infant with Development of an Hour-Glass Stomach. (Ein Fall von angeborener Pylorusstenose—Typus Landerer-Maier—beim Säugling, und Entwicklung des Sanduhrmagens.) F. Schafer.
84 Chronic Polyarthritis with Enlargement of Spleen and Fever in a Child. (Ein Fall von Still'scher Krankheit.) H. Koeppe.

81. **Angina and Scarlet Fever.**—Szontagh maintains that acute tonsillitis and scarlet fever are merely the different reactions of the organism to the same disease. They are both the result of infection by pyogenic bacteria. Both are constitutional diseases manifested in the one case by local changes in the tonsils and pharynx, in the other by a cutaneous reaction, the eruption of scarlet fever. This eruption, he declares, is a manifestation of the hypersensibility which is common to childhood, but varies greatly in different individuals. It is one of the most classic and characteristic examples of anaphylaxis. When a hypersensitive individual is attacked with angina, the clinical picture of scarlet fever is produced. The problem of scarlet fever is, therefore, not a question of specific infection, but of an individual hypersusceptibility.

Medizinische Klinik, Berlin

December 22, VIII, No. 51, pp. 2057-2094 and Supplement

85 Phobias and Their Relation to Obsessions. (Phobien, bes. Platzangst.) M. Rhode. Concluded in No. 52.
86 Diagnosis of Acute Poliomyelitis. W. v. Starck.
87 Spinal Anesthesia. (Lumbalanästhesie.) C. Schütte.
88 The Wassermann Reaction in Internal Diseases. H. Dreesen.
89 Madelung's Deformity. G. Magnus.
90 Arsenic Poisoning During Treatment of Syphilis. (Medikamentöse chronische Arsenvergiftung bei einem Lueskranken.) E. Brodfeld.
91 Goiter Operations; 600 Cases. F. Demmer. Commenced in No. 48.
92 Factors Which Enhance Potency of Drugs in Combination. (Ueber wirkungspotenzierende Momente in Arzneigemischen.) E. Bürgi. Commenced in No. 50.
93 *Roentgenotherapy in Gynecology and Obstetrics. (Verwendung der Röntgenstrahlen in der Geburtshilfe und Gynäkologie.) E. Runge.

93. **Roentgenotherapy in Obstetrics and Gynecology.** Runge reviews the history of this branch of medicine and his own experience in this line. He emphasizes that the roentgenologist alone should never attempt treatment in gynecologic cases. Only the gynecologist is justified in doing this; it is much easier for a gynecologist to perfect himself in the Roentgen-ray technic than for a roentgenologist to acquire gynecologic skill. To illustrate this he mentions a case in which six weeks after some Roentgen-ray exposures for climacteric hemorrhage there was slight vaginal bleeding. Examination showed an incipient cancer in the cervix which was easily removed. If a roentgenologist alone had been treating the patient he would probably have ascribed the bleeding to the menopause, and the cancer might have passed undiscovered into an inoperable stage. The danger of malignant degeneration is the great drawback to roentgenotherapy of myoma. Warnekros found sarcomatous degeneration in 10 per cent. of the cases in Bumm's clinic. The younger the patient the less amenable to roentgenotherapy, and the intestinal contents and adipose layer in the abdominal walls are also important factors in the outcome of roentgen treatment. Runge has applied it in 111 myoma cases. The hemorrhages were favorably influenced in 84.4 per cent.; no effect was apparent in 16.6 per cent. The tumors became reduced in size only in 25 per cent. In the women over 50, 85.7 per cent. had no further hemorrhages; 82 per cent. of those between 45 and 50; 50 per cent. of those between 40 and 45; 31 per cent. of those between 35 and 40 and 43 per cent. between 30 and 35. He does not approve of roentgenotherapy for dysmenorrhea in young women, as the exposures may have an unfavorable influence on future pregnancies, but brilliant results may be obtained in gynecologic skin diseases, especially essential pruritus not caused by diabetes or vaginal discharge. The Roentgen rays cure in many such cases; the results were extremely satisfactory in his seven cases in this category; in Kelen's four cases; Döderlein's two and Eymer-Menge's one case. Runge found the exposures equally favorable in two rebellious cases of eczema of the vulva with intense itching. The pruritus disappeared at once. The Roentgen rays have not proved as useful as anticipated in the field of obstetrics, especially in determining the size of the bony pelvis and of the fetus. It has been demonstrated, however, that intensive exposure of the uterus injures or kills the rabbit fetus. In the clinic such large doses and such long exposures are necessary for this purpose that this method of inducing abortion has no practical value. The possible injury in later pregnancies also excludes the (theoretically well grounded) method of inducing a temporary sterilization of tuberculous women by Roentgen exposures of the ovaries. The ovaries later recuperate and resume functioning, but there is liable to be serious injury of the products of a later conception.

Monatsschrift für Kinderheilkunde, Leipsic

XL, No. 7, pp. 281-356

94 *Early Stages of Acute Anterior Poliomyelitis. (Die Frühstadien der epidemischen Kinderlähmung.) E. Müller.
95 Stenosis of the Gall Passages in New-Born Infants. (Ein Beitrag zur Frage der Gallengangsstenose beim Neugeborenen.) K. Sugi.
96 Excretion of Sugar-Splitting Ferment in Infants. (Ueber die Ausscheidung von zuckerspaltenden Fermenten beim Säugling.) F. Lust.
97 Excretion of Albumin, Starch and Fat-Splitting Ferment in Infants. (Ueber die Ausscheidung von Eiweiss-, Stärke- und fettspaltenden Fermenten beim Säugling.) H. Hahn and F. Lust.
98 Leishmania Anemia. Jemma.

94. **Early Stages of Acute Anterior Poliomyelitis.**—Müller remarks that the paralysis in anterior poliomyelitis is the end-result of an acute specific infectious disease that manifests itself in the early stages in a manner similar in many respects to that of other acute infections of childhood. There are irregular fever, coryza, sometimes bronchitis, digestive disturbances, particularly of the intestinal musculature, and frequently meningeal symptoms. The latter can be distinguished from those of true meningitis, however, by the fact that the muscles are flaccid, not rigid. There is no true opisthotonos and no Kernig's sign, nor somnolence during the day and restlessness at night. Valuable diagnostic signs are the extreme hyperesthesia, marked tendency to sweating in spite of fever, diarrhea and the results of spinal-fluid examination. The spinal fluid is increased in quantity, but is clear and sterile, with moderate lymphocytosis and an increase in albumin. The blood-picture, unless there is mixed infection, shows leukopenia, with relative lymphocytosis and eosinophilia. The age of predilection for poliomyelitis—the first three years of life—must be taken into consideration. In epidemics there are frequent abortive cases which show the prodromal symptoms, but in which the injury to the spine is not serious enough to be followed by paralysis.

Münchener medizinische Wochenschrift

December 17, LIX, No. 51, pp. 2793-2848

99 Supernumerary Mammary Glands. (Hyperthelie.) E. Bresslau.
100 *Action of Light on Tissues. (Zur Wirkung des Lichtes.) F. Bering.
101 Gastric Plus Pancreatic Achylia. (Gleichzeitige Vorkommen von Achylia gastrica und pancreatica.) O. Gross.
102 Why Menstrual Blood Does Not Coagulate. (Ursache für die Gerinnungsunfähigkeit des Blutes bei der Menstruation.) A. Dienst.
103 Induced Abortion in Mental Disease. (Zur Frage des künstlichen Abortes bei psychischen Störungen.) E. Meyer.
104 "Abstinence Delirium" in Chronic Alcoholism. (Zur Frage der sogenannten Abstinenzdelirien der chronischen Alkoholisten.) K. Fürer.
105 Importance for Infant of Adequate Intake of Fat. (Bedeutung ausreichender Fettzufuhr für den Säugling und ihre praktische Durchführbarkeit.) K. Stolte.
106 *Immediate Suture of Bladder After High Incision for Calculi. (Erfahrungen mit der Blasennaht beim hohen Steinschnitt an Kindern.) Grussendorf.
107 Absorption of Albumin-Containing Preparations of Iron. (Zur Frage der Resorption von Eisenpräparaten.) F. Rabe.
108 Treatment of External Anthrax. (Zur Behandlung des äusseren Milzbrandes.) K. E. Veit.
109 Spirochetes in Urine with Syphilitic Nephritis. K. Vorpahl.
110 Salvarsan in Abortion of Syphilis. (Abortivkuren mit Salvarsan.) E. Freund.
111 Hypophysis Extract in Obstetrics. (Hypophysenextrakt und Dämmerschlaf in der praktischen Geburtshilfe.) A. Hengge.
112 Diagnostic Inoculation of Animals. (Zur Frage des Tuberkulosenachweises durch beschleunigten Tierversuch.) R. Oppenheimer.

105. **Action of Light on the Tissues.**—Bering's research has demonstrated that the chemically active light rays have a direct influence on the oxidation ferments, especially on peroxidase in tissues maintained in permanent life *in vitro*. The rays seemed also to promote the cleavage of the chemical building-stones of the body cells. This action of the light rays on cleavage and oxidation—the main factors in the intermediate metabolism of the cells—explains a certain number of phenomena observed in daily life and in the clinic, as he relates in detail, especially the deposit of pigment and the sensitization of the tissues.

106. **Suturing the Child Bladder After High Incision.**—Grussendorf protests against the assumption that it is always better to suture the bladder at once after removal of calculi through a high incision. He cites experiences from his own service and from the literature showing that immediate suturing, especially in case of children, materially enhances the dangers of an operation on the bladder. He has operated on forty children under the age of 10, for removal of calculi in the bladder, in the last eight years, all boys but two. Primary suture was the rule in twenty-one cases, but complications followed from the suture in all but eleven, so that only these eleven children could be dismissed in good condition at the end of the second week. In ten of the others a fistula developed and in three others general symptoms followed, so severe that the bladder had to be opened up again. The healing period in the nineteen unsutured cases averaged forty-five days, and all the little patients recovered except a child of 2 with severe uremia before the operation. In the nineteen cases with immediate suture, two of the children died and a third was saved only by reopening the bladder. The history of these fatal cases shows that the immediate suturing of the bladder was apparently responsible for the fatal outcome. They teach that the bladder should not be sutured at once when the bladder is very irritable, even when the general condition seems to be good, if the irritability of the bladder does not yield in a few days to bed rest and appropriate treatment. Open treatment of the bladder wound is preferable also when the general condition is bad, even in the absence of fever and of other signs suggesting pyelitic infection. He would further exclude from the immediate suture all those cases in which the mucous membrane of the bladder has lost its elasticity, so that the first tier of the suture, in the membranous lining of the bladder, does not guarantee against seeping of fluid. These three categories of cases should be excluded from the otherwise indisputable advantages of the immediate suture of the incision into the bladder. On the other hand, he found it possible in some of his more recent cases, with siphon drainage, asepsis and frequent antiseptic rinsing out of the bladder, to ensure healing almost as soon and as free from complications as after the most successful immediate suture.

Wiener klinische Wochenschrift, Vienna

December 26, XXV, No. 52, pp. 2033-2056

113 Localization in Cortex of Cerebellum. (Lokalisation in der Rinde der Kleinhirnhemisphären des Menschen.) R. Barany.
114 Primary Symmetric Brachial Plexus Neuritis as Symptom of Tardy Syphilis. G. Stiefler.
115 Chronic Catarrh from Enlarged Tonsils. (Catarrhus chronicus hypertrophicus der Tonsilla lingualis.) A. Zografides.
116 Comparison of Test Breakfasts. (Klinische Vergleichung des Ewald-Boas- und des Mintzschen Probefrühstückes.) J. Hatiegan and B. Döri.

Zeitschrift für Kinderheilkunde, Berlin

V, No. 5, pp. 349-454

117 Study of the Formation of Immune Bodies in Human Serum by Intravenous Injection of Diphtheria Toxin. (Ueber die Wertbestimmung des Schutzkörpergehaltes menschlichen Serums durch intracutane Injektion von Diphtherietoxin beim Menschen.) M. Michiels and B. Schick.
118 *Etiologic Factors in Tuberculous Meningitis. H. Koch.
119 Conditions Resembling Gigantism in Childhood. (Ueber riesenwachsähnliche Zustände im Kindesalter.) E. Thomas.
120 The Salol-Splitting Ferment in Breast-Milk and Its Significance in Salol Medication. (Ueber ein salolspaltendes Ferment in der Frauenmilch und dessen Einfluss bei Salolmedikation.) W. Usener.
121 The Cause of Air Swallowing in Infants. (Ueber Luftschlucken, besonders beim Säugling. Ein Beitrag zur Etiologie.) W. Usener.
122 A Simple Method for Determining the Coagulation Time. (Eine einfache Methode zur Bestimmung der Gerinnzeit.) J. Michiels.

118. **Etiologic Factors in Tuberculous Meningitis.**—Koch's conclusions are based on a study of 306 cases of tuberculous meningitis. He encountered the maximum number of cases in April with a steady decrease until December; 68 per cent. of all the cases occurred in the first four years of life, with the largest number in the second year. In other forms of tuberculosis only 15 per cent. of the cases occur in the first four years. Infection from tuberculous parents was shown in only 23 per cent. of the histories; 75 per cent. of the patients had brothers and sisters—a total of 380—of whom forty-seven died of tuberculosis, among them 22 per cent. from tuberculous meningitis. In one family four children died of tuberculous meningitis. Breast or artificial feeding apparently had no effect on the number or severity of the cases; 129 of the patients had had measles, sixty within the past year and twenty-one within four months. In ten cases autopsy showed a direct causal relation between the measles and the meningitis. In six cases there was a history of whooping-cough within four months, and in four of these a direct relation was shown. Other infectious diseases apparently were without influence. In thirteen cases trauma was given in the history as a cause, but in only two of these could it be shown to be an etiologic factor. There were only forty-nine cases preceded by other tuberculous manifestations which were clinically evident, but on careful post-mortem examination a primary tuberculous focus was found in the lungs in almost every case. In 162 cases there were other chronic but still active tuberculous processes. There was not a single case of a definite primary focus in the intestines, and there were only two cases in which the old tuberculous focus had become calcified. The data demonstrate that meningitis arises only while tuberculous foci elsewhere are still active.

Gazzetta degli Ospedali e delle Cliniche, Milan

December 22, XXXIII, No. 153, pp. 1601-1616

123 *Respiration Rate in Disease of Respiratory Passages. (Sul rapporto della frequenza del respiro con la temperatura interna melle malattie limitanti il campo respiratorio.) G. A. Pari and A. Ponzian.

December 24, No. 154, pp. 1617-1624

124 Rupture of Veins as Industrial Traumatism: Two Cases. (Rotture da sforzo dei vasi venosi in operai in occasione di lavoro.) A. Mori.

123. **The Respiration Rate in Internal Diseases.**—Pari and Ponzian report their study of the respiration rate in connection with the fever in twenty-seven patients with various affections. The respiration rate increases by about 4 with every Centigrade degree of temperature, and it is exceptionally rapid when the disease is limited to the air passages. But instead of these two causes, when superposed, having a cumulative effect, the reverse is observed, one of these factors seeming to neutralize the other. They give a number of history charts to illustrate this and they theorize to explain it.

Riforma Medica, Naples

December 21, XXVIII, No. 51, pp. 1401-1428

125 Internal Medicine Findings as Guide to Gastro-Intestinal Surgery. (Sguardo alla odierna chirurgia gastrointestinale sotto il punto di vista delle indicazioni fornite dalla Medicina interna.) I. Tansini.
126 The Duodenal Sound. (Sulla determinazione radioscopica della regione pilorica mediante la sonda duodenale.) F. Guigni.
127 Spontaneous Perirenal Hemorrhage. M. Abetti.

Brazil-Medico, Rio de Janeiro

December 1, XXVI, No. 45, pp. 469-478

128 Transient Aphasia from Malaria. (Caso de aphemia transitoria palustre—Aphasia motora verbal, funccional, de origem paludica.) J. A. G. Froes. Commenced in No. 43.

December 8, No. 46, pp. 479-488

129 Ankylostomiasis in Brazil. R. Meira and U. Paranhos.
130 Karell's Milk Cure in Asystole. G. Armbrust.

Semana Medica, Buenos Aires

November 28, XIX, No. 48, pp. 1101-1160

131 *Typhoid Perforation. (Concepto clinico-quirurgico sobre la perforacion intestinal tifoidea.) D. Del Valle.
132 *The Stools When There Is a Foreign Body in the Intestine. (Pañal de cuerpo extraño.) C. R. Casilla and E. Adalid.
133 *Acute Postoperative Dilatation of the Stomach. J. Magaldi.
134 The Ultraviolet Rays. (Las propiedades fisicas de los rayos ultravioletas.) M. Matout.

131. **Perforation of Intestine in Typhoid.**—Del Valle says that the prognosis is more favorable when the perforation does not occur until five or six days after defervescence, that is, after the fourth week. The infection by this time has become attenuated and the condition in general has begun to improve. Another feature of the perforation at this stage of the disease is that it is generally single and the omentum is capable of some defensive action by this time. Most of the successful operative cases of typhoid perforation on record were of this tardy type. When the perforation occurs before the end of the second week the infection is usually extremely virulent, and when it occurs at the end of the third week the patient's resisting powers are at their lowest ebb. The perforation should be operated on under local anesthesia, and the incision should be over the terminal portion of the ileum, as the perforation almost invariably occurs at this point; in every case in Del Valle's experience the perforation was within 15 or 20 cm. of this point. It is difficult to suture the friable tissues in which the perforation has occurred, and the suture is liable to slough out almost at once, leaving a fistula. But this is a trifling inconvenience in comparison to the danger from the perforation. Ample drainage by Mikulicz' technic is necessary, and the operation should be done as rapidly as possible to shorten the period of shock. He reports a successful operative case.

132. **The Stools with a Foreign Body in the Intestines.**—Castilla and Adalid state that irritation from a foreign body in a child's intestines leads to a characteristic formation of the stools which may sometimes have great differential value. The symptoms caused by the presence of the foreign body vary within a wide range, but the stools have a characteristic aspect. The uniformity of the solid or semi-solid mass is broken by an opaque serous spot or spots of a tint different from that of the rest of the mass and sometimes varying in tints. The aspect of this serous patch in the stool differs from that of the rest of the mass, it is said, as a water-color painting differs from an oil painting. Careful examination of all the stools on suspicion of a foreign body will often clear up the dubious diagnosis. The persistence of this characteristic finding in the stool is typical.

133. **Acute Postoperative Dilatation of the Stomach.**—Magaldi reports four cases, remarking that the better knowledge of this condition in recent years has led to its more frequent recognition. Chloroform, swallowing of air and sagging of intestines are its more frequent causes. The modern view regards the dilatation as the primary factor. The diagnosis is simple if the possibility of acute dilatation of the stomach suggests itself to the mind. Lavage of the stomach, with tonics for the heart, are useful, but change to the ventral decubitus is the most useful measure. His patients were a girl of 17 and three men, 17, 39 and 61 years old. None survived beyond the fifth day, as was also the case in 75 per cent. of sixty-three cases out of the total seventy-four fatal cases on record.

Ugeskrift for Læger, Copenhagen

December 12, LXXIV, No. 50, pp. 1889-1936

135 *Endobronchial Treatment of Bronchitis and Asthma: Thirty Cases. C. Heilskov and L. Mahler.
136 Fracture of the Neck of the Femur: Two Cases. Schlambusch.

135. **Endobronchial Treatment of Bronchitis and Asthma.**—Heilskov and Mahler have applied direct local treatment in thirty cases. They used the bronchoscope in all but two cases as this permitted more careful application of the drug by direct oversight of conditions. In none of the 120 applications was there any evidence of toxic injury. A combination of 0.1 gm. novocain; 1 gm. of 1 per 1,000 epinephrin, and 9 gm. of a 0.9 per cent. solution of sodium chlorid was generally used, but sometimes Schleich's solution was given the preference, or a 3 per cent. solution of cocain, with a little epinephrin. Ephraim's bronchoscopy technic was followed in only a few cases; in the others bronchoscopy and direct application of the drug was preferred. In the three bronchitis cases great benefit was derived from five treatments in one case, marked improvement from three treatments in another, while the other patient did not seem to be materially improved, although all were subjectively much relieved. The mucosa in all was found very red and swollen and during expiration or coughing sometimes the lumen was seen to close up entirely. In the asthma cases all the patients felt much relieved by the applications. They were made from two to eleven times and each time the patients felt that they could breathe easier and deeper. In the total thirty cases the final outcome was a complete cure in six cases and marked improvement in eleven; in the other thirteen no permanent benefit was apparent. These results justify the application of endobronchial treatment in chronic rebellious cases. The treatment was applied outside of the attacks in the asthma cases and conditions in the trachea and main bronchi were found approximately normal. The bronchoscopy alone seemed to benefit, promoting expectoration and deeper breathing, even when merely sterile water or nothing was applied.

Upsala Läkareförenings Förhandlingar

XVIII, Nos. 1-2. Last indexed Oct. 26, p. 1586

137 General Principles of Immunology. (Om immunitetsläran.) S. G. Hedin.
138 *Nephrectomy with Bilateral Renal Tuberculosis. (Om nefrektomi i fall af dubbelsidig njurtuberkulos.) G. Ekehorn.
139 Technic for Resection of the Colon. G. v. Holst.
140 Series of Attacks in Manic Depressive Psychoses. ("Serie-vis" uppträdande sjukdomsanfall i maniskdepressiv psykos.) V. Wigert.
141 *Reaction in the Pleura to Tuberculin. (Réaction pleurale à la tuberculine.) G. Bergmark.
142 The Potent Elements in Ergot. (De verksamma beståndsdelarna i sekale och sekaleextrakter.) C. G. Santesson.
143 Some Laws of Physics as They Affect Vital Processes and Disease. (Om tröghetslagens tillämpning på cellens lif och dess betydelse för sjukdomsläran.) L. Wolff.
144 Technic for Cultivation of Certain Bacteria. (Några råd och vinkar vid beredandet af de vanligaste näringssubstraten för bakterier.) I. Syk.

138. **Nephrectomy in Bilateral Renal Tuberculosis.**—Ekehorn reports six cases in which he removed a tuberculous kidney although everything seemed to indicate that the other kidney was also diseased. The disease in the primarily affected kidney was in such an advanced, poison-generating stage that it had to be removed, even although the second kidney was known to be not entirely sound. In order to determine whether the condition of the second kidney will permit the removal of the primary focus, it may be necessary to make an exploratory incision for inspection and palpation. The kidney itself should not be incised, but the adjoining portion of the ureter should be examined and the kidney pelvis palpated from without. Unless the ureter is found soft and normal and the kidney free from pronounced tuberculous changes, the proposed nephrectomy had better be abandoned. Both operations can be done at one sitting. The general health will determine whether nephrectomy can be done. In any event severe parenchymatous nephritis and amyloid disease contra-indicate it. In Ekehorn's six cases the patients bore the nephrectomy without harm, both operations being carried out at one sitting. All but one of the patients were very much benefited. In one case the diagnosis of a tuberculous process in the second kidney had probably been a mistake. Even the above exploratory incision and examination will not always reveal whether the kidney is actually tuberculous or not—even slitting the kidney from pole to pole will not always decide the question, and it is very important to refrain from incising or injuring in any way the kidney tissue proper. Ekehorn gives also the details of eight other cases of advanced renal tuberculosis in which nephrectomy proved impracticable.

141. **Reaction in the Pleura to Tuberculin.**—Bergmark calls attention to the focal reaction in the pleura when the tuberculin test is applied in serofibrinous pleurisy. The focal reaction causes local pain, increases the cough and friction sounds, while the area of dulness spreads and the effusion may become more turbid. He has applied the tuberculin test in this way in seventeen cases of pleurisy. A positive general reaction was apparent in fifteen cases but not in the others, and the course of the cases excluded tuberculosis in these.

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SCHOOL DISEASES*

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There is no doubt that children of school age contract such diseases as measles, scarlet fever and diphtheria much more frequently than older persons. Sharp difference of opinion exists, however, as to the actual part played by school attendance in the transmission of these diseases. Some observers maintain that while the maladies in question are diseases of school children, they are not properly to be regarded as school diseases. From this standpoint diphtheria, scarlet fever and the like are especially prevalent among school children, not because school conditions favor their transmission, but simply because children of school age are more susceptible to infection. On the other side are those who hold that school attendance plays a large part if not the chief part in the dissemination of infectious disease among groups of children of susceptible ages.

Viewed broadly, there is much to favor the latter opinion. All that has been learned about the modes of transmission of certain diseases, notably diphtheria, indicates that the taking of a large number of children out from their restricted family and neighborhood relationships and bringing them into contact with a much larger group will increase the opportunities for infection. In some other fields of investigation this fact is well established. The advent of a typhoid carrier in a military encampment will give rise to more cases of disease than if the carrier had remained by his own fireside in contact with relatively few persons. In the same way, it may be assumed that a convalescent or carrier attending a school has a wider sphere of influence than in his own block; that is, he may be the means of conveying the spark of contagion to a larger circle.

As regards specific opportunities for infection furnished by the school, it must be admitted that while the slate, the common drinking-cup and the roller-towel are fast passing away, sufficient facilities for the transfer of disease germs still exist in the friendly exchange of pocket handkerchiefs, lip-moistened lead-pencils, chewing-gum and the like. One danger peculiarly difficult to guard against is the discharge of minute droplets of spray from the mouth or nose in the act of sneezing, coughing or speaking. These "infectious droplets" may float about in the air for some minutes and, as shown by experiment, can be borne by air-currents to a distance of several feet. In the opinion of some investigators air-borne droplets are the principal factors in the spread of tuberculosis.

The school playground, as well as the schoolroom, must be considered in its bearing on the subject of school diseases. The significance of school attendance on the public health side lies not only in the assembling of children in a room, but also in the bringing into more or less intimate association a number of children who would otherwise not have met at all. Increasing the number of associates must necessarily increase the chances of infection.

There can, on the whole, be no doubt that school attendance favors in some degree the transmission of disease. The real point at issue is the importance of school infection as compared with other sources of infection. If the cases of infectious disease for which the school can be held responsible are relatively few in number in comparison with the cases contracted through other channels, then it is manifestly wrong to speak of such diseases as school diseases; they are rather diseases to which school children are liable because of their age predisposition. The controversy is therefore over the actual proportion of cases contracted through the agency of the school.

Here there is a wide divergence of opinion. Some observers point to the fact that cases of diphtheria and scarlet fever show a marked increase in the autumn when the schools open and an equally definite decrease in the summer when the schools are closed, as evidence of the importance of school infection. Others regard such fluctuations as merely the expression of seasonal influences, with which school closings and openings happen to coincide. Close analysis of the statistics is thought to support the latter view. Kerr[1] in London and Chapin[2] in Providence, R. I., as the result of statistical studies, believe that diphtheria and scarlet fever are rarely spread in schools and that the great mass of cases originate independently of school conditions. After a careful examination of the weekly number of reported cases of diphtheria and scarlet fever in Chicago from 1908 to 1912, I have been unable to detect any well-marked variation in the number of cases at the dates of the opening and closing of schools in September and June, or at the time of the Christmas and spring holidays. Other investigators, handling other statistical data, have reached opposite conclusions. In some cases the Christmas and Easter holidays have been observed to cause apparently a diminution in the number of diphtheria cases.[3]

Such observations, however, are beset with many sources of error. The whole inquiry undoubtedly presents serious statistical difficulties. Attention, for example, has been drawn to the fact that both diphtheria and scarlet fever cases in children grouped according to age gradually increase in number up to 4 or 5 years of age and then begin to fall off. As Chapin expresses it: "It is remarkable, if school attendance has sufficient influence to cause the autumnal increase in these diseases as is so often alleged, that it has not sufficient influence at least to keep up the disease after children reach the age when they begin to go to school."[4] It is possible, however, that factors operative in early life but disappearing later, such as age susceptibility and great liability to milk-borne infection, may in some degree be replaced later on by the dangers of school attendance. In other words, scarlet fever and diphtheria may be much higher in children of school age than they would be but for the influence of school attendance in multiplying chances for infection. Chapin's tables show that there were in Providence, during a period of twenty-one years, 813 diphtheria and 1,171 scarlet fever cases reported in 4-year-old children as contrasted with 565 cases of diphtheria and 868 of scarlet fever in 8-year-old children. Such figures do not necessarily prove, however, that the number of cases in 8-year-old children is not in part or even in large part due to school attendance.

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* Read in part before the Department of Child Hygiene of the National Educational Association, July 11, 1912.

[1] Kerr: Rep. Med. Off. (Education), London, 1909, p. 63.

[2] Chapin: Am. Jour. Pub. Hyg., 1910, xx, 813.

[3] Parker: Tr. Epidemiol. Soc., London, 1896, New Series, xvi, 240.

We need not assume that conditions are alike in all infectious diseases. Measles, scarlet fever and diphtheria seem to stand each on a somewhat different footing. Measles appears to be generally regarded by school officials as commonly contracted at school. Unfortunately, few exact statistical studies have been made. In a recent epidemic reported by Raffle,[5] 778 cases occurred in a susceptible school population of 2,180; these might, of course, have been contracted either at school or at home. After the schools were closed, making allowance for the incubation period, only seventy-five cases occurred among 1,400 susceptible children. There are obvious sources of error in statistics compiled in this way, but Raffle's results are at least suggestive.

According to Kingsford,[6] in Liverpool the connection between school attendance and measles is very clear. In 1909 and 1910, in a study of the occurrence of measles in individual school children, there was a history of a recent case in the house in which the child lived in only 1.5 per cent. of the school cases. Kingsford also states that "where there is a susceptible school child in the family, it is found in practically every instance that this child is the first to contract the disease and is the one chiefly responsible for handing it on to the younger members of the family who do not attend school." Other observations, like those of Royer on an epidemic of measles in the Haverford School,[7] tend to emphasize the importance of school attendance in spreading this disease, but further and more comprehensive studies directed toward a definite end are needed.

Scarlet fever seems to be less generally considered a school disease. Many investigations point to milk-supply as a prominent factor in the spread of scarlet fever, and there is a growing disbelief in the importance of school infection: D'Ewart,[8] on the basis of a careful school canvass in Manchester, England, has recently questioned the responsibility of schools for the spread of scarlet fever. He points out that in Manchester summer closing of the schools can hardly account for the summer drop in scarlet fever cases, since in summer the number of children in the city is reduced by about 37 per cent. while the scarlet fever decrease is only 17 per cent. As in Providence and some other cities, so in Manchester there is no jump in scarlet fever cases at the age when school-going begins. While this fact is suggestive it is, as already pointed out, not a conclusive argument against the importance of school infection, since a rapid waning in the number of cases due to infected milk might completely mask a slighter increase due to school infection. The question is to what extent school-going keeps the cases at a higher level than would otherwise be maintained. D'Ewart, after surveying the whole ground, assigns little weight to school attendance and states that "when the series of cases is complete, evidence will be produced showing that the bulk of the cases occurring in school children can have nothing directly to do with school." Such instances, however, as the one described by Roach[9] show the important part sometimes played by the school in the spread of scarlet fever.

In both scarlet fever and measles, unfortunately, we have not yet discovered the specific cause and know little or nothing about modes of infection and point of entrance. This uncertainty robs even careful studies of a large part of their value and reduces much of our discussion of these two diseases to the level of conjecture.

Diphtheria, in this respect, stands on quite a different basis from scarlet fever and measles. Here we have a mass of exact and detailed bacteriologic observations which we might suppose would enable us to approach the problem with fuller understanding. It is somewhat surprising to find here also the same difference in opinion as to the importance of school infection. Kerr[1] and Chapin[2] apparently regard diphtheria as being, like scarlet fever, little affected by school attendance. Hüls,[10] fortified by eleven years' experience as school physician, goes so far as to say flatly that "diphtheria is not spread by schools," and Versmann,[11] while admitting that occasional outbreaks of school diphtheria occur, believes that these are exceptional. Macdonald,[12] after studying a recent outbreak, declares that "all school carriers were found to be intimately associated at play with other cases and carriers, and mere class-room proximity was found to be of little importance in spreading the disease."

On the other hand a considerable number of investigators have recorded outbreaks of diphtheria in which the connection with school attendance could not be doubted. Many of these epidemics are so typical of diphtheria outbreaks in general as to arouse suspicion that the same factors are at work in a large proportion of the uninvestigated cases. In England, Thorne-Thorne[13] long ago called attention to the influence of school attendance on diphtheria and cited numerous instances in which schools were plainly implicated in the diffusion of infection. Thorne-Thorne also points out the coincidence between the putting into effect of the compulsory education act in 1870 and the increase in diphtheria prevalence which began in England and Wales at about that time. It is interesting to note that although Thorne-Thorne made his observations before precise bacteriologic methods were in use he clearly recognizes on epidemiologic grounds the part played by carriers in disseminating infection.

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[4] Chapin: Am. Jour. Pub. Hyg., 1910, xx, 816.

[5] Raffle: Lancet, London, Feb. 3, 1912, p. 294.

[6] Kingsford: Med. Officer, London, 1912, vii, 237.

[7] Report of Commissioner of Health of Pennsylvania, 1909, p. 219.

[8] D'Ewart: Med. Officer, London, March 2, 1912; abstr. in Am. Jour. Pub. Health, 1912, ii, 313.

[9] Roach: Am. Jour. Pub. Health, 1912, ii, 450.

[10] Hüls: Ztschr. f. Schulgsndhtspflg., 1911, No. 3; cited by Goldstein: Vrtljschr. f. gerichtl. Med., 1912, xliii, 150B.

[11] Versmann: Ztschr. f. Schulgsndhtspflg., 1910, No. 3; cited by Goldstein: No. 18.

[12] Macdonald: Lancet, London, March 25, 1911, p. 795.

[13] Thorne-Thorne: Diphtheria, London, Macmillan & Co., 1891.

Ward and Henderson[14] in this country, Vervoort[15] in Amsterdam, Seligmann[16] and Frank[17] in Germany and many others have shown the reality of school infection in definite instances. Frank, for example, in studying an epidemic of diphtheria in 1910-1911 among the pupils of a girls' school in Charlottenburg found that conveyance of infection must have taken place in the school since the children were recruited from all parts of the city, some of them coming from districts where at the time no diphtheria cases were known to exist. In 1909 the number of children in this school developing diphtheria amounted to only 0.7 per cent., which was about the average for the other schools of the city, while in 1910-1911 the number of diphtheria cases increased to 14 per cent. Detailed investigation of the school by classes showed in every instance a certain relation between the number of new cases and the number of diphtheria carriers; most of the cases occurred in the classes in which diphtheria carriers were detected. In those classes in which carriers were lacking there were only one or two cases or none at all. Among other recent writers Goldstein[18] has laid stress on the importance of the healthy diphtheria carrier in spreading disease. Westenhoeffen[19] points out that in the Berlin epidemic of 1911-12 the schools played the chief rôle in the dissemination of infection.

The discovery of the part played by the healthy germ-carrier throws light on the probable origin of certain obscure cases of infection. A child in a family in which a case of diphtheria exists may bear in its throat living diphtheria bacilli without manifesting any sign of disease. If this child is allowed to enter school a playmate may acquire the bacillus without in its turn becoming definitely ill. This second child, however, may take the germ home and pass it on to a non-school-going child in the same family who then may develop a typical case of diphtheria. In this and even more circuitous fashion a diphtheria bacillus may be handed around until the original source is difficult to trace. Variations in the virulence of the germ and in the favorableness of the soil in which it lodges determine the actual development of a "case." If a large number of children in a school happen to be in a susceptible state from climatic or other reasons, or if a diphtheria bacillus introduced into the school happens to have unusual infective power then a school epidemic will result.

Methods of control of school and institutional outbreaks of diphtheria are therefore coming to be focused on the detection and exclusion of the carrier. Summary disinfection of innocent chairs and tables and enforced school closure are in general found to be less effective than the discovery and isolation of the living bearer of diphtheria bacilli. When school attendance is regulated by bacteriologic findings school epidemics quickly subside.

Although we must freely admit that for diphtheria, at all events, evidence of infection through school attendance is entirely convincing we are as yet not in possession of sufficient information as to the relative importance of this source. Our knowledge of the mode of spread of scarlet fever and measles is in a still more imperfect condition. It would seem desirable if through the auspices of this Association an extensive and searching investigation under expert supervision might be made of this question. To what extent and under what conditions are the infectious diseases of childhood spread by school attendance? At present in combating the spread of infectious disease without adequate knowledge of the channels of infection we are in danger of wasting our strength in misdirected effort, and the conservation of human effort is certainly one of the most desirable forms of conservation. Experience has shown us that not all theoretically possible methods of preventing infection are equally efficacious in practice. For each disease we should aim to adopt special methods carefully devised to produce the maximum effect with the smallest amount of injury or disturbance to the normal relations of human life. To this end it is essential to discover the ways in which infectious disease is commonly spread as well as the ways in which it might conceivably be spread. The abolition of the common drinking-cup is a highly desirable procedure even if only an occasional case of infectious disease is prevented, but has anyone ever put on record a measurable diminution in disease in a school after the introduction of bubbling fountains? In point of fact we do not know to what extent the various influences summed up under school attendance are factors in the dissemination of infectious diseases. The question should be investigated.

METHODS OF WATER PURIFICATION FOR LARGE CITIES

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All water supplied to cities originates in the rainfall. When rain-drops are formed by the cooling of air saturated with moisture, the water is free from mineral and organic matter and bacteria, and is therefore soft, colorless and pure. But as the drops fall through the air they take up its dust, which is both mineral and organic, and wash the air. If the rain is heavy enough, this washing makes the air clear and bright.

When the rain-drops strike the earth's surface, one part of the water is immediately evaporated, one is absorbed by vegetation, one runs off the surface into streams or open water courses, and one percolates into the ground until it reaches the ground water-table or level, which finally discharges subterraneously along lines of least resistance into the nearest open watercourses or at springs.

The portions of the rainfall which are available for city water-supplies are, first, the one which percolates into the ground to be temporarily stored before discharging into open watercourses or springs, and second, the one which enters the streams directly over the surface.

We may say, therefore, that the water-supplies for large cities must be obtained either from ground water through springs or wells, or from surface water in flowing streams.

SPRINGS AND WELLS

The quality of ground waters to be used for potable purposes depends on the character of the soils and rocks through which the water percolates after it has fallen on the surface as rain.

Some minerals can be readily dissolved and taken up by the water, and others are practically insoluble. Some waters may contain excessive quantities of salt, sulphur, manganese, iron or other objectionable minerals, which, if in large quantities and in solution, completely unfit these waters for potable purposes. Other waters may have large quantities of lime which make them appear very bright but also make them hard.

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[14] Ward and Henderson: California State Jour. Med., August, 1907.
[15] Vervoort: Hyg. Rundsch., 1908, xviii, 1459.
[16] Seligmann: Ztschr. f. Hyg., 1911, lxx, 35.
[17] Frank: Hyg. Rundsch., 1912, xxli, 325.
[18] Goldstein: Vrtljschr. f. gerichtl. Med., 1912, xliii, 136.
[19] Westenhoeffen, M.: Berl. klin. Wchnschr., Jan. 8, 1912, p. 91.

If these solutions are sufficient in quantity to make the waters objectionable for potable purposes, and if no better alternative supplies are available, they should be subjected to some system of purification. Not all mineral pollutions can as yet be economically removed. The only removals which are successfully carried out in the practice of to-day are chiefly those of the carbonates and sulphates of lime and magnesia, which make waters hard, and those of excessive quantities of iron, which unfit water chiefly for laundry use.

The hardness of waters is of two kinds, temporary and permanent. Temporary hardness is usually caused by the carbonates and the permanent hardness by the sulphates of lime and magnesium. The former can best be removed by a solution of freshly burnt lime, or limewater. The bicarbonates are changed into monocarbonates by the hydrate of lime uniting with the half-bound carbon dioxid which is combined as a bicarbonate in the hard water. The resulting insoluble monocarbonates deposit as a fine powder.

Permanent hardness can be removed by adding sodium carbonate. The soda in this case unites with the sulphates dissolved in the water which results in the formation of neutral and inert sodium sulphate, and the insoluble carbonate, which is precipitated as a fine white powder. The largest water-softening plants on our continent are those in Columbus, Ohio, and Winnipeg, Manitoba.

The softest and most palatable ground waters are found in regions where the rocks are granite, gneiss, sandstones and slates. Limestone regions yield hard waters.

Waters containing much iron must be subjected to a process of deferrization before they can be used. The presence of iron in ground water is generally due to the presence of organic matter, which forms soluble ferrous carbonates. Alluvial plains are the usual sources of such waters. We find them on Cape Cod, Long Island and the Jersey shore. Northern Germany, including Berlin, has such waters. They are clear when first drawn, but soon become cloudy by the absorption of oxygen from the air and the consequent formation of ferric oxid.

The treatment of iron waters as at Rockaway, N. Y., at Berlin and a number of large North German cities, is simply by aeration, which causes oxidation and produces iron oxid, which is readily precipitated and removed by filtering the water through sand.

SURFACE STREAMS

The quality of surface waters furnished to large cities depends, first, on the condition of the air through which the rain has fallen; second, on the character of the surface over which it flows, and third, on the method of artificial purification which it may have received.

While Nature has purified the water issuing from springs, which are the overflows from the accumulated ground waters, it does not with equal thoroughness purify the water when it flows on the surface in open streams. On the contrary, much fresh and even more serious pollution may be added. Such pollution may be mineral or organic.

Mineral pollutions are chiefly from trade wastes. It is proper to prohibit the discharge of such wastes into streams which are to serve as water-supplies, because it is sometimes exceedingly difficult to give them a proper treatment for that purpose.

Surface washings bring into the streams sometimes large quantities of clay and fine sand. Witness the alluvial streams in the Missouri and Colorado river valleys. But such pollutions can be readily removed by treatment.

The organic pollution is by far the more objectionable one. Not only does dead animal and vegetable matter give the water an objectionable taste and appearance, but it may harbor disease germs and may transport them to great distances. Objectionable tastes and odors are given waters by a number of low forms of life, constituting the plankton, the growth of which in rivers, ponds, or lake waters, is favored by a warm temperature, an abundance of food material, colloidal or dissolved, and other causes.

Water supplied to large cities must be free from objectionable mineral and organic pollution and, most of all, from pathogenic bacteria. It must be palatable and soft, clear and limpid.

WATER PURIFICATION

As surface waters available for large cities rarely have all of these qualities, it is necessary to purify them. Even mountain streams of excellent appearance and taste are no exception to this rule. While they may be free from objectionable mineral and crude organic pollution, there is no guarantee that even with policed watersheds there may not be pathogenic bacteria brought on them by beast or bird. We are therefore approaching the time, already reached in England and Germany, when it will be required to purify all surface waters and then to keep them from exposure to light, heat and dust and to conduct them by subsurface and enclosed channels to the points of consumption.

Four methods of water purification for large cities are now in successful use: (1) slow sand filtration; (2) rapid mechanical filtration; (3) coagulation with precipitation, and storage in large reservoirs, and (4) disinfection by hypochlorites of lime and soda, by ozone and by ultraviolet rays.

1. *Slow Sand Filtration.*—This method is the most common and, it may be added, also the best where it is available. Since first introduced in England it has been practiced for almost a century.

Sand filtration, if the works are properly designed and operated, removes substantially all bacteria and suspended matter from the water. The result is clear and limpid water free from disease germs. The essentials of the process are, first, a preparatory treatment, so that the filters can do their best, and second, the filtration process itself. In exceptional cases there may be some other adjunct to the treatment.

The preparatory treatment depends largely on the character of the water and of the filters to receive it. The water may be fairly clear, as generally in our Northern states and where sand and silicious rocks prevail; or it may be muddy, as in the lower parts of the Missouri and Mississippi valleys, and where the rain can wash clay and aluminous soils into the river. It may also be polluted from agricultural lands and by city sewage.

The preparatory treatments will accordingly differ. When plain sedimentation is sufficient this is the cheapest process. It allows the bulk of the suspended matter to deposit and the more or less clarified water to go to the filters for further treatment. When plain deposition is not sufficient, then it is practicable to add a small amount of coagulant, particularly when the suspended matter is of a finely divided and colloidal nature. The effect of the coagulant is to draw together the fine particles into larger ones and thus produce a better precipitation and a clearer water.

When the water is more or less strongly polluted with sewage from agricultural or inhabited districts, the preparatory treatment should endeavor, if practicable, to destroy all pathogenic bacteria, so that they may not enter the filters, there perhaps to be nourished and propagated. For this purpose coagulation and precipitation are quite effective, because the descending and depositing solid particles carry with them to the bottom a high percentage of the bacteria, just as rain-drops clarify a dust-laden or hazy atmosphere.

A disinfectant added during the process of preliminary treatment is generally not advisable, because it destroys or injures in part the efficiency of the filter by reducing its bacterial life and activity. If a disinfectant is advisable, it is better to treat the water after filtration.

The preparatory treatment may also be a prefiltration, that is, a rapid coarse filtration. A coarse filter is added to take out the coarser material. To do this is particularly excellent for lake waters, where a large amount of the coarser suspended matter consists of plankton or small organic life, which would not be thrown down by precipitation. Plankton rapidly clogs the final filters.

The final filters are used both for bacterial removal and for clarification of the water. The work is done partly by bacterial activity and partly by straining. A bacterial slime is gradually formed on the upper surface of the sand filter, but to some extent on the surface of the sand grains for a short distance below. This slime acts partly as a strainer, through which the water must pass, which causes clarification, and partly as a nitrifier through the bacterial life which inhabits it and by which the dissolved organic matter is decomposed.

The bacterial slime further holds back by its straining action the suspended particles which gradually produce what has been called, here as well as in Germany, the *Schmutzdecke* or *Schlammdecke*, and by this accumulation the *Decke* increases in thickness and compactness until the water requires too much pressure or depth in order to pass through. At such times the filters must be cleaned. For ordinary or fairly clear raw waters this cleaning is required about once a month, and there are now in use several mechanical means for this cleaning.

In a few instances the attempt has been made to procure a higher purification, and also a further safeguard against the passage of bacteria through the filters, by having a double filtration through fine sand. It seems now that a greater economy and efficiency may just as well be secured by a system of preparatory prefiltration, properly adapted to final filters and connected with them. Each part of the plant has then a definite specific duty to perform, for which it can be specially designed and operated.

The rate of filtration through the slow sand-filters varies according to the character of the water and of the sand grains. The usual quantity of water which passes through a filter is equal to a depth of from 7 to 10 feet per day. In other words, it requires an acre of sand filter to purify from two and one-half to three million gallons per day. A well-prepared water can be passed through at greater velocities, varying from one and one-half to twice these rates.

2. *Rapid Mechanical Filtration.*—The large areas of sand-filters required for large cities, for which there is sometimes neither land nor money available, frequently cause a not unnatural hesitancy to provide at all for filtration. It has also been found that the fine colloidal particles of a clay-polluted water are not sufficiently removed by the slow sand-filters to produce a clear and limpid water, nor was the color of some waters, caused by vegetable stain, such as occurs in timber regions, entirely removed by them.

These facts caused the rapid mechanical filters to be invented and introduced into America. They have been extensively and successfully used in a number of our cities, of which Cincinnati, Columbus and New Orleans, and the groups of small cities supplied by the East Jersey Water Company and the Hackensack Water Company near New York, are the largest and best examples.

The rapidity with which the water could pass through these filters was increased to a depth of 400 feet or less a day. The possibility of securing this greater speed without injuring efficiency was caused by artificially producing a deeper and stronger slimy coating to extend over the entire filter surface. This coating was not produced naturally by bacterial growth but artificially by a chemical coagulant, causing the formation of a flocculent suspended matter by the addition of a small quantity of aluminum sulphate (New Orleans, East Jersey and Hackensack), or of lime and iron (Cincinnati).

This flocculent matter covering the sand grains, which must be larger than in the slow sand-filters to permit of the greater speed of filtration, acts chiefly as a strainer. The rapidity of passage allows of a lesser bacterial activity and purification, and nitrates are therefore much less in amount than in the slow sand-filters.

With good design and construction, and with good operation, these two classes of filters can and do remove about equally well both pathogenic and ordinary bacteria.

The results in reducing typhoid fever have been found to be about the same. The filters in Cincinnati are equal in efficiency in this respect to any slow sand-filters in our country.

Owing to the speed with which the water passes through the filter, it will be evident that the amount of retained suspended matter in a given time will be correspondingly increased. As the speed is forty or fifty times as great as in the slow sand-filter, the *Schlammdecke* will be ready for removal, on the average, in at least one-fortieth or one-fiftieth of the time. These filters, therefore, require frequent cleaning, which is accomplished by a reversal of the current, and by efficient mechanical means of cleaning; also sometimes by air washing, by all of which the sand grains for the entire depth of the filter are turned over and over and in so doing clean each other by attrition.

A word should be entered here regarding the difference between the so-called gravity and pressure filters. The former permit the waters to pass by gravity and always with the same velocity. This conserves the integrity of the film produced by the coagulants and is far more efficient, as far as a removal of bacteria is concerned, than when the water passes through the filter under a high and particularly varying pressure, which is likely to cause a rupture of the film. Pressure filters, if economical, are satisfactory for obtaining clear water for manufacturing purposes. For potable water filtration they are not so good as the gravity filters and are now seldom used for that purpose.

The rapid filters as well as the slow filters require a preliminary treatment. But this refers more to the addition and thorough mixture of the coagulating material with the water than to the removal of coarse suspended matter.

It should also be added that, as in the former case, a disinfecting treatment is less effective and more costly as a preliminary than as a final treatment of the water after filtration.

In addition to the removal of bacterial and fine suspended matter the rapid filters have the advantage of removing also the usual stain found in many waters, by the use chiefly of alum and salts of iron.

The use of such coagulating materials was at first strongly objected to by the medical profession on account of the fear that they might enter the human body with the water in a raw state and produce objectionable pathologic conditions. Long experience, however, has shown that practically no evidence of such ill effects has been recorded wherever the filters have been properly designed and built, and afterward carefully operated.

It should be added that in a properly operated plant no raw alum is found in the water leaving the filter. This will be the case when the water has sufficient alkalinity, which allows the alum to be decomposed and thereafter disappear as such in the water. If the waters to be filtered are very soft, it is therefore customary to add some lime with the alum.

On the whole, rapid mechanical filters require a somewhat higher order of men for operation than the slow sand-filters, because they are somewhat more complex and the filter rate is greater, which therefore requires somewhat more skill and closer attention.

3. *Coagulation with Precipitation, and Storage in Large Reservoirs.*—It is sometimes preferable and more economical to postpone filtration of a surface water, when a sufficient security against disease conveyance can be obtained by a less complex and costly plant. This is the case, for instance, at St. Louis. The Missouri River water carries much fine clay in suspension and the bacteria contained in the water will by adhesive force approach and cling to the clay particles instead of remaining free in the water. Therefore by an effective precipitation of the clay particles it is practicable to obtain a water which may be quite healthful although previously perhaps dangerously polluted. By thus precipitating the solid matter the water will not always be made bright and limpid, because some fine colloidal matter is frequently still left in it. When a still better quality of water is desired, it always remains practicable to add a filtration plant by which to secure it.

The investigations of Dr. A. C. Houston, Director of Water Examination, Metropolitan Water Board, London, have shown that large storage reservoirs are quite efficient for the removal of bacteria. Not only do subsiding particles of suspended matter attract floating bacteria and carry them down for deposit, but it is asserted that in clear waters, not very much disturbed, the bacteria themselves will subside, and that therefore large reservoirs and long storage are a good sanitary measure.

I do not know whether or not similar observations have been made in the large reservoirs in our country. The Wachusett reservoir of the Boston supply has been available for such observations, and a still larger reservoir for the New York supply from the Catskills will be available.

It will be interesting to determine whether or not pathogenic bacteria die during the long retention in such reservoirs, whether they are deposited on the bottom or not, and further interesting to discover as to whether or not in such cases filtration may be omitted.

4. *Disinfection by Hypochlorites of Lime and Soda, by Ozone and by Ultraviolet Rays.*—As mentioned above, the object of purifying the water-supply of large cities is to make it healthful, clear, limpid and palatable. Its healthfulness is controlled, in the cases under consideration, by its freedom from pathogenic organisms.

When waters are not and perhaps cannot be filtered, and even when filtered under perhaps abnormal conditions, the waters can be rendered healthful by destroying the dangerous bacteria through a separate treatment of the water for this purpose.

The disinfection of water has been under consideration for many years, and the last word has not yet been said. It has been proposed to utilize for this purpose the bactericidal effect of ozone, of the ultraviolet rays and of the hypochlorites of lime and soda.

It is clear that by any of these materials or processes bacteria will be killed. But a practical use for large water-supplies is possible only when the expense is reasonable and there is a satisfactory assurance of obtaining the desired effect.

As yet the applications of ozone and of the ultraviolet rays have not yet been developed sufficiently to secure economical processes.

The ozone process has been used in large cities, notably Wiesbaden, Germany, but has been abandoned after a year or two on account of cost and of not being sufficiently reliable. It is more difficult to obtain a thorough mixture of the water with ozone, which enters it as gas bubbles and soon loses its efficiency, than with a material entering either finely dispersed or as a solution, such as hypochlorite, which retains its efficiency for a much longer time.

The ultraviolet ray process is being studied and applied in Europe, but while its reliability appears to be greater than that of the ozone process, it appears at present that the cost may be too great.

For these reasons the hypochlorite treatments, being more economical at present, are now much more extensively used. Within the last few years, since the process was first practically developed for the water-supply of Boonton, N. J., more than a hundred cities in our country use it. Its efficiency has been successfully demonstrated in several cities, where it was rapidly installed at the outbreak of typhoid epidemics. Allowing for the lapse of the period of incubation, it was found that new cases, if not traceable to secondary infection, did not occur (Minneapolis and other cities). In still other cities where the treatment was introduced, the usual slight autumnal rise in the typhoid curve was practically eliminated (Montreal).

CONCLUSION

This brief account of the methods of water purification for large cities should give us the comfortable assurance that we have reached a stage of development in this branch of public service at which it becomes possible to furnish healthful water-supplies at reasonable cost, whether they are obtained from subterranean or from surface sources.

170 Broadway.

Clinical vs. Pathologic Diagnosis.—Diagnosis, however, is half the victory in the battle with disease, and from the point of view of the patient is of more importance than some piece of fragmentary tissue or rare microscopic specimen preserved for exhibition with a report on its pathology if she survive, or, be she ever so philanthropic, the chance of its being added to a museum for the inspection of others when she is dead.—H. Macnaughton Jones in *Clin. Jour.*

EPIDIDYMOTOMY

A PLEA FOR A RATIONAL TREATMENT OF EPIDIDYMITIS

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The incidence of epididymitis in gonorrhea depends on so many known and unknown factors that a discussion of them is likely to be long and unproductive. Experienced observers speak of epididymitis in a wide range of incidence. Bevan of Chicago says that "about 20 per cent. of gonorrheal attacks are complicated with an involvement of the epididymis." In a series of 159 cases of gonorrhea treated in one of our large military hospitals during the past year, epididymitis occurred twelve times, i. e., in about 7.3 per cent. of the cases. Whatever factors effect this apparent variation in incidence, certainly this painful disease occurs with sufficient frequency to make a study of its successful management important to the genito-urinary surgeon.

The pathology of epididymitis is not intricate and is well set down in all the standard text-books. The teaching is that, after the invasion of the epididymis by the gonorrheal infection, abscess or cyst formation is the rule, although these collections are generally small and, if resolution takes place, the pus or fluid is absorbed. I make my plea for a rational surgical treatment on the foregoing statement which appears to be generally admitted by authors on the subject.

The appropriate treatment of this disease is obvious, if epididymitis is recognized as an acute pus infection of the epididymal coils. It is true that the suppuration usually remains in a small focus, and in many instances is eventually absorbed; but this termination sometimes takes place in an infected appendix, gall-bladder or fallopian tube, yet a surgeon will scarcely abide such an event in these organs. Laying aside, then, the difference in life risk, it would appear that there is just as much surgical sense in applying a poultice over an infected gall-bladder as there is in applying one over an infected focus in the epididymis.

The books speak of an acute epididymitis due to instrumentation of the urethra in which no pyogenic organisms are concerned. It appears to me that an infiltrated globus minor is rather a remote expression of urethral trauma in the absence of any infectious agent. In a considerable experience with instrumentation of the urethra and bladder, I have never seen this type of epididymitis. The common variety, that due to gonorrhea or some other infection of the urethra, demands the same surgical attack as a pus focus elsewhere in the body, and that is incision and drainage.

Hagner of Washington, D. C., first invited attention to the excellent results of epididymotomy. Hagner's operation, described fully in text-books, seems formidable, and its rather complicated technic is most applicable to incipient cases. The principle which Hagner developed, however, can be applied to all cases, whether incipient or advanced. Early experiment with the Hagner operation convinced me of the value of epididymotomy and, later experience with a simpler technic has convinced me that any treatment of epididymitis, other than operative, is unscientific, irrational and a compromise with ignorance.

I have performed the following simple operation in sixteen consecutive cases of epididymitis, some being incipient and some advanced:

Technic: Preparation consists of dry shaving of pubis and scrotum; one application of 2 per cent. alcoholic solution of iodin, followed by alcohol; primary ether anesthesia. Incision three-fourths inch in length in integument is made over most prominent part of infiltrated mass, down to the dense fibrous covering of the epididymis. Puncture is made of the tunica vaginalis testis from the nearest wound angle with blunt needle or tenotome. The dense fibrous covering over the major or minor body is then incised in the long axis of the tumor; this is accompanied by a marked lessening of resistance. The point of a slender hemostat is thrust into the mass with the idea of entering the pus focus. The blades of the forceps are slowly opened to effect a separation of tissue without undue tearing. The pus or fluid will escape at this stage if proper entry of the infected area is made. A 1-inch length of No. 3 rubber tubing is inserted into the bottom of the wound and fixed with a suture. Copious dressing and snug application of a jumbo suspensory completes the procedure which should consume about two minutes of time.

Local anesthesia is inadvisable on account of the risk of sloughing, especially in advanced cases in which the integument already partakes of the severe underlying inflammatory process. I would prefer to operate with no anesthesia if a general anesthetic were declined or if there were any contra-indications to its use. Dry shaving of the parts is done to render the iodin an effective skin disinfectant. A stronger solution of iodin than 2 per cent. will sometimes blister the scrotum even after the excess is removed with alcohol. Puncture of the tunica vaginalis for the acute hydrocele is done before the proper covering of the epididymis is invaded to avoid the risk of carrying infection into this sac. The hydrocele, nearly always present to a degree, is due to circulatory disturbance generally and not at all likely to be due to actual infection. Occasionally, smart hemorrhage follows breaking into the inflamed epididymis, but this quickly ceases. Pus will be found in all advanced cases and the fluid escaping in incipient cases will always contain gonococci. The drainage-tube is left in place forty-eight hours and two subsequent dressings usually suffice. One of the most striking results of this simple operation is the immediate and absolute relief from pain which is often expressed by the patient in extravagant terms of satisfaction. Indeed, this alone justifies the slight operative risk.

In my small series of cases, the following beneficial changes invariably took place, in the order named: (1) sudden and permanent relief from pain; (2) defervescence in forty-eight hours; (3) rapid reduction in the size of the inflammatory mass; (4) early healing of the operation wound without suppuration, except in cases in which the process already had proceeded to formidable abscess formation; (5) early convalescence without relapse.

Some observers think that epididymotomy effects a too deliberate accomplishment of sterility when it is applied to bilateral cases, believing that after cutting across the lumen of the epididymal coil, the passage of spermatozoa is impossible; others think that the spermatozoa may find new channels through the scar tissue and find exit by diapedesis or migration. In my series of sixteen cases, one only was bilateral, and in this case bilateral epididymotomy was performed in the firm belief that the slight scar tissue which remains after operation is less an obstruction to the passage of spermatozoa than the dense fibrous "ball" which so often remains as a permanent relic of a penalty paid to folly.

Benzler's figures seem to prove that 41.7 per cent. of all bilateral cases of epididymitis result in sterility.

Statistics are not now available to prove whether epididymotomy produces sterility when applied in every bilateral case, but since the preponderant number of cases are unilateral, and since after epididymotomy such rapid recovery occurs in every instance, the collective gain in shortening the course of *all* cases offsets the disadvantage of an occasional sterilization.

DEVELOPMENTS IN THE SKIN-GRAFTING OPERATION FOR CANCER OF THE BREAST

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It has been my custom every year or two to request our patients operated on for mammary cancer and living in or near Baltimore to come on certain mornings to the surgical clinic of the Johns Hopkins University in order that we may observe the ultimate result, particularly with reference to the function of the arm.

For about sixteen years our practice has been to cover the fresh defect, made as small as feasible in various ways, with large Thiersch grafts. The available skin was tucked high into the armpit in order to cover the axillary vessels, to obliterate the dead space under the clavicle, and to elevate to the highest possible point the axillary fornix.

The tip of the axillary flap was usually cut away. Notwithstanding this precaution a little necrosis of the badly nourished flap was not infrequently observed, and as a consequence there occurred an occasional but rare infection of the wound, and in the location where it might be productive of great harm, namely, on the confines of the subclavicular dead space which we had attempted to obliterate in the ordinary way, by tucking up the flap and holding it in place with soft packs of gauze. Infection of this space not only delayed healing but also prevented primary union of the tucked-in skin to the wall of the thorax, to the subclavius muscle and to the subclavian and axillary vessels. In such event the healing of the dead space was by granulation, and the resulting cicatricial tissue in the axillary fornix caused or accentuated the swelling of the extremity and, more or less, prevented the free movements of the arm. Infection, furthermore, influenced unfavorably the healing of the skin-grafts.

In plastic operations the danger of the necrosis is, of course, greater than in the skin-grafting operations, because in the former the circulation of the flaps is still further impaired both by the added incisions and by the increased traction which is exercised in the effort to cover the raw surface with skin. It is expecting too much of a thin flap deprived of its fat and submitted to the pressure of a gauze pack sufficient to keep the flap in place and to obliterate the axillary dead space, always to maintain its circulation to the very edge.

With few exceptions the patients have been well satisfied with the resulting usefulness of the arm. Such restrictions of movement as they suffered from did not prevent them from dressing their hair and performing household work. But in the majority of cases, on abducting the arm beyond 90 degrees, a point would ultimately be reached, as the elbow approached the head, when a band of skin and connective tissue was seen to tug between the chest wall and the shoulder. I have repeatedly said to my patients that if this band were divided and the resulting defect covered by a skin-graft the desired motion would be permitted unless prohibited by changes in the shoulder-joint which might in time have taken place. In no instance, however, has the patient considered herself sufficiently handicapped by the restriction in the movement to care to submit to the proposed operation.

For some years we have been trying to remedy the defects of the method and have succeeded in such measure that I consider it worth while to describe the modifications which our original operation has undergone.

The incision down the arm, made shorter and shorter, was finally abandoned. The vertical cut to the clavicle is made as short as feasible and when considerable skin has been removed above is omitted.

Not infrequently the only incision of the skin is the circular one surrounding the tumor, but as a rule the one or the other of the vertical incisions has been made. By means of the two vertical incisions, one above and one below, the dissection of the axilla is, of course, facilitated. Thus the triangular flap has been definitely abolished.

The skin of the outer flap between the two vertical incisions is utilized primarily to cover completely, without any tension whatever, and redundantly the vessels of the axilla. The edge of this flap is stitched by interrupted, buried sutures of very fine silk to the fascia just below the first rib in such way that the skin partly envelops the large vessels. Then, along the entire circumference of the wound, the free edge of the skin is sutured to the underlying structures of the chest wall, the wound being made as small as desirable in the process of closure, and tension on the upper or axillary part of the outer flap assiduously avoided. Considerable traction may, however, be exercised on the mesial flap and on the lower portion of the outer flap. The form and position of the resulting defect may be seen for a given case in the accompanying illustrations. Whatever the size and shape of the grafted defect, it should usually extend to the top of the axillary fornix. Thus the thoracic or inner wall of the apex of the axilla is always lined with skin-grafts.

The arm is adducted 90 or more degrees during the stitching of the wound and is not included in the dressing. Only the gentlest pressure is exerted by the bandage holding in place the gauze handkerchiefs which should be evenly applied with solicitous care. Particularly to be avoided is the placing of a wedge of gauze in the axillary fornix, and the using of this as a kind of fulcrum to be bridged over by the adducted arm. Drainage is unnecessary.

Movements of the arm as free as possible are encouraged after the second day. These may be executed without apprehension if the wound is closed in the manner indicated.

REASONS FOR SKIN-GRAFTING IN OPERATIONS FOR CANCER OF THE BREAST

1. An almost unlimited amount of skin may be removed. From the observations made at the surgical clinic of the Johns Hopkins University it would seem that the results have been better in the cases in which larger areas of the skin were removed. According to the statistics of our clinic as prepared by Dr. Joseph C. Bloodgood, it would seem that of the various operators those have had the best results who make a practice of giving the tumor the widest berth in making the incision of the skin. These surgeons may, however, perform a more thorough operation in other respects.

Undoubtedly we often remove an unnecessarily large amount of skin; but the patient is not in the least inconvenienced thereby, nor is the operation delayed on this account, for the reason that the defect is covered with Thiersch grafts, on the healing of which one can rely almost absolutely. Nothing is gained, therefore, by saving skin which, either because it is too close to the cancer or by reason of impairment of its circulation, is questionable.

Whatever a given surgeon's views may be in general as to the amount of skin which should be removed for the cure of mammary cancer, he is certain at times to be confronted with cases which clearly demand excision over a very wide area. In such event he will, I believe, find the procedure which I have advocated of definite value.

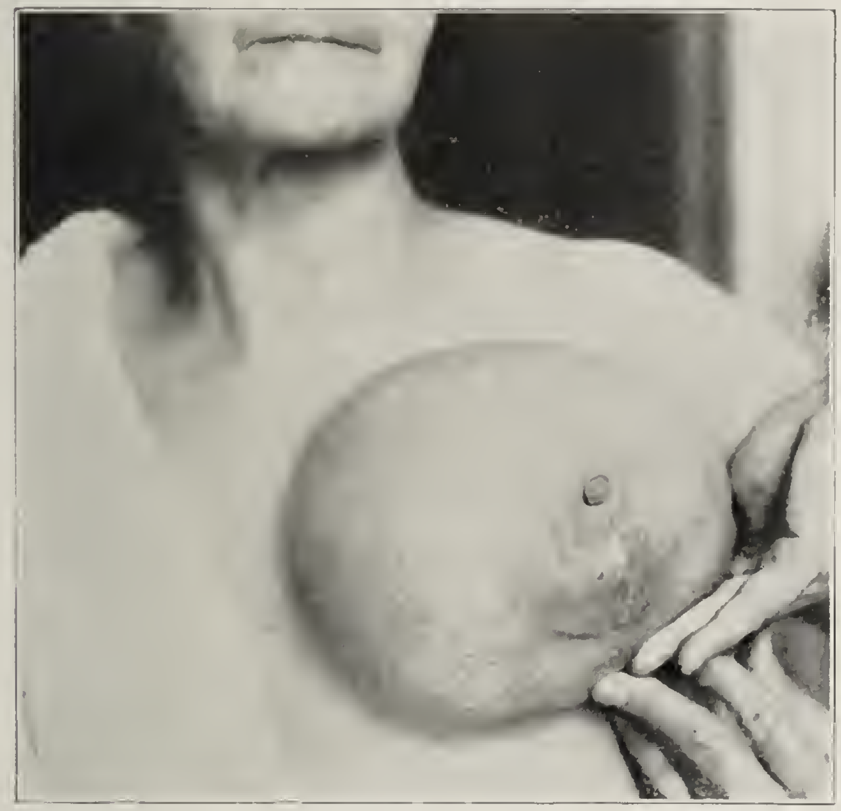

Fig. 1.—Before operation. The carcinoma infiltrated the entire gland. The skin incision corresponded quite accurately to the margin of the breast except below, where it was carried beyond it.

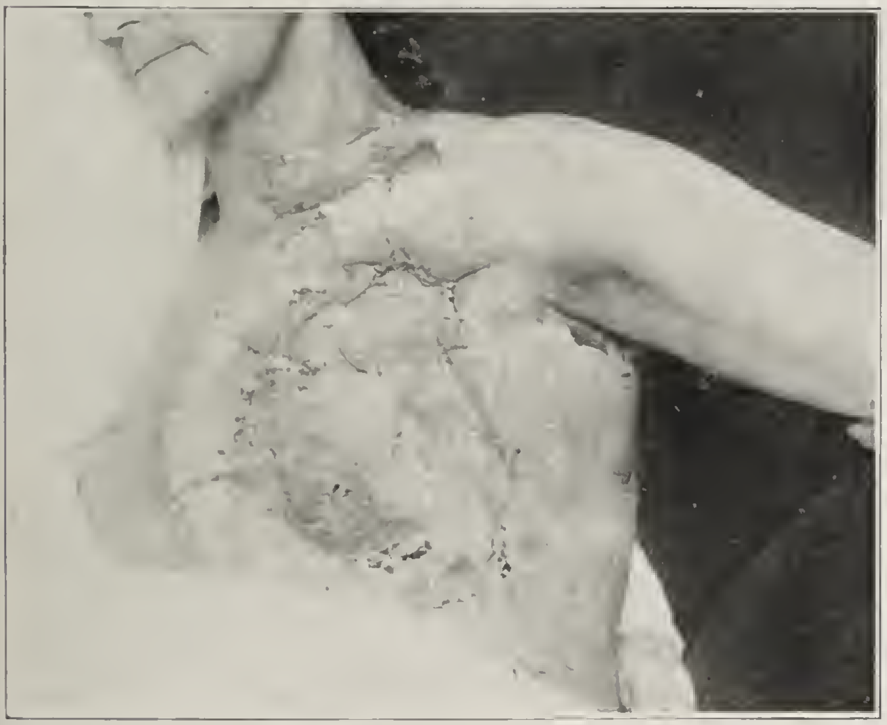

Fig. 2.—Three days after operation. Silver-foil (high lights) on the skin along the inner and upper margins of the wound.

It is better to remove too much skin than too little, for the mistake of excising an insufficient quantity is quite fatal to the patient's chances of recovery. Whether the grafted area is large or small the time required for the healing of the wound, and the range of motion permitted to the arm are the same.

2. Skin-grafts present a definite obstacle to the dissemination of carcinomatous metastases. I have seen cutaneous recurrences along the margins of the grafted area spreading with great rapidity in the skin, extend over the opposite breast, to the back and over the abdomen to the pelvis without involvement of the grafted area except by encroachment at the edges. In one such case in the course of two years, the complete mammary operation having been done on both sides and the supra-clavicular operation on the right side, the entire skin of the front of the thorax, of the right and part of the left side of the abdomen and of the right back nearly to the middle line was removed and the denuded area grafted, and yet at no point did the disease invade the grafted area except here and there for a few lines at the margins.

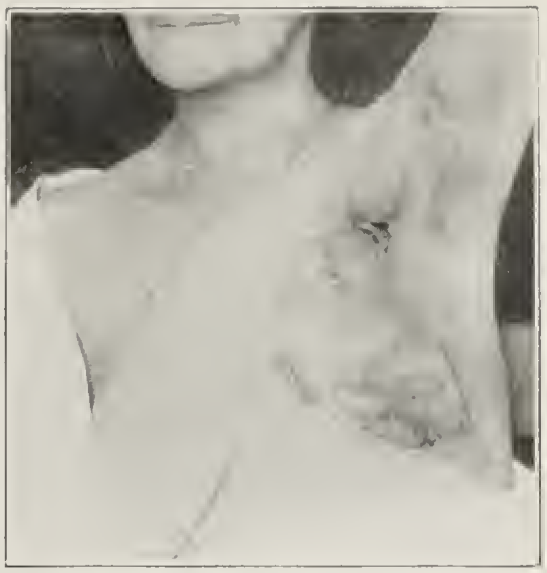

Fig. 3.—Six weeks after operation. To show the great freedom of motion.

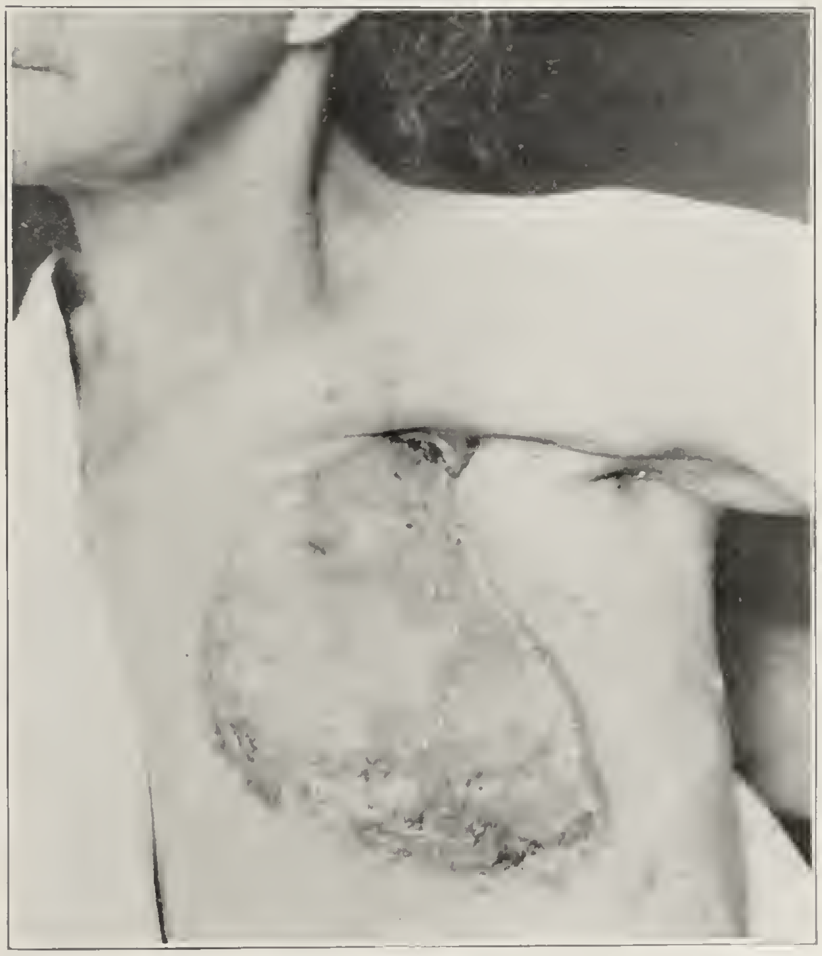

Fig. 4.—Six weeks after operation. Arm at right angle to body. Shows subclavicular fold of redundant skin.

In certain cases, as is well known, there is a particular and, it may be, early tendency of the cancer to disseminate itself in the skin and to develop the cancer en cuirasse. I formerly regarded the prognosis in these cases as quite hopeless, but my experience in comparatively recent years encourages me to feel that there may be a much better chance for some of these patients than is generally believed. In the case referred to immediately above in which from repeated operations the woman had become actually flayed over the entire front, sides and part of the back of the thorax and over the abdomen down to the crest of the right ilium, there was at autopsy[1] no microscopic evidence of cancer in the glands or viscera or elsewhere. Dr. Winternitz, however, who made a most painstaking post-mortem examination, reported that microscopically one of the mesenteric glands and a piece of tissue removed from the cicatricial tissue of the right supraclavicular region showed involvement. At the operation above the right clavicle, performed about one year before the patient's death, it was observed that the carcinoma had invaded the tissues outside of the lymphatic glands and was extending into the sheaths of the nerve trunks of the brachial plexus. It was surprising, we thought, that the recurrence in this region had not manifested itself promptly.

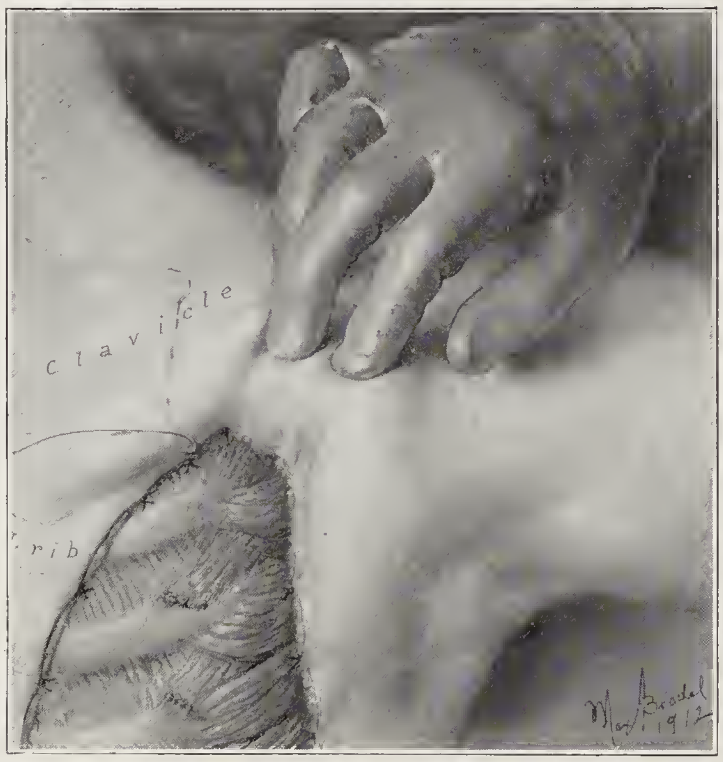

Fig. 5.—The redundant fold of skin is held up by the fingers. The skin has been stitched to the underlying muscles at the margin of the area to be grafted, the apex of which corresponds to the lower border of the first rib.

It occurred to me that it might be well in certain cases evidencing this special tendency to skin metastasis—to regionary recurrence confined to the skin—to surround the denuded and grafted area, more or less completely and as might seem indicated, by a kind of moat with the hope that by such expedient the disease, should it continue to spread in the skin, might be confined to the region intervening between the two grafted areas—between the main wound and the moat placed at some distance from it.

The moat is formed by the excision of a narrow strip of skin with its underlying fat and loose fascia. Possibly the gap caused by the mere incision through the skin down to the sheaths of the muscles might suffice.

If the moat is made at the time of the primary operation the grafts should be of the Thiersch variety and covered with silver-foil. If the grafting of the moat has for any reason to be deferred—to be made secondarily on a granulating surface—the Reverdin grafts are preferable.

Silver-foil is not a suitable dressing for grafts placed on a granulating or infected surface; a piece of gutta-percha tissue riddled with holes like a porous plaster or, as suggested and practiced by Dr. Staige Davis, a rubber mesh, or some other permeable non-adherable covering should be employed. But when the surface is not infected and it is desirable to leave the dressing undisturbed for a week or more, as after operations for mammary cancer, the silver-foil has proved at our clinic to be an admirable dressing for the grafts.

3. Recurrences in the deeper planes may be promptly detected under the thin, grafted skin. These should be burnt away, down to the pleura if necessary, with the actual cautery. When the defect is covered by normal skin, as in an incomplete or in a plastic operation, not only is the underlying recurrence concealed for an indefinite period, but also the transferred skin with its lymphatic channels brought from a distance, when it becomes involved, aids in the dissemination of the disease.

We disapprove of the clever suggestion to cover the defect by the transfer of the opposite breast; less perhaps on account of the more obvious objections to it than because with this procedure recurrences in the denuded area would be so deeply covered that they could not be discovered promptly, or, perhaps, not until the transplanted breast had become involved.

One may be compelled to resort to a plastic operation when the tumor has extended so far into the axilla as to make it necessary to provide skin from elsewhere to assist in covering the axillary vessels. Under these circumstances a more or less vertical cut up the neck on the opposite side has sufficed to release the skin which seemed available.

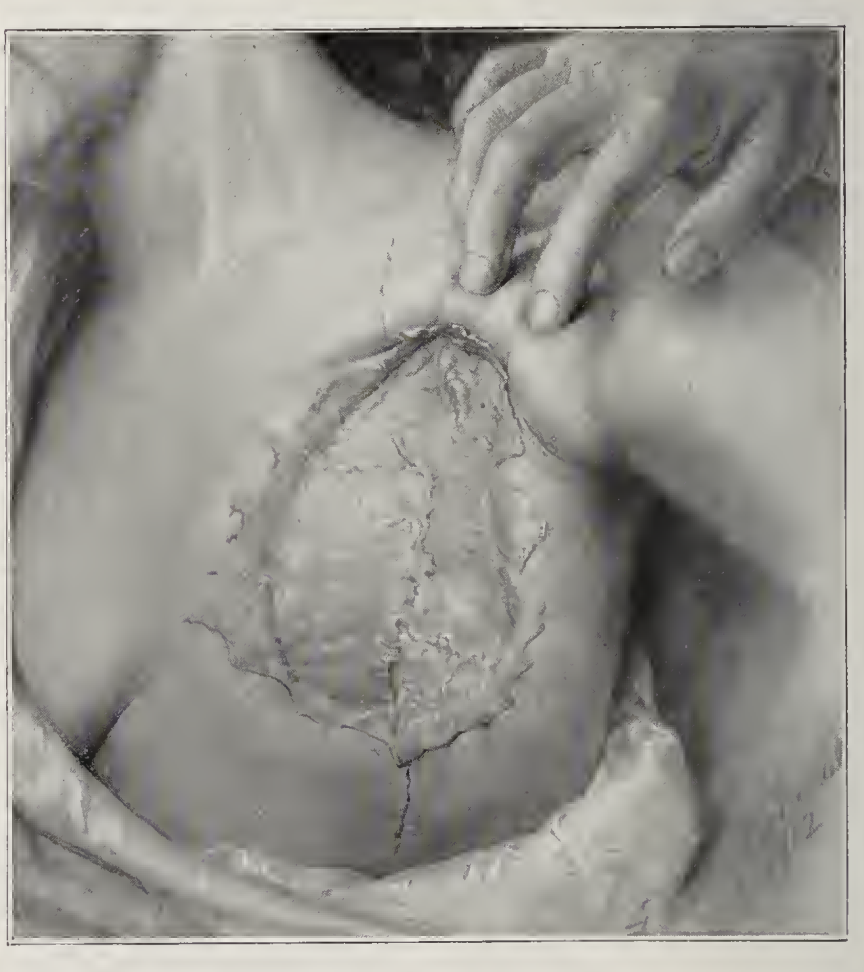

Fig. 6.—The redundant fold of skin being retracted. The defect has been covered by the Thiersch grafts.

4. The inner or thoracic wall of the axilla being lined to the extreme apex with grafts, the skin of the outer flap may be utilized, *in redundant fashion*, for covering the axillary vessels, for obliterating the subclavian dead space and for elevating the axillary fornix.

1201 Eutaw Place.

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[1] The patient died from a general infection contracted a few days after her temporary discharge from the hospital and as the result, probably, of a very fatiguing railway journey.

ULCER OF THE BLADDER

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Although simple solitary ulcer of the bladder is regarded as a very rare affection, the history of two cases[1] that have recently come under my observation would seem to indicate that this condition is not infrequently overlooked. Both patients had been examined with the cystoscope before consulting me, but the cause of the most striking symptom, hematuria, had not been discovered. Doubtless this lesion was not recognized because of its location in the posterior vesical wall, a region that is frequently neglected or poorly examined in a routine inspection of the bladder.

The first case that I wish to report was interesting because of the sudden onset of the hematuria and the alarming amount of blood that was evacuated with each urination.

Case 1.—*History.*—Mrs. M. L. consulted me on July 3, 1911, because of frequency of urination, and because of the large amount of blood voided in the urine. She had given birth to two children, and, at the time, was in her third pregnancy. One and a half years previously, she had had an attack of inflammation of the bladder with considerable pain on urination, and frequency. After her last confinement, there seemed to have been some blood in the urine for a short time. She had never had any symptoms of renal colic and had apparently recovered from the single attack of cystitis when, about three months before, urgency and frequency of micturition returned. These symptoms existed on and off up to the date of consultation. For several days preceding, alarming amounts of blood had been voided with the urine, which led the patient to consult me.

Examination.—On catheterization of the bladder about 4 ounces of very thick, dark, red-brown urine were evacuated. There had evidently been a copious hemorrhage, and cystoscopic examination at once revealed the source of the hematuria. In the posterior wall, to the left and behind the left ureter, there was an irregular, triangular superficial ulcer somewhat less than 1 cm. in length, and 6 or 7 mm. in width. The floor of the ulcer was covered with blood-clots, discolored fringes of which were floating free in the distending fluid. The mucous membrane, in the immediate neighborhood, was distinctly injected and the vascular markings were obliterated. The edges of the ulcer were barely raised, there being none of the evidences of proliferation that are characteristic of carcinoma, nor any of the polypoid masses of bullous edema so conspicuous in tuberculosis. Less than a centimeter removed from the region of the ulcer, however, there was a small area which presented an appearance not unlike that of certain lesions of vesical tuberculosis. Here there were about a dozen small rounded protuberances that appeared to be solid and macroscopically indistinguishable from miliary tubercles. Their appearance was quite different from that described as bullous edema, the individual rounded protuberances being much smaller, dark red, not translucent, and arising from almost normal mucous membrane. A diagnosis of simple chronic ulcer was made, for nowhere else in the bladder could any lesions be discovered; the ureteral orifices were negative; the catheterized specimens indicated the absence of renal involvement; tubercle bacilli were absent and inoculations into guinea-pigs were negative.

Treatment and Course.—On Aug. 3, 1911, a single treatment with the fulguration method was given, the patient having had intermittent hematuria ever since the last examination. Only very mild cauterization was employed and the polypoid area was included in the treatment. Three days later, the urine was clear for the first time, and on August 10, only a very few red blood-cells could be found in the centrifuged specimen. September 9, cystoscopic examination showed a small exudate covering the region of the ulcer, the mucous membrane being retracted and plicated in the immediate neighborhood (Fig. 1).

December 28, another cystoscopy demonstrated the region of the ulcer to be absolutely devoid of any sign of a lesion of continuity. The radiating scar seen at a previous examination was again found lying in an area of hyperemia. The bladder was free from the congestion which was notable at the first two examinations. Jan. 30, 1912, the patient was again seen in the office, and was found completely cured. There was no trace of the lesion, the site of the ulcer being occupied by somewhat plicated and retracted mucous membrane.

In short, it was a case of simple chronic solitary ulcer of the bladder in a young woman whose history suggested no other etiologic factor than a single attack of cystitis. There was no diffuse cystitis at the time of the examination, or any evidence of tuberculosis, unless the minute polypoid excrescences be regarded as suspicious of tuberculous infection.

The prompt beneficial result of very mild sparking with the Oudin current speaks strongly in favor of the application of this method of treatment for vesical ulceration.[2] Indeed, a single cauterization with the high-frequency current was sufficient to effect a cure within a period of about six weeks.

The history of the second patient serves well to emphasize the chronic course of certain cases of ulcer of the bladder. Although the etiology of the affection could not be determined with certainty, it is likely that traumatism with a cystoscope was a factor.

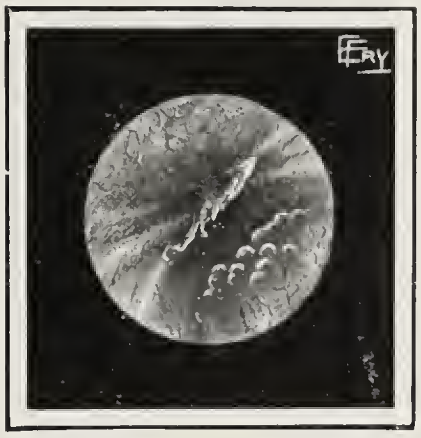

Fig. 1.—Healing ulcer in Case 1.

Case 2.—*History.*—S. K. consulted me Jan. 5, 1911, because of the presence of blood in the urine. He had never had any vesical symptoms until after a cystoscopy three years previously. In the winter of 1908, after a prolonged endovesical examination in a dispensary, copious hematuria ensued and the patient was confined to his bed for a week. The bladder was put at rest, at that time, according to the patient's story, by means of an indwelling catheter, but, in spite of constant treatment for many months after the time of the initial bleeding, the act of micturition was always attended with the evacuation of small amounts of blood. Urination seems also to have been more frequent than normal, being repeated every two to two and a half hours during the day and once at night. Except for the hematuria and a slight amount of discomfort during the act of micturition, there were no symptoms during the past two years.

Examination.—The patient was a well-nourished man who presented no evidences of the loss of large amounts of blood. The urine, however, was clouded by reason of its blood content, and the end of the act of micturition was attended with the expression of a few drops of blood. Cystoscopic examination and ureteral catheterization showed that the kidneys were not the seat of the hematuria. At the left of the trigon, the mucous membrane of the bladder was pale, grayish-white, and almost devoid of any vascular markings. This area gave the impression of an old scar. In the posterosuperior wall of the bladder, somewhat to the left of the midline, there was a large ragged ulcer measuring somewhat over 1 cm. in its largest diameter, and 0.5 to 1 cm. in width, varying in different places. Except at one spot, where there was a deep excavation (as if the bladder wall had been treated with a punch) there seemed to be a rather shallow loss of substance. The edges of the ulcer were not overhanging, in places being concealed by necrotic shreds. The surrounding mucous membrane presented no evidence of hypertrophy or inflammatory proliferation, there being, however, considerable injection. The general appearance was that of a superficial callous ulcer, lying in a hyperemic area of the bladder, its surface for the most part covered with recently clotted blood, but in places obscured by a grayish exudate. About 1 cm. removed from the deepest portion of the ulcer, an aggregation of tubercle-like bodies (the counterpart of those seen in Case 1) could be distinctly recognized.

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[1] Since this paper was put in type three additional cases have come under my observation. The last two were chronic callous ulcers, and a most remarkable and rapid cure was effected in both instances by excision of the ulcer through my operating cystoscope with a special punch-forceps.

[2] More recent experiences with cases of simple solitary ulcer of the chronic callous type have induced me to use only the method of excision, for cauterization by fulguration in such instances is of no avail.

With a view to making a more careful study of the patient's condition, he was admitted to the Har Moriah Hospital, where he remained for a week. During this time, the terminal hematuria did not abate in severity, although strict rest in bed had been ordered.

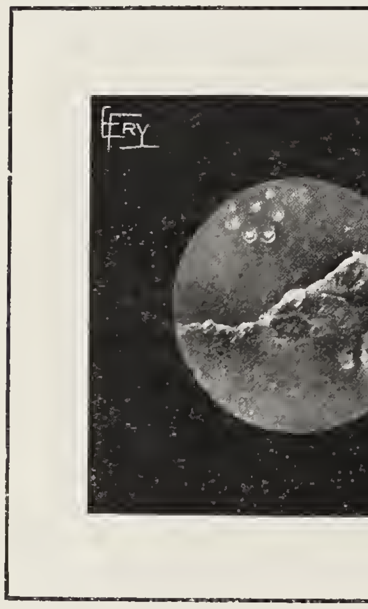

Fig. 2.—Ulcer in Case 2.

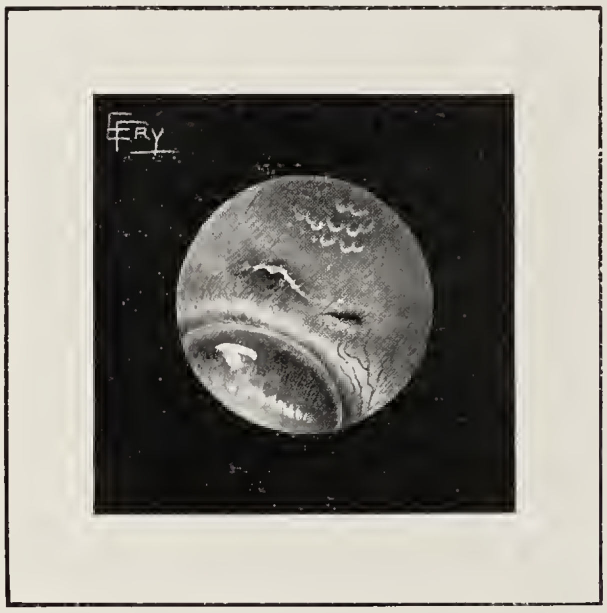

Fig. 3.—Healing ulcer in Case 2.

Treatment and Course.—January 18, the whole ulcerated area was very carefully fulgurated, the spark being allowed to play over eight different spots for periods of one to three seconds. Although the initial sparking induced some local bleeding, the subsequent discharges controlled the hemorrhage, so that after the treatment, the terminal hematuria was totally absent. February 14, cystoscopic examination showed that although the deep ulcer was evidently undergoing cicatrization, the superficial portions were still covered with clot and exudate (Fig. 2). This area was now again very carefully exposed to the action of the spark.

May 28, the patient reported that he had been well for almost two months, but that a few days previously there had been a return of the hematuria. Examination showed the following picture. The deep hole seemed to be healed, but the tubercle-like crest was still in evidence. The superficial part of the ulcer, however, though much diminished in size, still showed evidence of recent hemorrhage (Fig. 3). The fulguration treatment was repeated for the third time.

In view of the refractory course of the lesion in this case, and its failure to respond well to the fulguration treatment, I suggested to the patient's family physician, Dr. I. Ritter, that a course of mercurial injections be tried, although the Wassermann test was negative. After two injections, Dr. Ritter reported that terminal hematuria had ceased.

June 16, the greater part of the ulcer seemed to have healed, being represented by minute foci covered with exudate.

From May 16 until September 7, the patient was entirely free from symptoms, and cystoscopic examination on the latter date failed to reveal any sign of the ulcer.

The features presented by the second case may be summarized as follows: the chronicity of the hematuria (duration being over two years), the history of traumatism, the failure of the fulguration method and the apparently remarkable effect of mercurial injections.

R. Le Fur and A. Siredey[3] point out that the conception of simple ulcer as acquired from a consideration of the pathology of ulcer of the stomach may be extended so as to apply also to lesions of the bladder. They believe that the following types of ulcer of the bladder exist: chronic ulcer, acute perforating ulcer and hemorrhagic changes of the mucous membranes. It has been frequently contended that the interior of the bladder is not comparable to the mucous membrane of the stomach and intestines, and is therefore not liable to the same type of infection. In their experimental studies, however, Le Fur and Siredey have shown that this is not the case. They believe that the mucous membrane of the bladder has an eliminative function and that it is not infrequently the site of simple ulceration. The proximity of the rectum and intestinal loops, and the rôle of the bladder as a defendant against infection are the factors that make for vesical ulceration. As regards the pathology of simple ulcer, they point out that not infrequently a localized cystitis is the starting point of the surface defect. There may be an infectious process involving the submucosa which, by virtue of necrosis or suppuration, leads to the formation of an ulcer. If such a process be a diffuse one, a generalized cystitis with ulceration results. It is not difficult to conceive of any number of intermediary stages between isolated foci of infection with a single ulcer, and diffuse generalized cystitis with multiple ulcerations.

Strictly speaking, simple ulceration of the bladder would be an affection which is not provoked by the ordinary causes, such as tuberculosis, neoplasm, and acute or chronic cystitis. Such ulcerations, as a rule, are solitary, although they may be multiple. They are characterized by their latent course and their insidious onset. Their appearance depends somewhat on whether they are of chronic evolution, or of the acute perforating type. Le Fur and Siredey have been able to produce such ulcers experimentally. The "simple ulcer" must be regarded as a provisional appellative designating a type of ulceration which, in the present state of our knowledge, is not provoked by any particular cause, but is the consequence of a number of different pathologic processes of various etiology.

Le Fur,[4] in his thesis on vesical ulcerations, describes a simple chronic, an acute perforating and trophic ulcer. The chronic lesions appear as round indurated ulcers, comparable to the round ulcer of the stomach and intestine, as gangrenous ulcerations, or as simple erosions or surface defects.

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[3] Le Fur, R., and Siredey, A.: Maladies des organes génito-urinaires.

[4] Le Fur: Des ulcérations vésicales, etc., Thèse de Paris, 1901.

The acute perforating ulcers are usually situated in the posterior wall near the summit. Although their development may be slow, they may at any time give rise to acute perforation and hemorrhage. Latency, hematuria and perforation, therefore, are the characteristics of this type of ulcer.

The third variety of ulcer, simple trophic ulcer, may be grouped under three divisions: (1) those dependent on lesions of the nervous system; (2) those resulting from local processes in the bladder, and (3) those following lesions and operations in the neighborhood of the bladder.

Accepting the work of Le Fur and Siredey as the most comprehensive study of vesical ulceration that has appeared in the literature up to the present, if I attempt to group my own two cases according to their classification, I should regard the ulcer in Case 1 as of the chronic type due to some infectious process, and the lesion in the second case as either of the same type or of the traumatic variety. In spite of the absence of tubercle bacilli in our two cases, and the negative test obtained on inoculation of guinea-pigs, the possibility of primary tuberculous ulceration of the bladder cannot be absolutely excluded. The likelihood of such infection, however, is rather remote in spite of the suspicious nodules in the neighborhood of the ulcer in both cases. Such proliferations could possibly be follicular hypertrophies containing hyperplastic lymphoid tissue, a lesion that is not infrequently found in the pelvis of the kidney in cases of chronic pyelitis.

The conclusions that may be drawn from these meager, but rather rare observations, may be summarized as follows:

1. A careful search should be made in all cases of vesical hematuria for the presence of a simple solitary ulcer.
2. Bleeding ulcers may be overlooked if we fail to bring every portion of the superior and posterior walls of the bladder into view.
3. The most striking symptom, in the cases under observation, was hematuria, persisting for more than two years in one of the patients.
4. In the treatment of this condition (as well as in the treatment of tuberculous ulcer after nephrectomy), the fulguration method should be tried, and, if this fails, mercurial injections should be given in cases of simple ulcer of the *superficial* variety. More recent clinical investigations have shown that there is a type of simple ulcer of the bladder which may be termed *chronic* and *callous*. *Such ulcers should be excised* with my punch-forceps through the operating cystoscope.[5]
5. Future studies should be directed toward the investigation of the etiology of this affection by careful consideration of the histories of the cases, by thorough bacteriologic examinations and by excision of the ulcer through the operating cystoscope.

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[5] The results of this method of treatment will be described in a future publication.

Significance of Albuminuria.—The existence of albumin in the urine is an occurrence which is in some instances regarded much too seriously and in others made too light of. In every instance it ought to be considered in its relationship to the accompanying evidences of disease and not put on the pedestal of being a disease of itself.—Guthrie Rankin in *Clin. Jour.*

RECENT OBSERVATIONS ON THE INFLUENCE OF THE POSITION OF THE STOMACH ON CERTAIN ASPECTS OF GASTROPTOSIS

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The employment of Roentgen rays in determining the position of the stomach, and recent investigations relative to the etiology of visceral ptosis, together with some late observations regarding the surgical treatment of this condition, have thrown new light on and excited a renewal of interest in gastroptosis.

About thirty years ago, Pacanowski, Ewald[1] and others, by various methods (although usually by distention and percussion), determined that the lower border of the stomach normally is to be found at from 1 to $2\,{}^{2}/_{5}$ inches above the navel, being a little higher in women than in men. Their observations have been generally accepted as correct. Furthermore, based probably on these observations, it is quite generally agreed that, in the absence of dilatation, gastroptosis is present whenever the lower border of the stomach is found at or below the navel. Yet in 1901, in connection with other tests carried out on thirty-nine healthy male medical students,[2] I found by inflation and percussion (the subjects lying, with head and shoulders well elevated, to enable them to dispose of the salivary secretions more easily) that the lower border of the stomach, in the median line, averaged ⅜ inch above the navel, the maximum high and low limits being 2¼ inches above and 1¾ inches below the navel. In sixteen of the thirty-nine subjects the lower border was found at or below the navel. In three it was at the navel and in thirteen it was from ¼ to 1¾ inches (in one case) below the navel. As was noted at this time, the lower positions were most often found in thin subjects. I further found that in twenty-eight of the thirty-nine subjects the greater curvature passed beneath the ninth costal cartilage, that the mean pyloric resonance extended 2¼ inches to the right of the navel, and that the mean resonance between the greater and lesser curvatures, in the median line, was 4½ inches, the limits in variations being from 3¼ to 5¾ inches.

While in some respects my findings agree closely with those of the earlier observers, in regard to position, I found the stomach somewhat lower. This difference in findings may be accounted for in part by the fact that I inflated the stomach and thereby was able to secure the required degree of distention in every case, as cannot be done when gas is used; also I had the subjects' heads and shoulders elevated (as the earlier investigators very likely did not), which posture probably caused a slightly lower position of the stomach. As a result of these observations and other later experience, however, I have never attached much significance to the position *per se*, when a stomach has been found at or a little below the navel. My attitude, on this subject, seemed to be strengthened by the contents of a personal note from the late Dr. Munro:

> We find on opening abdomens in which there is no stomach trouble that the lower border of the stomach is more commonly below or at the navel than is given by you or other observers and I believe there is yet a great deal of work to be done to settle the question as to the normal position of the stomach in the abdomen in healthy individuals.

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[1] Ewald: Diseases of the Stomach, Am. Edition, 1896.

[2] Chase: Some Gastric Conditions as Found in Forty Healthy Persons, Philadelphia Med. Jour., June 14, 1902.

The work referred to by Dr. Munro seems now to have been quite satisfactorily accomplished by the radiologist. What we most desired to know, for clinical purposes, was the position of the normal stomach during the process of digestion, with the subject in an upright position. The radiologist has succeeded in furnishing us with this and other much desired information pertaining to the digestive tract. Thus MacLaren and Daugherty[3] say:

> Early in our observations we found that many stomachs were markedly prolapsed but their owners had perfect digestion—but when we found that most healthy women and many healthy men had stomachs hanging well into the pelvis we came to the conclusion that in the upright position (of the subject) the pylorus was usually a pelvic organ.

They, like most other observers, refer to the great mobility of the pylorus.

Hertz and Morton[4] found in seventeen healthy young men that in the vertical position the greater curvature was invariably below the umbilicus, the distances below varying between 1 cm. (3/8 inch) and 12 cm. (4 3/4 inches), with an average of 5.5 cm. (2 1/4 inches). Groedel, in thirty-six men and fifty-four women having no gastric disorders, found that the average distance of the lowest point of the greater curvature below the umbilicus was 2.5 cm. (1 inch) for men and 5 cm. (2 inches) for women.

Holzknecht and Pfahler, however, maintain that the pylorus is the lowest point, and that the greater curvature in a stomach which they consider normal does not reach the umbilicus, although such a stomach is rarely seen. Hertz states that he agrees with Rieder, Béclère and Groedel, that it would be most unreasonable to regard a form of stomach, which is so rarely met, as the only normal stomach.

With the subjects in the horizontal position, Hertz and Morton[4] found that the lowest point of the greater curvature was from 2 cm. (3/4 inch) to 10 cm. (4 inches) higher than when in the vertical position (showing the effect of posture on the position of the stomach) and they conclude that in most individuals when in the horizontal position (lying flat) it is slightly above the umbilicus.

My observation of ten years ago, that the lower border of the stomach averaged 3/8 inch above the navel (with the subjects in the horizontal position, head and shoulders elevated), agrees very closely with the *x*-ray findings, with the subjects in the same position. Therefore, it would seem that the correctness of my observations is confirmed, and furthermore that, in inflation and percussion, we have a method of determining the position and often the size of the stomach, as accurate, and, on account of the expense of radiography, more practicable for routine office and hospital practice, than the *x*-ray method.

Thus by two methods of examination it has been determined that normally the greater curvature is to be found in the average individual slightly above the navel, with the subject in the horizontal position, although the normal limits vary from 2 1/2 inches above to about 1 inch below the navel. By the *x*-ray method alone, the subject in the vertical position, the greater curvature normally is found considerably lower. So that by any reliable method of determination it would seem that gastroptosis cannot be considered to exist unless the greater curvature is found one inch or more below the umbilicus.

Therefore it is evident that many of our present-day views regarding gastroptosis are bound to undergo marked changes. Gastroptosis, instead of being found in about one-third of all women and in 5 per cent. of men, is actually of far less common occurrence, as the following observation tends to show. Of 400 women, 15 to 50 years of age, recently examined at the Boston Dispensary in relation to general ptosis, I found the lower border of the stomach half an inch or more below the navel in but fifty-two, or 13 per cent. Hence, if we disregard the slight influence of the age limit on occurrence in this observation, it is seen that in something like 20 per cent. of the cases reported as gastroptosis, the stomach has been less than half an inch below the navel, actually within its normal limits. Consequently the percentage of gastroptosis will be reduced from 33 1/3 per cent. in females to the vicinity of 10 per cent. Is it then to be wondered at that many of us have maintained that a large percentage of patients with gastroptosis have no digestive or other symptoms referable to the position of the stomach! It has been, indeed, a common observation. On the other hand, because a presumptive ptosis was the most or only apparent abnormal condition discovered, many physicians have attributed symptoms to this condition, and most unjustly, as was the case in nephroptosis, until the surgeon learned that even after his occasionally successful operation the symptoms were not overcome.

It seems to be the popular opinion that digestive symptoms are common in this condition, yet in 500 consecutive hospital patients with dyspepsia, W. S. Fenwick[5] found that the digestive disturbance was dependent on gastroptosis in 3 per cent., while in a similar series of private patients the percentage was 17. He concludes that in about 5 per cent. of the cases of indigestion the cause may be found in gastroptosis. In my fifty-two cases of gastroptosis digestive symptoms were present in 18 per cent. It must be borne in mind that the patient with a prolapsed stomach is as liable to reflex and nervous digestive disturbances as any other class, and probably more so, also that these reflex and nervous conditions constitute by far the larger percentage of all digestive disturbances. Moreover, in many patients with gastroptosis we find a cause for symptoms which is not attributable to the position of the stomach. In forty patients with gastroptosis (degree not stated) Brown[6] recently found some secretory disturbance in 50 per cent. Besides, we occasionally encounter chronic gastritis, hypersecretion and ulcer. In a large percentage of ptosis patients we find some cause for symptoms, other than stasis, of which we hear so much of late from the surgical branch of our profession. Given a low position of the stomach, the internist's first thought is of dilatation, the more serious of the two conditions suggested by the position, and he at once tests for stasis, suspecting either pyloric stenosis or atony.

It must be conceded that the *x*-ray method is the best for determining gastric motility, showing as it does not only the emptying-time of the stomach, but also the state of peristalsis. But for general work the usual tests have proved quite satisfactory, especially in cases of atony, in which, if stasis is sufficient to be of clinical significance, it is readily detected by them (although this statement may not apply to cases of slight obstruction at the pylorus).

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[3] MacLaren and Daugherty: Tr. Am. Surg. Assn., Philadelphia, iii.

[4] Hertz: Quart. Jour. Med., July, 1910, iii.

[5] Fenwick, W. S.: Dyspepsia, 1910.

[6] Brown: New York Med. Jour., Sept. 14, 1911.

Often even in marked degrees of gastroptosis the stomach empties itself prematurely (confirmed by the radiologist), notwithstanding the "duodenal hill" over which it is supposed to be obliged to force its contents; occasionally there is some delay (one hour or more) in the emptying-time—slight stasis—but certainly not in 30 to 40 per cent. of cases, as stated by Rovsing;[7] moreover, I believe I am right in saying that these slight degrees of stasis have never been generally thought a "cause of auto-intoxication and inanition," as Rovsing thinks.

Marked degrees of stasis, except in cases of pyloric obstruction, according to my experience, are not often encountered. I have dwelt at length on symptoms, because some general understanding of them is necessary in considering treatment and especially the indications for surgical treatment, a feature of this subject which at present is demanding attention. If gastroptosis, however, is a cause of digestive symptoms, then by the great reduction in the number of cases to be brought about by the exclusion of those normal ones which have formerly been reported as gastroptosis, the percentage of digestive symptoms will be relatively very much increased in gastroptosis patients and we shall have a distinctly more definite basis on which to judge the relationship of gastroptosis to digestive symptoms.

By the same reduction in the number of ptosis cases, ptosis is liable to lose much of its prominence as a factor in the causation of neurasthenia, accredited it by certain members of our profession, because gastroptosis will be found absent in a far larger percentage of neurasthenics than is the case at present.

Since the transverse colon has been found to occupy a position lower than was formerly considered normal (the lowest portion being situated well below the umbilicus[4]) we shall be less inclined to attribute symptoms to this low position and to the acute angles at the hepatic and splenic flexures which we now know are normal. Thereby much needless surgery may be avoided. But radiography, while teaching us the normal, can furnish much valuable information regarding pathologic conditions of the intestines; hence through its aid more rational treatment of these conditions may be anticipated.

It is evident that in the treatment there will be fewer attempts to elevate and support stomachs, since so many formerly considered to be prolapsed are now known to be within their normal limits. In fact, far less attention will be given to the position of the stomach, so long as it is known to be properly performing its work. Finally, many of the errors so common in the past, and entailing so many wrong assumptions relative to certain phases of gastroptosis will be avoided, when it is realized that gastrocoloptosis is by no means of such common occurrence as it has been considered.

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[7] Rovsing: The Journal A. M. A., Aug. 3, 1912, p. 334.

The New Vital Statistics.—A dry-as-dust historian of the wars of ancient Greece could lend more aid to a modern football team than the old-time statistician furnished to public health endeavors. Even now the new vital statistician is scarcely yet full-born. Hardly a health department now in existence collects in full or uses to full advantage one-tenth the information that it really needs. . . . The new vital statistician has only begun to move. When he does move, fully equipped, alert, he will systematize, organize and use the rich data so far largely wasted, this very life-blood of public health endeavor, accurate, complete information concerning the way humanity reacts to human ills.—H. W. Hill in the *Journal-Lancet*.

CONSERVATISM IN SURGERY *

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Vis medicatrix naturae! The great underlying factor in all of the many advances in medicine and surgery that the world has witnessed during the past fifty years is the healing power of Nature. Without this wonderful power, many of the results of our attempts to relieve humanity of the numerous lesions to which the flesh is heir would be appalling; even with this aid many of them are distressing.

If we could fathom the wonders of Nature as exemplified in her power to construct, maintain and reconstruct, to eliminate harmful products, to cure disease, our task of aiding the sick and afflicted would be greatly simplified. Nature, alone, until the most recent times, has effected a cure in most diseases; the physician and surgeon have but aided in conserving the strength of the individual until Nature's work has been accomplished. To-day, by taking advantage of the slight knowledge he has of the methods employed by Nature in effecting cures, the doctor of medicine is able to master certain diseases in a fair percentage of instances. This miraculous curative power of Nature is coming more and more within the knowledge and control of man, through the studies, the investigations, the painstaking and never-ending experiments of the scientific medical seeker for knowledge of the truth. Probably he will contract the field of the brilliant operator of to-day by discovering the cause, the prevention, or the cure of malignancy in its many phases, of the numerous affections of the glands of internal secretion, of neoplasms in general, of the various infections, etc., until finally the physician and surgeon will be treating only mechanical defects, old age and accidents. Visionary? Unquestionably. And yet who can say, judging from the rapid strides in medicine and surgery during the last fifty years, that such a surmise may not be prophetic?

The work of the operator, however brilliant the operation, has been to aid Nature — to relieve some mechanical defect in the human economy, to remove an offending part or organ, to remove a neoplasm, with the hope that Nature would do the rest and return the patient to health and strength. The operator has but a limited number of cures. He does not cure the inflammatory condition of the appendix; he removes the appendix and the inflammation. He does not cure a carcinoma of the breast; he removes the carcinoma and the breast. He does not cure a fibroid of the uterus; he removes the fibroid and usually the uterus. He does not cure a pyosalpinx; he removes the collection of pus and the tube. Suffering humanity, however, has been benefited almost beyond conception by the marvelous deeds of removal, of elimination of disease and diseased organs by the operating surgeon, and these deeds will be continued and extended into new fields until a better way shall have been discovered for relieving mankind of its many ills.

Is it not possible, however, as suggested by the late Dr. Maurice Richardson, that "through the enthusiasm of a long series of successes, we are whirled from a sound foothold and carried beyond the limits of safety and conservatism?" Do we not place "too great reliance on surgical methods when other and less dangerous methods are practicable?" Do we not often lose sight of the wonderful cures that Nature would effect if she were given the opportunity? But, on the other hand, do we not frequently deny to Nature that assistance which should be accorded as soon as possible?

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* Read before the Harrisburg Academy of Medicine, Sept. 27, 1912.

Conservatism in surgery has been defined as "aiming at the preservation of injured parts as far as possible, together with the interests of the patient, rather than at brilliancy in procedure;" as "the preservation or the restoration of disabled parts, rather than their removal;" as "the adherence to the established order of procedure rather than the acceptance of new methods."

I wish to present a different definition of conservatism in surgery, a different idea in regard to the subject in which I have been intensely interested since entering the field of medicine. The word "conservatism" comes from the Latin and means "to keep, to hold, to preserve." My conception of conservatism in surgery is "an adherence to that method of procedure which will best tend to keep, to hold, to preserve the life and the health of the individual."

But, you will ask, is not the underlying thought, the ideal, of every conscientious medical man, be he called radical or conservative, to follow the method which will best tend to keep, to hold, to preserve the life and the health of his patient? I believe so. And I believe, also, that any lapse from this ideal on the part of the surgeon is due to the following factors: .

I. Inability to estimate accurately the resistive and recuperative powers of an individual.

II. Lack of careful, conscientious study of each individual case.

III. Failure to recognize and acknowledge the wonderful curative power of Nature, or, adversely, by denying to Nature that assistance which should be accorded as soon as possible.

IV. Failure to weigh the contra-indications to an operation, which are often to be more critically considered than the indications.

V. Failure to recognize the seriousness of every operation, no matter how trivial it may be.

VI. A desire to do more in the operative procedure than is necessary.

VII. A desire to enter new fields of medicine and to devise or perform operations in conditions or diseases before it has been shown that such a procedure may not be contra-indicated rather than indicated.

VIII. Failure to consider the interests of the patient first instead of the desire to perform a brilliant operation, or possibly the desire to please an attending physician, or, in rare instances, the desire to make a large fee.

I. INABILITY TO ESTIMATE THE INDIVIDUAL'S RECUPERATIVE POWERS

We are unable to weigh or estimate accurately the resistive and recuperative powers of an individual. We should, however, when not impracticable on account of the urgency of an emergency operation, carefully study, as far as possible, the ability of a patient to withstand the indicated operative procedure. As Bloodgood says:

> Every surgical operation is a depressant in relation to the so-called vital resistance of the individual, or his factors of safety. It is a weight to be borne or carried. All the factors of the intervention summed up must be less in their burdening capacity than all the factors of safety or vital resistance in their carrying capacity, or the patient dies.

Study of the blood, of the urine, of the kidney function, of the blood-pressure, of the general tone of the individual, of the effects of his disease or surgical condition, will reveal to a certain degree his carrying capacity. Ultimately, through advanced knowledge, it may be possible to estimate accurately this carrying capacity. At present, reliance must be placed on our limited knowledge and experience to gage it. If it appear to be less than the burdening capacity of the contemplated procedure, conservatism would postpone or prohibit operation.

The lack of vital resistance in a patient when first seen by the surgeon is often the result of the ravages of disease or of a surgical condition, either of which might have been eradicated at a previous period without a too great tax on the carrying capacity of the individual. This would not occur so often if all physicians would recognize, as most of them do, that certain conditions and diseases can be relieved or eradicated only through the assistance of the operator. To illustrate: I was called to see a man, 69 years of age, in whose case a diagnosis of strangulated inguinal hernia had been made five days previously. On the third day after the diagnosis had been made, an internist was called in consultation and he advised that further efforts be made to move the bowels by means of cathartics and enemas before operation be considered. Had a surgeon seen this case soon after the diagnosis had been made, it is probable that the life of the patient would have been spared. That, of course, was an extreme case, but I know of two other cases of strangulated hernia, occurring within the last month, which were sent to a hospital for operation on the third day after the diagnosis had been made. These cases also well illustrate the thought that we deny to Nature that assistance which should be accorded as soon as possible, the granting of which would be true conservatism in that it would best tend to keep, to hold, to preserve the life and the health of the patient.

Waiting, procrastinating, in conditions such as are seen in a strangulated hernia, in mechanical obstruction of the intestine and in complete obstruction of the urethra, can be nothing but meddlesome interference with the demands of Nature to be afforded an opportunity to continue the life and the health of an individual.

II. LACK OF CAREFUL STUDY OF THE CASE

The lapse from the ideal through lack of careful, conscientious study of each individual case is more often seen than it should be. This study is unnecessary and might be a detriment to the patient in many conditions, such as a strangulated hernia, an internal hemorrhage, a ruptured viscus, and mechanical obstruction of the intestine, in which immediate intervention might afford the only relief and would take advantage of the carrying capacity of the patient before the burden became too great to be carried. But in operations of election, as to time, a careful study of the patient should be made for the purpose of arriving at a diagnosis that may be as correct as possible, for the purpose of gaging as well as we can the resistive and recuperative powers of the individual, and for the purpose of searching out the contra-indications to surgical interference.

Vast experience, especially when attended by success, will possibly warrant a few surgeons in relying on an intuitive surmise of the entire condition presented; but intuition should not be the resource of the majority of surgeons. Faults in diagnosis are not infrequently made by those who make the most careful study, but many more mistaken diagnoses are made through superficial, hurried examinations than through lack of knowledge. Success in the past, numerous and hurried calls on our time, a long list of consultations may be our excuse for not carefully examining and studying each case presented; but it would be well to remember that "no success is so great that it may not be greater; no achievement so brilliant that its brilliancy may not be marred; and no error so palpable and conspicuous that it may not be committed" (Richardson).

III. FAILURE TO RECOGNIZE THE CURATIVE POWER OF NATURE

The failure to recognize and to acknowledge the wonderful curative power of Nature is frequently seen in the untimely, the unnecessary or the uncalled-for operation. And, adversely, reliance on this power frequently denies to Nature that assistance which should be accorded as soon as possible. The consensus of opinion of the medical world in well-recognized conditions, modified, at times, by the personal experience and observation of the individual surgeon, should be the guide directing him to operative procedure or to a reliance on the healing powers of Nature. It is impossible to tell how potent or how inert Nature will be in any given instance. Experience has taught us, however, that in a large majority of the cases of one class Nature does not exert a curative influence; in a large percentage, possibly a majority, of the cases of another class, Nature does exert a healing influence.

To illustrate the first class of cases: Malignancy, in its many phases and forms, is seldom eradicated, or even held in abeyance by the unaided powers of Nature. The only hope for the individual lies in the early destruction of the malignant cells by means of the Roentgen ray, by fulguration, in rare instances by Coley's fluid, or in their removal by operative measures. Nature demands assistance in all cases of malignancy, and this assistance must be given early in the disease if we are to follow the method which will best tend to keep, to hold, to preserve the life and the health of our patient. Of what avail is the scalpel of the most skilful operator in advanced malignancy, in the presence of metastases, in a patient overburdened by the ravages of the disease? The disease is beyond the skill of the greatest operator, and all he can hope to accomplish is palliation, and frequently even palliation is denied the patient. Early recognition of the condition and immediate eradication of the malignant cells is, in my opinion, true conservatism. Delay means greater suffering, a greater amount of invalidism and a greater number of deaths.

Can we criticize any one for this delay in instituting proper treatment? I think so. The Pennsylvania Commission on Cancer, in its report, says:

> In superficial cancers the condition has been apparent to the patients on an average of one year and six months before they came to the surgeon. . . . One year and one month have elapsed between the time the patient consulted the family physician and the time that he came to operation. In the deep cancers, this time is one year. . . . In 3 per cent. of the cases of cancer of the breast, the physician first appealed to did not make any local examination. Reports directly state that in 13 per cent. of breast cases the physician first appealed to gave maladvice (by maladvice we mean that the physicians prescribed salves, ointments or other placebos or advised to "wait to see what develops," etc.). In stomach cases, the first physician made no local examination in 9 per cent. and gave maladvice in 20 per cent. In cancer of the neck of the uterus, the first physician made no local examination in 10 per cent. and gave maladvice in 20 per cent. In cancer of the body of the uterus, there was no local examination in 10 per cent. and maladvice in 10 per cent. In cancer of the ovary, there was no local examination in 14 per cent. and maladvice in 14 per cent.

Is it wrong to suggest that these physicians lapsed from the ideal through a failure to study carefully and conscientiously each case and to give to Nature that assistance which should be accorded as soon as possible?

Another class of cases may be illustrated by the acute inflammation of the appendix. Here Nature will tend to effect a cure and will cause the subsidence of the acute inflammation in a large percentage of the cases. In the remaining cases, if Nature be not aided by the surgeon, the inflammation will extend until it bursts its confines and causes extensive and often fatal inflammation of the peritoneum. Granting that Nature will cause a subsidence of the inflammation in the majority of cases, are we justified in giving Nature an opportunity to do so before we offer operative aid? I believe not, because we are unable to decide how powerful Nature will be in any instance; we are unable to decide which case, aided by non-operative treatment, will go on to recovery, or which case will continue until we have the simple appendicitis complicated by purulent peritonitis, purulent involvement of the lymphatic system, an acute suppurative cholangeitis, a cholecystitis, etc. Therefore, I believe that true conservatism in acute appendicitis, the method that will best tend to keep, to hold, to preserve the life and the health of the patient, demands the removal of the appendix while the inflammation is still confined to that organ. If this could be done, there would be none of those complications mentioned above, there would be none of those conditions demanding drainage, with the long, tedious convalescence, the subsequent adhesions, intestinal obstruction, incisional hernias, and many other sequelae; there would be fewer deaths.

After the inflammation has extended beyond the confines of the appendix, we have a far different condition with which to deal. In these cases, in the presence of a spreading peritonitis, I believe, judging from the reports of Deaver, of Murphy, of Ochsner, and from my own experience, that Nature, aided by the Ochsner-Murphy-Fowler treatment, will save more lives than Nature, in the presence of operative interference, can possibly save.

In another class of cases, such as accidents, crushes and mutilations, great judgment is required to determine whether we should rely on the curative power of Nature or remove an offending part. Medical literature records hundreds of cases in which Nature has worked her miracles and afforded patients useful, functional limbs, although in many instances the surgeon had urged their removal. It is not true conservatism to save a limb at the cost of a life, but thorough study, guided by the thought that Nature will often perform wonders, must be made of the extent of the injury, of the condition of the blood-supply, of the probable outcome both as to life and as to the usefulness of the member, before removal is advised. This healing power of Nature must be recognized in all accidents such as fractures, not necessarily requiring amputation, before any operative procedures are instituted.

IV. FAILURE TO WEIGH THE CONTRA-INDICATIONS

A failure to weigh the contra-indications to operative procedure is justifiable only, if ever, in those cases in which the lesion would be necessarily fatal if not relieved, as in the mechanical obstructions. Here a moribund condition is practically the only contra-indication of moment. The conditions which would have but little bearing in such cases might and very often should contra-indicate operation in those conditions in which the procedure is not a life-saving measure or, in many instances, one which does not tend to increase the health or the comfort of the patient. In hernia, for instance, I believe that operation should be postponed or forbidden when a truss is efficient if the patient shows a trace of albumin, has a cold in the head, is suffering from bronchitis or is very obese. The various anemias, diseases of the lung, the heart or the kidney, renal inefficiency, diabetes, hemophilia may each prohibit operation. In all instances the effect of such conditions on the carrying power of the patient and the probable influence of the anesthetic and the operation on them must be considered and weighed critically before an operation is advised or even allowed in their presence.

V. FAILURE TO RECOGNIZE THE SERIOUSNESS OF EVERY OPERATION

A failure to recognize the seriousness of every operation, no matter how trivial it may be, is due, possibly, to the familiarity with operative procedures which comes with long experience and great success. Familiarity, however, should never breed contempt for human life, nor should the surgeon ever lose sight of the fact that it is a human life with which he is dealing. I believe that every operative procedure is a serious one and that every surgeon should realize this if he is to follow the method that will best tend to keep, to hold, to preserve the life and the health of an individual. When I hear of great surgeons making light of an operation to a patient I wonder whether it is not done for the purpose of giving to the patient great mental aid to increase his carrying capacity; when I hear of great surgeons making light of an operation not only to the patient but also to those near and dear to that patient, I cannot help asking, with Richardson, whether "we realize what the responsibilities of our positions as attending physicians and surgeons are? In what other walk of life is it possible, in civilized countries, for a man to be advocate, judge, jury and executioner in matters of life and death, often on his unaided responsibility?"

VI. DESIRE TO DO MORE THAN IS NECESSARY

A desire to do more than is necessary in an operative procedure is often the desire to do what may be termed a completed operation. This would undoubtedly be most commendable in every instance if we could tell positively that the carrying capacity of the patient would be able to care for the added burden of an extended and possibly unnecessary procedure; or if we could say that Nature would not complete the eradication of the condition with less danger to the life and health of the patient. I recall being censured by a physician for not completing an operation I was attempting to perform on one of his patients. It was a case of double pyosalpinx in a pelvis filled with adhesions matting the various structures together into an almost homogeneous mass. I succeeded in separating the tubes with their contained pus and removed them. A study of the remaining mass of uterus, sigmoid, intestine and ovaries matted together by dense adhesions convinced me that I would do more harm than good by attempting to return them to their normal condition. Therefore I did nothing further. The physician was not at all pleased with what he considered incomplete surgery and frankly told me so. The patient made a good operative recovery. In thinking over the case I wondered whether I had erred in not attempting to do more than I had done. I concluded that I had done the best for the patient and was sustained in my judgment, later, I thought, when I read G. Brown Miller's statement that "in difficult cases it is not an acknowledgment of want of skill, but the sign of good surgical judgment not to attempt the impossible or to assume risks which are too great." Every surgeon naturally wishes to have the attending physician think that he is a thorough operator, one without fear of any difficulties or conditions that may be encountered, but if one tries to give this impression by doing unnecessary surgery, by doing harmful surgery, by doing more surgery than is indicated in any individual case, one is not, I believe, doing that which would best tend to keep, to hold, to preserve the life and health of the patient.

VII. DESIRE TO ENTER NEW FIELDS

The desire to enter new fields of medicine and to devise or perform new operations is the result of a most natural wish to be of greater assistance in relieving mankind of its many ailments. A desire to broaden the field of surgery for the benefit of humanity is most commendable; the results of the pioneer work in such fields have been truly wonderful.

We all would like to be leaders in our chosen walk of life, to be recognized as authorities in the branch of medicine to which we devote our time and attention. Few of us, however, are fitted by training, by temperament or by opportunity for such a position in surgery. A thorough training in anatomy, physiology and pathology; a temperament that will afford patience, painstaking investigation, absolute thoroughness and complete analysis of cause and effect; an opportunity to study conscientiously, to experiment on the lower animals; the ability to draw logical conclusions from studies and investigations — all these are essential to the leader into new fields of surgery, and this is especially so when it is realized that the life, the comfort and the health of a human being are at stake. We all are too prone to enter eagerly into the discussion of a new operation or a new form of treatment, to state our opinions pro and con, to condemn or uphold, to jump to conclusions, without the necessary thought and study we should devote to the subject if we truly wish to aid humanity. We are too apt to follow blindly our desire to become great, to become noted and in this desire to follow the suggestions of great surgeons without realizing that very few of us have the training, the dexterity, the differential diagnostic skill of these men; or without logically concluding for ourselves, as far as we may, that a suggested form of treatment will be suited to the case we have under consideration. We must follow the great leaders before we become leaders ourselves, but we will lapse from the ideal, we will not do that which would best tend to keep, to hold, to preserve the life and the health of our patient if we do not conscientiously study their teachings and our ability to carry out their instructions in detail before adopting them as a part of our armamentarium.

VIII. FAILURE TO PUT THE INTERESTS OF THE PATIENT FIRST

The lapse from the ideal in the desire to please the attending physician must not be condoned even if it be admitted that it is a most natural tendency. The interest of the patient should be the first, foremost and most pressing consideration and should be placed before those of the physician or self. Until he has reached such fame that patients themselves demand his services, the surgeon is, to a great extent, dependent on the physician for cases. These will not be forthcoming unless the surgeon pleases the physician. It is an undeniable fact that many physicians look on the surgeon as a tool, an automaton, "a senseless piece of machinery" (Richardson), who is expected to carry out the wishes and often the demands of the medical man without a thorough study of the case and an expression of opinion by himself. The only instance I can recall in which the surgeon could and should play the part of the tool of the physician is in cases of perforated typhoid fever in which, in my opinion, the diagnosis and operability of the patient rest solely with the physician who has had charge of the patient and is thoroughly conversant with all phases of the case.

In the general run of cases the physician, usually, from careful study will have a complete knowledge of the case from the standpoint of the internist; but this does not signify that he should be entitled to speak, in all instances, from the standpoint of the operating surgeon; or to lay before the patient a complete operative method of treatment without consulting with the surgeon who is to take on himself, or should take on himself, the decision whether or not the suggested operation is indicated. At times, the surgeon is expected to accept the diagnosis of the physician and to follow the wishes of the physician rather than to consider the true interest of the patient. A surgeon cannot conscientiously do his best to keep, to hold, to preserve the life and the health of an individual unless he studies the case as carefully as time will allow, arrives at a diagnosis as nearly correct as possible, and then considers the pros and cons, the indications and the contra-indications to operative procedure before he advises or even consents to operation.

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PUBLIC HEALTH EDUCATION*

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It is the purpose of this paper to indicate briefly some of the requirements of an efficient public health officer, and to point out the work that is being done for the instruction of the public, and the opportunities for the professional training of a public health administrator and the places where they may be found. To educate the average citizen or the special officer in the business of public health is not so easy as it sounds, for it includes the difficult task of educating the educated as well as the ignorant; it demands great unselfishness of the practicing physician; it imposes radical readjustment on our educational system, and it robs the average citizen of many dear beliefs, while urging on him new and unaccustomed actions.

Among physicians it is no longer disputed that work in public health cannot be relegated to a political sideline. The day has passed when a printed notice tacked on the gate-post to indicate the presence of an infectious disease, and to send passers-by to the other side of the street, fulfils the whole duty of a health official to the community at large; or when a disinfecting candle producing ill-smelling smoke fulfils his duty to the stricken family. One of the most pathetic evidences of human credulity is the fact that from time immemorial men have trusted to the burning of joss-sticks to frighten away the evil spirits of disease, believing that a foul smoke and disease could not occupy the same room at the same time. As a California physician puts it, "Modern disinfection is the burning of incense to an unknown god." Even a layman can realize the futility of unthinking, perfunctory performance of such an office as this. The most untrained mind can see that the method of disinfection in any given case depends on the method of infection. It is the carrier of the infection as such that must be recognized and done away with. The most serious menace to public health, the most dangerous "carriers," are those human beings who carry about undetected the germs of disease and spread it among an unwitting public. Secondary in importance are insects and rodents, whether they are mechanical carriers, as fleas, rats and squirrels in bubonic plague and flies in typhoid fever and tuberculosis, or biologic carriers, as mosquitoes in malaria and yellow fever. So it comes about that a physician knowing something of curative medicine and possessing power for appointment in political circles has not the requirements for a public health officer, who must first understand as far as possible the sources of disease, that he may meet each on its own ground and fight it with suitable weapons, and who must counteract causes rather than results.

The fact that preventive medicine is not a finished science, that there are unnumbered problems yet to be solved in the field or laboratory, presupposes open-mindedness in the man who turns his energies in that direction. No problem he will meet is small or unimportant, since it is related to human life. He must be alive to conditions, awake to discoveries, and conversant with the success or failure of methods in other localities; he can little afford to lag behind the science of which he is an exponent, but should be ambitious to hasten its advancement; this he can accomplish if he will dignify his least undertaking as a definite problem in research. Chapin in his "Sources and Modes of Infection" urges the necessity of the statistical method among public health administrators, and prophesies the good that will come of accurate knowledge thus accumulated.

The so-called sanitary survey presents a method of procedure that no health official can do without; it has proved its efficiency in some remarkable discoveries, notable among these in our own vicinity being Dr. Wilbur A. Sawyer's solution of the typhoid mystery on board the steamship *Acme*, from which for three and a half years had come most of the typhoid cases reported to the U. S. Marine Hospital in San Francisco. Lack of scientific acumen had prevented several medical organizations from discovering the source of the whole trouble in a single "carrier," who in four years since his being a victim of typhoid fever had infected twenty-seven fellow workmen, four of whom had died.

Another requirement of the health official is a knowledge of laboratory diagnosis. Through the laboratory he undertakes the intensive solution of problems, and through the sanitary survey the extensive solution. Here, as in other phases of his work, he needs eternal vigilance, for every day marks some advancement, some increase in bacteriologic knowledge, which he must take as grist for his own particular mill.

Preventive medicine, then, is a broad, steadily progressing science. A worker in this field cannot be lazy, he cannot be unscientific, he cannot even serve successfully two scientific masters. Unwilling as some physicians are to grant the fact, it is none the less true that a division has to be made between preventive and curative medicine, and the man who does eminent service in one department has small time for service in the other.

The division has evidently come to stay, because it is recognized and provided for in some of the best institutions of learning in our country: in Harvard, in the universities of Pennsylvania, Wisconsin and Michigan, complete separate courses are given to students who attain the degree of M.D. (doctor of medicine) and the degree of D.P.H. (doctor or diploma of public health). When the division was first made, the degree of M.D. was a prerequisite for the degree of D.P.H., but this proved impracticable, resulting in too long a course and in one containing preparation unessential to the practice of preventive medicine. The name of the new degree has caused dispute in the various colleges, but the name is less important than the thing itself; the name is less important than the fact that in some colleges physicians are being adequately trained to safeguard the public health. If I were in a position of authority I might suggest M.D.P. as the degree for preventive medicine, and M.D.C. for the degree of curative medicine, these having the advantage of being similar, but distinctive and unambiguous. I believe in a degree for doctors of public health, since the requirements for this work are as distinctive as the requirements in other scientific professions, and a degree is after all only a brief summary of a man's preparation to undertake certain kinds of work.

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* Read before the Third Annual Conference of California State, County and Municipal Health Officers, Sept. 24, 1912.

The University of California has no degree as yet in public health. The academic senate has had the question under consideration for some time. It is proposed that the degree be granted to students who hold the degree of Bachelor of Science or its equivalent from a recognized college or university, who in addition complete two years of satisfactory special study. Persons holding professional degrees in medicine or sanitary engineering may under favorable conditions reduce the time to one year. In all cases a thesis on a special subject would be required.

Although the University of California has not yet a defined course leading to the degree of public health, it has long supplied courses adequate for the need of general students. It has not been slow to recognize that, in the modern crusade for public health, advance depends not only on professional leaders but also on intelligent laymen in a given community or in the country at large.

All first-year students are required to take the course in general hygiene. This means, for example, that in the present year over 1,200 students are being taught the principles of personal and sex hygiene, the sources of infection, and the meaning and methods of immunity. As far as is possible specialists address them on those and kindred subjects. They are made acquainted with outworn but prevalent medical fallacies, and are taught to display reason rather than blind credulity in judging the claims of patent medicines and of irregular fads, frauds and cults that mask under many names. The trained intelligence of the individual must be the highest court of appeal in this as in all departments of knowledge. In the thirty lectures, to be sure, only a brief outline of so large a range of subjects is possible, but it serves a twofold educational purpose: as an individual the student has a foundation of knowledge on which he may order his life so that it will be normally healthful; as a citizen he has some indication as to how he may further conditions on which the health of the public depends.

Beside the general required course, the university offers advanced work to students who wish to make a special study of hygiene, and each year the increasing size of the classes indicates the increasing interest in the student body. The course in epidemiology covers the chief communicable diseases, with the problems of contact and carrier control in connection with each. The course in child hygiene is arranged for teachers in the public schools, providing them with training requisite for rendering intelligent assistance in the health supervision of children. The courses in sanitary survey and public health organization are self-explanatory, and give to the student a thorough knowledge of the most modern and efficient methods in these subjects. The course in applied hygiene gives laboratory instruction in the most modern methods of detecting communicable diseases, of examining air, water, milk, etc., and of testing disinfectants. Courses are provided for research hygiene in which special problems may be worked out in the field or in the laboratory; for example, last year a student investigated the causes of contamination of the oyster beds in San Francisco Bay; this year a student is investigating diphtheria carriers in a state institution. Closely related to these courses in hygiene are allied courses in other departments: in the agricultural department disease-carrying insects are studied; in the zoology department the protozoa dangerous to animal or human life; in the civil engineering department instruction is given in water and sewage engineering, in sanitary engineering, and in all the phases of engineering related to public health.

Not only in schools of collegiate standing, but in secondary, and even in elementary schools, hygiene is being made a part of the curriculum. The sudden demand for trained teachers in this subject is being felt and met, as I have already indicated, in university courses arranged for the teacher of hygiene. Private schools, women's clubs, philanthropic organizations and extension lecture courses are all recognizing the demand for knowledge along the line of hygiene, and are doing no small part in educating the public by furnishing speakers and illustrated lectures on this and kindred subjects. The journalistic press, keen to recognize a subject of interest, daily publishes popular articles on various aspects of health.

The special car which the State Board of Health fitted up with an exhibit and sent far and wide in this state marked an epoch in the awakening of some parts of California to the importance of hygiene, and to the relations of public health to the individual and the community whether it be a remote district, a small town or a large city. Dwellers in the country have too long held the complacent belief that their isolated position makes them immune to the ills that befall the inhabitants of towns, even when mortality in rural districts has made unexplained inroads on their immunity. It is they who profit most from the informal and eminently practical education which a traveling exhibit and its speakers furnish.

2434 Durant Avenue.

Results of Industrial Strain on the Working Woman.—In summarizing the direct effects of industrial strain on the working woman, it is my opinion, after consulting statistics compiled by many investigators, boards, institutions, companies, colleges, etc., and after conferring with a number of the thoughtful people who have opportunities to observe women who work under varied conditions, that with properly regulated hours of work and recreation, outside of the excessive physical labor to which I have referred in this paper, women may work in practically any field of modern industry, and not only retain but increase their standard of health, if they are given hygienic and properly arranged buildings in which to work, and if they and their employers are taught the common sense of the laws of health.—Morton in *Am. Jour. Obst.*

SALVARSAN IN GENERAL PARESIS

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Early last year I presented an article[1] in The Journal, giving the general negative results obtained in the treatment of general paresis with salvarsan by the subcutaneous method of administration. The results were so unsatisfactory, in many cases the salvarsan failing to be absorbed, and the method of administration being so painful, that we discontinued its use and have since used the intravenous method.

The following cases were selected with the idea of treating patients in good physical health and showing the fewest possible symptoms, mental and physical, of the ravages of this disease. As is known, patients received in a state institution have run the gauntlet of physicians and quacks and are finally taken there, as to a court of last appeal, the result being that they are generally far enough advanced in the disease to prevent many mistakes being made in diagnosis.

Case 1.—*History.*—W. B., farmer, aged 43, married, admitted to hospital Feb. 4, 1911. One cousin insane. Previous health good up to two years before admission when symptoms of mental trouble appeared. Cause of trouble given as sunstroke. Patient noisy and incoherent on admittance.

Physical Examination.—No physical defects present. Well nourished. Alimentary, respiratory and circulatory systems normal. Gait unsteady; slight ataxia and aphasia present. Voice paretic. Incoherent and delusional. Patellar and plantar reflexes absent. No ankle-clonus. Pupillary reflex reduced. Argyll Robertson pupil absent. Urine negative.

Treatment and Results.—On Feb. 6, 1911, the Wassermann reaction was found to be positive. Following admission patient became quieter and remained in good health, at times, however, becoming slightly disturbed, his mental condition changing but little. On March 4, 1912, patient was given 0.6 gm. salvarsan intravenously. Positive reaction followed and was slightly disturbed for a few days. March 20 the Wassermann was found to be still positive and on March 26 a second dose of 0.6 gm. of salvarsan was given. Positive reaction followed with some mental disturbances for a few days. Patient soon became quiet and remained about the same. A Wassermann made again on June 7 was found to be positive. A repetition of the Wassermann on Nov. 7, 1912, gave a positive finding. At present he is quiet and orderly, eating and sleeping well, in good health and his mental condition remains stationary. In this case we get practically no change, except slight disturbances following the administration of salvarsan, the patient's condition at present being about the same as just previous to its use.

Case 2.—*History.*—H. B., married, laborer, aged 25, admitted to hospital Sept. 18, 1911. Family history negative. Previous health good up to two years previous to admission when symptoms of mental trouble developed. Cause of trouble given as syphilis. Patient cigaret-smoker since 7 years of age, greatly depressed on admittance.

Physical Examination.—No physical defects present. Well nourished. Alimentary and respiratory systems normal. Heart normal. Pulse 74, irregular and weak. Arteries slightly hardened. Gait unsteady. No ataxia present. Aphasia and incoherence present. Delusional. Patellar reflex greatly increased. Plantar normal. No ankle-clonus. Pupillary reflex reduced. No Argyll Robertson pupil. Urine negative.

Treatment and Results.—Oct. 4, 1911, the Wassermann reaction was taken and found to be positive. Patient improved somewhat mentally and physically following admission, and on Jan. 19, 1912, was given 0.6 gm. salvarsan intravenously. Wassermann reaction made Feb. 9, 1912, on blood and spinal fluid; both found to be positive. Salvarsan was given again March 7. March 20 the Wassermann reaction was still positive. Patient began failing mentally following the second dose of salvarsan. Ataxia appeared and aphasia increased and he became very irritable. His general health, however, remained good. On August 22 convulsions appeared and he died on Aug. 25, 1912, from exhaustion. In this case the patient improved somewhat up to the second administration of salvarsan, when decline set in and he failed rapidly, dying in five months. The use of salvarsan in this case no doubt merely hastened the end.

Case 3.—*History.*—J. B. F., farmer, aged 50, married, admitted to hospital Oct. 25, 1911. One cousin insane. Previous health good up to a short time before admittance when symptoms of mental trouble appeared. Cause of trouble unknown. Patient greatly disturbed and very delusional on entering hospital.

Physical Examination.—No physical defects except a small goiter present. Patient fairly well nourished. Alimentary and respiratory systems normal. Heart and valves normal. Arteries slightly hardened. Pulse 120, regular, weak. Gait steady. No ataxia. Aphasia and incoherence present. Patellar and plantar reflexes increased. No ankle-clonus. Pupils unequal. Pupillary reflex reduced. Argyll Robertson pupil absent. Urine negative.

Treatment and Results.—On Nov. 2, 1912, the Wassermann reaction was made and found to be positive. The patient's condition did not improve and on Dec. 4, 1911, he was given 0.6 gm. salvarsan. Following this he became quieter, eating and sleeping much better, but did not improve at all mentally. On Jan. 4, 1912, the Wassermann reaction was made and found to be slightly positive. Salvarsan was given again on January 16. February 9, Wassermann reaction was repeated and found to be negative. No mental improvement followed, but patient slowly improved physically until August, when he began to fail somewhat physically, ataxia appearing and mental symptoms increasing. November 7, Wassermann reaction was found to be positive. November 19, 0.6 gm. of salvarsan was again given. At present he is still declining slowly mentally and physically. In this case physical improvement set in following the use of salvarsan, but its good effects seem to have been only temporary and the general progressive symptoms reappeared after a few short months, the disease continuing on its slow course of destruction.

Case 4.—*History.*—W. D. R., a tinner, aged 45, widower. Admitted to hospital Nov. 2, 1911. Family history negative. Previous health good up to one year before admittance when symptoms of mental trouble appeared. Cause of trouble given as alcoholism. Patient greatly disturbed and very delusional on admittance.

Physical Examination.—No physical defects present. Patient in fairly good physical health. Alimentary and respiratory systems normal. Heart and valves normal. Arteries somewhat hardened. Pulse 90, regular but weak. Gait steady, no ataxia. Aphasia and incoherence present. Patellar reflex increased. Plantar reflex absent. No ankle-clonus. Pupils equal but contracted. Argyll Robertson pupil present. Urine negative.

Treatment and Results.—Wassermann reaction made Nov. 25, 1911, was found to be positive. Patient improved somewhat physically following admittance, but remained noisy and unchanged mentally. Jan. 20, 1912, he was given 0.6 gm. of salvarsan intravenously. He became quieter in a few days but showed no mental improvement. Wassermann reaction, made February 20, was still positive and salvarsan was given again, March 11. Slight mental improvement followed this and he ate and slept better. June 7 the Wassermann was still positive. He remained in good health and was quiet and well behaved until the latter part of September when he became disturbed, becoming very combative and unruly. November 7 Wassermann reaction found to be still positive. At present he is slowly declining mentally and physically. In this case we seem to have a slight temporary improvement both mentally and physically followed by the return of the usual symptoms of the disease.

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[1] Trowbridge, E. H.: Subcutaneous Injections of Salvarsan in General Paresis, The Journal A. M. A., March 2, 1912, p. 609.

Case 5.—*History.*—M. H., a painter, single, aged 29, admitted to hospital Nov. 8, 1911. Family history negative. Previous health good up to one year before admittance when symptoms of mental trouble appeared and he became suddenly violent. Cause of trouble given as syphilis. Patient greatly disturbed and troubled with many delusions and auditory hallucinations on entering hospital.

Physical Examination.—No physical defects present. Fairly well nourished. Alimentary and respiratory systems normal. Heart and valves normal. Arteries slightly hardened. Pulse 96, regular, weak. Gait steady. Slight ataxia present. Aphasia and incoherence present. Patellar reflex increased. Plantar reflex increased. No ankle-clonus. Pupils contracted. Argyll Robertson pupil present. Urine negative.

Treatment and Results.—Wassermann reaction was made Nov. 25, 1911, and found doubtful. Wassermann reaction was made on blood and spinal fluid, December 12, and both found positive. Patient improved somewhat mentally and physically following admission and ate and slept better. Feb. 26, 1912, he was given 0.6 gm. salvarsan intravenously, and March 20 the Wassermann was found to be still positive. Salvarsan was repeated March 26, 1912. Patient slowly improved following the second dose of salvarsan, and the Wassermann made April 11 was found to be slightly positive. He was discharged April 27 by request and passed from observation. At time of discharge patient was in good physical health, quiet, and had but few delusions, but his mind was enfeebled. In this case there was marked improvement following the use of salvarsan, but from previous experience. I anticipate a return of the symptoms and decline of patient with a readmission to hospital in near future.

Case 6.—*History.*—E. W. J., aged 26, an undertaker, married, admitted to hospital Nov. 11, 1911. Family history negative. Previous health good up to about a year and a half before admission, when he became unbalanced mentally and forged a signature to a small check, was sent to the penitentiary for a short time and paroled. On admittance patient very noisy, combative and delusional.

Physical Examination.—No physical defects present. Fairly well nourished. Alimentary and circulatory systems normal. Gait steady. Slight ataxia present. Aphasia and incoherence present. Patellar reflex increased. Plantar normal. No ankle-clonus. Pupillary reflex reduced. No Argyll Robertson pupil. Urine negative.

Treatment and Results.—Wassermann reaction was made Nov. 25, 1911, and found to be positive. Patient improved slowly mentally and physically following admission, and Jan. 26, 1912, 0.6 gm. salvarsan was given. Three days after administration of the salvarsan, patient had a convulsive seizure followed by a partial paralysis of the entire right arm and leg which lasted about a week when full use of arm and leg was recovered. February 9 a Wassermann was made on both the blood and spinal fluid and found to be positive. Improvement continued, and March 11 patient was again given 0.6 gm. of salvarsan. Wassermann reaction made in June still positive. Condition continued to improve, and Oct. 27, 1912, patient was paroled home in very good physical health and much improved mentally, though his mind was enfeebled. In this case, as the Wassermann reaction remains positive, I believe that sooner or later active symptoms will reappear and that the patient will have to return to the hospital.

Case 7.—*History.*—W. S., a printer, aged 42, married. Admitted to hospital Dec. 14, 1911. Family history negative. Previous health good up to a few months before admittance, when symptoms of mental trouble appeared. On entering hospital patient under the influence of liquor, but quiet. Admitted having syphilis of about fifteen years' duration.

Physical Examination.—No physical defects present. In good physical health. Alimentary and respiratory systems normal. Heart and valves normal. Arteries slightly hardened. Pulse 120, regular and weak. Gait steady. No ataxia present. Slight aphasia present. No incoherence. Patellar reflex increased. Plantar normal. No ankle-clonus. Pupils contracted and unequal. Argyll Robertson pupil present. Slight trace of albumin in urine.

Treatment and Results.—Wassermann reaction made December 19, positive. Patient remained in good health and in fairly good shape mentally excepting one systematized delusion of vast tracts of land which he owned. Jan. 17, 1912, patient was given 0.6 gm. salvarsan. Condition remained unchanged till February 4, when he became disturbed, and slight ataxia appeared with a marked muscular tremor which lasted for forty-eight hours. March 2 he was given second administration of salvarsan. March 20 Wassermann reaction still positive. He failed slowly following this and became disturbed every few days and at times combative. November 7 Wassermann reaction was taken and found positive. The patient's slow decline continued and at present he is very delusional, mind greatly enfeebled, and at times filthy and untidy. In this case the patient seemed to be getting along fairly well until a few days following the use of salvarsan, when he began to decline and the course of the disease seemed to be intensified by the continuation of the treatment.[1]

Case 8.—*History.*—J. P. B., man, aged 36, single, no occupation given, admitted to hospital Nov. 16, 1911. Family history negative. Patient in good health up to about year before admission, when he began failing mentally. Cause of mental trouble not known.

Physical Examination.—No physical defects present. Fairly well nourished. Alimentary and respiratory systems normal. Heart and valves normal. Arteries hardened. Pulse 72, regular and weak. Gait unsteady. Ataxia present. Slight aphasia present. No incoherence. Voice paretic. Patellar reflex absent. Plantar increased. No ankle-clonus. Pupils dilated and unequal. Argyll Robertson pupil present. Urine negative.

Treatment and Results.—Wassermann reaction made Nov. 25, 1911, was positive. Patient slowly failed mentally and physically following admission, becoming filthy and untidy at times. March 4, 1912, he was given 0.6 gm. of salvarsan. March 20, Wassermann reaction negative. Improvement set in physically and mentally and he gained rapidly in weight and mind seemed much improved till the middle of May, when he had a temporary set-back and became disturbed for a few days. Improvement continued following this, and the Wassermann reaction made November 7 was found to be slightly positive. At present he is much improved over his condition on admittance but is slowly failing, ataxia becoming marked and mind growing weaker. This case shows a decided improvement immediately following the use of salvarsan, but as we see the effects of the salvarsan slowly wearing out, by the return of a slightly positive Wassermann followed by the decline of the patient, we must admit that the benefits of its use are but temporary; and a repetition may possibly help or may intensify the destructive course of this disease.

One has but to glance at these cases, if they may be taken as examples, to see that salvarsan in the treatment of paresis is as far from giving us any hope for permanent cure as are those drugs relegated to the waste-basket of the past because tried and found wanting. Some slight improvement has followed in a few cases and a crowding of the treatment has, as seen, done naught but intensify the destructive action of this disease and actually hastens the patient's death.

The results obtained by modern methods of diagnosis have accomplished wonders for us in the study of this disease, especially the now universal test of the patient's blood by the Wassermann reaction. Its use brings home to us more and more the saying that civilization and syphilization go hand in hand. More than this, the findings obtained in the examination of patients with this dreadful disease give us practically 100 per cent. of positive results, showing beyond a doubt that paresis itself is primarily a disease of syphilitic origin.

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[1] Jan. 6, 1913: The patient has had over thirty convulsions during the past two days. Death is expected at any moment.

Statistics show that insanity is increasing at a rapid rate. Syphilis has been found to exist in cases not thought of heretofore. Paresis, incurable as it stands to-day, is cutting off more and more men at the height of their careers, and we stand helplessly by seeing the patient slowly fail and die in such a depleted condition that words fail to convey the horrible picture except to those who have come in contact with this dreadful scourge.

Since Jan. 1, 1911, there have been admitted to my service in the hospital eighty-eight cases of general paresis among the male patients. Of this number thirty-six have died, ten have been paroled by request, and those remaining are constantly losing ground.

At present there are but two ways of working toward the eradication of this disease. The one with which we can accomplish the most is the education of the public in knowledge of the future evils of syphilis and how they may be prevented by immediate treatment. The other rests with those who are devoting their time to scientific research, and who will sooner or later discover the intermediate process or toxin which is causing this disease, and give to the world a curative drug.

NARCOTIC ADDICTION — A SYSTEMIC DISEASE CONDITION

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Too little study, observation and effort to interpret physical manifestations have been given to those unfortunates suffering from narcotic addiction. We have neglected their disease in its origin and subsequent progress and have formed our conception of them from fully developed conditions and spectacular end-results. We have seen them during or after our fruitless efforts at treatment, their tortures and poor physical condition overcoming their resolutions, until they plead for and attempt to obtain more of their drug. We have seen them exhausted, starved, with locked-up elimination, toxic from self-made poisons of faulty metabolism, worn with the struggle of concealment and hopeless resistance, semi-irresponsible beings, at present or soon to be inmates of institutions affording custodial care.

Our literature pictures them as weak-minded deteriorated wretches, mental and moral derelicts, pandering to morbid sensuality; taking a drug to soothe them into dream states and give them languorous delight; held by us all in despite and disgust, and regarded as so depraved that their rescue is impossible and they unworthy of its attempt.

We have ignored or misinterpreted intense physical agony and symptomatology, and regarded failure to abstain as evidence of weak will-power or lack of desire to forego morbid pleasure. We have prayed over our addicts, cajoled them, exhorted them, imprisoned them, treated them as insane and made them social outcasts; either refused them admission to our hospitals or turned them out after inefficient treatment with their addiction still fastened to them. They have realized our failure to appreciate their condition and to offer help for it, and have, after desperate trials of quacks, charlatans and exploited "cures," finally accepted their slavery, and by regulation of their drug and life, maintained unsuspected as nearly normal an existence as possible, or, broken and impoverished, given up the struggle. From these last we have painted our picture. Confined and observed by the institution alienist, or concealed as family skeletons in many homes, descriptions of them have given to the whole class of narcotic addicts their present status — cases of mental disease due to drug action or habit deterioration and based on inherent lack of mental and moral stamina.

It was with the above conception of these conditions that I began my work in the Alcoholic and Prison Service of Bellevue Hospital, attracted not by hope of helping "jags" and "dope-fiends," but by the mass of general clinical material admitted to those wards. When I left the service after sixteen months of day and night observation, with personal oversight and attempt to care for about a thousand patients a month, my early and faulty conception was replaced by a settled conviction that these cases were primarily medical problems. I realized that the patients were people sick of a definite disease condition, and that until we recognized, understood and treated this condition, and removed the stigma of mental and moral taint from those cases in which it did not exist, we should make little headway toward the solution of our problem.

It is a fact that the narcotic drugs do afford pleasurable sensations to many of those not yet fully addicted to their use, and that this effect has been sought by the mentally and morally inferior purely for its enjoyment and in the same spirit that these individuals yield themselves to other morbid excesses and indulgences. This class is, however, self-eliminating, and its members rarely present themselves for treatment.

There is, however, from my observations, obtained in Bellevue Hospital and in private practice, another class, including a large proportion, if not a majority, of narcotic addicts, in whom there is no inherent mental or moral inferiority, often men and women of high ideals and worthy accomplishments, whose knowledge of narcotic administration is, in many cases, first gained by withdrawal agonies following cessation of medication, who have never experienced pleasure from the drug, normal mentally and morally, unquestionably victims of a purely physical affliction.

In the literature on narcotic drugs I found very little as to their action or as to the manner of production of symptomatology in those habituated to their use. This experience has been paralleled by some of my patients, physicians of high standing, for many years unknown addicts, and zealous searchers for any information as to their affliction which might offer them hope of cure. The literature on narcotic addiction is notable for a persistent effort to interpret drug action in an addict by its observed action in normal men and animals, attributing to supposed enjoyment plus direct action of the drug, plus hypothetical mental and moral taint, the clinical picture of chronic drug addiction.

Since realizing the foregoing, I have been endeavoring to search out and explain from study of the individual addict and his corroborated testimony, and from clinical observation of his disease, the phenomena and symptomatology peculiar to addiction, and to formulate a theory for their production which would give a rational basis for therapeutic effort. Morphinism is the best example of pure addiction, created in most of the patients who seek treatment independently of environment and of personal characteristics. I shall, therefore, in this paper, confine myself to a discussion of morphinism, leaving the application of my conclusions to alcoholism and other narcotic problems for future consideration.

That morphin addicts acquire tolerance for morphin and can take without immediate untoward effect many times the lethal dosage is a well-known fact. Explanation of this tolerance has been attempted on two main hypotheses:

1. The formation of an antitoxic substance.
2. Increased power of the body to oxidize morphin.

1. As to the formation of an antitoxic substance, Hirschlaff[1] claimed to have produced an antitoxin against morphin. Morgenroth,[2] working in Ehrlich's laboratory, failed to confirm Hirschlaff's findings and argued against the existence of an antitoxin. Cushny[3] states specifically that the attempt to find "antimorphin serum" has proved fruitless.

2. Concerning increased power of the body to oxidize morphin, Faust[4] came to the conclusion as the result of his well-known experiments on dogs that tolerance toward morphin depended on an increased power of the body to destroy morphin.

It is my opinion that, however much increased oxidation aids in the handling of morphin, it is to the formation of an antitoxic substance that we must look for explanation of our clinical manifestations and for the classification of morphin addiction as a definite medical entity. This opinion is based on certain clinical manifestations of morphin effect and the symptomatology attending insufficient supply of morphin to those addicted, on certain phenomena observed during and following treatment, on the persistence of tolerance and on the susceptibility of the cured patient to the re-formation of addiction.

Morphin action as commonly observed following therapeutic administration or in animal experimentation gives no conception of its manifestations in the man or woman grown tolerant of its use. Very many have never experienced the pleasurable sensations to the enjoyment of which is widely attributed their indulgence. In practically none of them, once tolerance and organic dependence are completely established, do these sensations occur. The immediate effect, depending on the extent of tolerance and the reaction of the patient, in dosage not excessive for the individual, is apparently support to function, stimulation to circulation, maintaining of nervous balance and relief of impending collapse. It is used in a large majority of the cases simply and solely for its supportive and stimulant action, and a certain amount for each morphin addict becomes as much of a definite need and a necessary and integral part of his daily sustenance as food or air. The dream states and other sensuous results are part of the minor toxic action of the drug, against which the addict is nearly or completely immune, and to the securing of which very many, and probably a majority, of the innocent or accidental addicts have never carried their dosage.

In a recent paper[5] I noted the fact that for each addict a definite amount, varying with his condition of health, elimination and physical and mental activity, satisfied a definite body need. I showed that on this amount he could be put and kept in good physical and mental condition under normal circumstances of environment, exertion and general hygiene. Years of efficient activity and upright responsible lives, accomplished by well-known men, unsuspected addicts, bear witness to this fact. An addict neither underdosed nor overdosed defies detection. Less than the definite amount needed for nervous and circulatory organic balance deprives the patient of reaction, places his vitality and energy below par and for a long time hinders his betterment. More than this amount displays the inhibitory effects of morphin, locks up secretions and body functions, and causes malnutrition, autotoxemia and the consequent mental and physical deterioration commonly and erroneously attributed to the direct action of the drug.

The symptomatology attending insufficient supply of morphin to a morphin addict has, so far as I know, never been studied and analyzed in detail and adequately interpreted. W. Marme[6] attributed the symptoms to the toxic action of oxydimorphin. Rudolph Kobert,[7] however, states that Ludwig Toth subjected Marme's claims to subsequent testing and was unable to confirm them, and that his own results agreed with those of Toth. They found that oxydimorphin was inert by subcutaneous injection and that when thrown into the bloodstream it formed an insoluble substance causing emboli, so producing the symptoms observed by Marme. Kobert seemed to be in accord with the earlier findings of Magendie, that oxydimorphin is non-toxic.

After addiction is once established, failure to administer the drug causes a chain of definite symptoms, varying in priority of onset, in sequence and in relative violence of manifestation in different cases. In a general way, they may be said to begin with a vague uneasiness and restlessness and sense of depression; followed by yawning, sneezing, excessive mucous secretion, nausea, uncontrolled vomiting and purging, twitching and jerking to violent jactitation, intense muscular cramps and pains, abdominal distress, marked cardiac and circulatory insufficiency and irregularity, pulse going from extremes of slowness to extremes of rapidity with loss of tone, facies drawn and haggard, pallor deepening to grayness, exhaustion, collapse and, in some cases, death.

During my work in Bellevue Hospital I was struck with the similarity in clinical picture between these cases of acute morphin need and cases of acute poisoning from mineral, vegetable and autotoxic substances. Acute morphin need is clinically typical of intense suffering and prostration from the action of some powerful poison. Its symptoms cannot be due to morphin, for the administration of morphin relieves them, and relieves them exactly in ratio to the amount of morphin administered. They can be held at any given stage by gradation of the morphin dosage. Their manifestations, moreover, are exactly opposite to morphin effect. They are to my mind best explained as due to the action of some toxic substance, antidotal to morphin, prepared by the body for its protection in response to continued morphin overdosage, as antitoxins are prepared for the neutralization of the organic poisons of invading bacteria.

This hypothesis would explain the establishing of tolerance, the manifestations following morphin administration and the apparent definiteness of the amount of morphin needed. It would explain the results of underdosage and the results of overdosage above noted, and the non-interference with function or general health when a certain amount is adhered to, an amount exactly sufficient to neutralize the effect of some exactly antidotal body.

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[1] Hirschlaff: Berl. klin. Wchnschr., 1902, xxxix, 1149.

[2] Morgenroth: Berl. klin. Wchnschr., 1903, xl, 471.

[3] Cushny: Pharmacology and Therapeutics, Ed. 5, 1910, p. 222.

[4] Faust: Arch. exper. Path. u. Pharm., 1900, xliv, 217.

[5] Bishop, E. S.: Morphinism and Its Treatment, The Journal A. M. A., May 18, 1912, p. 1499.

[6] Marme, W.: Centralbl. f. klin. Med., Leipsic, 1883, iv, 241, and Deutsch. med. Wchnschr., 1883, ix, 197.

[7] Kobert, R.: Lehrbuch der Intoxikationen, 1893, p. 567.

On this theory also can be explained the sequelae and the relapses occurring after most of the cases treated by slow reduction and final withdrawal, or by withdrawal which has been too rapid with treatment too severe and not administered with due appreciation of the patient's organic need or consideration of his reactive abilities and physical condition. These convalescent patients are in a condition of restlessness, discomfort, vague pains, mental depression, lowered physical stamina and vitality. They have a sense of lacking support which is accentuated to the experiencing of actual morphin need by overexertion, worry, strain, etc., and persists for weeks and months after no morphin has been taken. The above are mild withdrawal symptoms, and would seem to be explained by a continued manufacture of antidotal toxic substance causing a low-grade chronic poisoning. They can be duplicated in an active morphin addict before withdrawal by administering an amount of morphin slightly below the amount of need and leaving unneutralized a small amount of the antidotal toxic substance.

There remains to be explained the continued production of this substance after discontinuance of the drug which called it into being. If it is indeed a substance antidotal to morphin and manufactured by the body as a protection against that drug, there must be, following ordinary methods of treatment, a retention somewhere in the body of a residue of morphin or its product uneliminated and unchanged in its essential characteristics, sufficient to keep in moderate activity the manufacture of antidotal toxic substance. That some such residue does exist I hazarded in a previous paper.[5] It seemed to me probable that there is in the morphin addict a progressive acquisition of tolerance and an accompanying inhibition of eliminative function in the cells of the body, especially in the liver, and that locked up in these tolerated and atonic cells is a deposit of morphin or morphin product not susceptible of ordinary elimination. I would now further offer the hypothesis that this residue acts by keeping in activity the manufacture of an antidotal substance.

Results of treatment give further evidence of the existence of an antidotal toxic substance and of an uneliminated morphin residue being the immediate stimulus to its continued manufacture. Free cholagogue catharsis distinctly reduces the amount of morphin need and increases the time over which a given dose will continue to hold the patient in balance. I have never been able to secure this result with catharsis which did not include cholagogues, giving stools of marked bile content. Under adequate elimination there is finally, as I have previously described,[5] a sudden and marked change in the patient. Within the space of a few hours there is complete cessation of desire for morphin, and a recognition of whatever discomfort is present as alien to the manifestations of morphin need and not demanding it for alleviation. Purging beyond the ability of the patient to react and eliminate adequately will not cause this cessation of desire. This is likely to occur in cases in which asthenia or high organic dependence on the drug plus marked inhibition of function are shown and in which the drug is too rapidly withdrawn and too severe catharsis administered without adequate recognition of physical condition and competent appreciation of powers of response. In these cases the eliminative function of the liver is apparently exhausted before the morphin residue is disposed of; immediate subsequent catharsis only drains fluids from the intestines, and morphin need is reduced only to that amount required when adequate elimination becomes exhausted. It would seem, therefore, that the cellular atonicity and inhibition of eliminative function governs the amount of retained morphin residue, that the amount of morphin residue is the deciding element in the quantity of antidotal substance constantly produced, and that this quantity of antidotal toxic substance constantly produced governs the extent of morphin need.

Evidences of the existence of the mechanism above described are further seen in the results of therapeutic effort preceding and subsequent to the phenomenon of cessation of desire. Before this change occurs drugs other than morphin fail to exhibit any effective action in the control of symptoms. Following this change, however, discomfort, sleeplessness, poor cardiac action, nervousness, pain, etc., if present, can be adequately controlled by our common therapeutic measures. The obvious deduction is that preceding cessation of morphin need, the predominating symptoms are due to the action of some toxic substance, exactly antidotal to morphin and requiring morphin for its control.

A further argument for the mechanism of addiction above suggested lies in the apparent continuance of tolerance to morphin existing after long abstinence from the drug, and in the susceptibility of the former addict, subsequent to the elimination of his physical need for morphin, to the re-formation of that need on slight indulgence in the drug. Histories of patients who have returned to their addiction show that some of them have, after months of abstinence, suddenly resumed their drug use at the excessive dosage of their previous indulgence, and have done this without marked toxic symptoms. For example, a patient, J. W., gives a history of having been abstinent for seven months and of having suddenly resumed his morphin use at his previous dosage of 4 grains three or four times a day. He states that he took 11 grains by hypodermic during the first twenty-four hours of his relapse, and that except for a transient attack of vomiting and drowsiness following his first dose he showed no toxic symptoms. He says that the manifestations of effect were those attending administration of morphin during his previous addiction, being those of satisfaction, support and stimulation, and that they were immediately reestablished. Cases in which small doses have reawakened need are numerous. Apparently large dosage robbed of its toxic effect and even of the morphin manifestations usual in subjects who have never been made tolerant, and small dosage being sufficient to reawaken physical need for continued administration are conditions which do exist and persist for indefinite periods. The resemblance between this continued tolerance and the conditions existing in diseases conferring immunity and having a generally accepted antitoxin mechanism is too close to be ignored.

It may be objected that in diseases showing definite antitoxin production there have never been observed signs of antidotal toxic symptoms and lack of balance between toxin and antitoxin effect. That these have never been observed is not proof that they do not exist. If present, they would be far less obvious than those attending insufficient supply of morphin. In the antitoxin-forming diseases there is constant and steady production of the exciting toxic substance, and not the variability of amount which occurs in the morphin addict, in whose case the toxic substance, morphin, is administered in amounts governed by personal interpretation of need, at varying intervals, and by the possibility of its procurance. As long as the addict can get enough of his drug and limits its amounts to those organically required, and keeps his general health preserved, he does not show withdrawal signs. Nature has made no provision for the sudden withdrawal of poisons against which she has established protective action.

As to the character and actions of this hypothetic antidotal toxic substance, we must resort to speculation based on clinical observation and the results of treatment. Most of the various routines of treatment for withdrawal of morphin which have been devised, and which have given some success, have depended for their main drug effect on belladonna and its alkaloids, hyoscyamus and its alkaloids, and strychnin. They have been based on the giving of some or all of these drugs plus catharsis. The advocates of each method have been enthusiastic in their reports of results. These drugs, therefore, seem to supply some action useful in the withdrawing of morphin. What it is cannot be definitely stated. Belladonna and hyoscyamus dull sensation. All three in large doses increase peristalsis. It is possible that they have also a further action, and that by their administration is to be obtained action somewhat identical to that of the antidotal toxic substance. By thus supplying the action of the antidotal toxic substance it may be that we diminish the demand on the organs of its manufacture, and aid in the cessation of its production at the same time that we are getting rid of the exciting residue of morphin or morphin product locked up in atonic and tolerant cells, liver or elsewhere.

The hypothesis and theory above offered for the mechanism of narcotic addiction are based on clinical observation and study of the individual addict. That an antidotal toxic substance best explains our clinical picture and gives us basis for therapeutic effort is my conclusion. We have, so far as I am aware, no unquestioned laboratory demonstration of antibodies immunizing to narcotic drugs. That the animal body can produce substances conferring immunity to the effects of vegetable poisons has, however, been demonstrated. Dr. W. W. Ford[8] of Johns Hopkins University has, by immunizing animals, obtained antibodies to extracts of *Amanita phalloides*, the poisonous mushroom. That antibodies can be developed against opium products or other narcotic drugs is within the range of reason and of probability.

I would not have it concluded from the preceding that I consider all the symptoms occurring during the course of a case of morphinism as due either to the toxic action of morphin or to the toxic action of its autogenous antidote. As in all other disease conditions, so here we must deal with auto-intoxication, personal resistance, insufficiency or inadequacy in various organs or parts, to say nothing of the many cases presenting complications which must be recognized and dealt with. Also, as I have previously written,[5] there will be, in most cases, symptoms due to lack of balance and to sluggish readjustment during and following the withdrawal of a long-accustomed support to the circulatory and nervous systems. We have further to take into account, in some cases, temperament, mental and moral stamina, and the influences of immediate environment. These cases are often extremely complex and difficult to analyze, and for adequate treatment the symptoms and their origin must be appreciated as they occur in the individual case.

Routine treatment for all cases of any disease condition means unnecessary suffering during the course and vitiation of results in many if not a majority of those treated. Narcotic addiction is no exception. There must be, in each case, comprehension of intrinsic elements which accords with clinical facts, and appreciation of their relative importance; and there must be competent interpretation of symptomatology if we are to place our efforts on a rational basis and modify treatment to the needs of the individual.

We have not yet reached a satisfactory solution of our problem of narcotic addiction. The variety of points of view and of attitudes toward it demonstrates its complexity. Here and there isolated workers have given study to its medical aspects, and each has contributed somewhat to our better understanding. That there is a strong element of definite disease condition is more and more demanding consideration. By the formulation of the above theory and its application in treatment, I have been able, during the past few months, to obtain better results and in most cases a far more comfortable course. I offer it for what it may be worth in the hope that it may help others and stimulate to deserved consideration and scientific investigation of a neglected disease condition.

422 West End Avenue.

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[8] Ford, W. W.: Jour. Exper. Med., 1906, viii, 437.

SULPHURIC ACID CAUSTIC PASTES *

W. A. PUSEY, M.D.
CHICAGO

Sulphuric acid has been known at least since the fifteenth century, and doubtless it has been used as a caustic since that time, for its caustic action is its most obtrusive quality. It has long been the practice in order to prevent its spread beyond desired limits to make it into a paste by incorporating with it some inert solid substance. The practice is well described in Holmes' "System of Surgery:[1]

> For application to the sound skin the concentrated acids are somewhat too diffuse in their action; with a view to obviate this tendency, they are mixed with various inert substances, and made into the consistence of a paste; thus sulphuric acid is mixed with powdered sulphur, saffron or sawdust, and in this form it is far more convenient and manageable for the purposes above mentioned. The use of sawdust for this purpose originated with Mr. Syme.

Mr. Syme's directions as quoted in Holmes are:

> Concentrated sulphuric acid with about an equal weight of sawdust stirred into it, until the mixture assumes a homogenous consistence equal to that of thin porridge, is lastly applied, in quantity proportioned to the extent of thickness concerned. In the course of ten to twelve hours a slough will have formed, presenting the appearance of strongly compressed tow.

Mr. Syme also devised the very good plan of protecting the surrounding surfaces from the acid by painting them with liquor gutta-percha.

In addition to Syme's sawdust and sulphuric acid paste, there have been many others: Ricord's paste was sulphuric acid and powdered charcoal; Michel's, sulphuric acid and powdered asbestos; Velpeau's, sulphuric acid and saffron. Others are sulphuric acid and sulphur or lampblack. Mitchell[2] tells quaintly of his attention being called to sulphuric acid in cancer, in a way which shows again that the modern faker is not so modern as we sometimes imagine:

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* Editor's Note:—At our request, Dr. Pusey has reviewed the history of sulphuric acid as a caustic, to supplement the report of the Council on Pharmacy and Chemistry on a proprietary preparation (see Propaganda for Reform department, this issue).

[1] Holmes: System of Surgery, 1882, iii, 664.

[2] Mitchell: Materia Medica, 1857, pp. 86 and 87.

> A miserable creature called at my house many years ago when I resided in a country village, introducing himself as a poor unfortunate doctor. . . . He begged me to make him a present of a lancet, as that would help him to a little money now and then for the operation of bleeding. I complied with the request. . . . Some four or five days after a letter came to my address from the same traveling doctor in which he thanked me most cordially for the lancet, adding a prescription for cancer with which I might make a fortune. It was simply to blacken sulphuric acid with cork, and call the mixture "Mitchell's Black Cancer Drop."

I have made pastes with sulphuric acid and various substances—charcoal, sulphur, lycopodium and lead sulphate. One can obtain an efficient caustic paste with any of them. With any of the following formulas—in which the proportions are given by weight—one obtains a stiff paste which gives up its acid rather slowly, so that its effect is more easily controlled:

1. "C. P." sulphuric acid	45
Precipitated sulphur	55
2. "C. P." sulphuric acid	60
Powdered charcoal	40
3. "C. P." sulphuric acid	25
Lead sulphate	75

The only procedure necessary to make such a paste is to rub up the mixture into a homogeneous mass. A proper consistence is that of a stiff paste, of about the stiffness of a thick lime mortar. If one wants a quick and deep caustic effect, the paste should be thinner, that is, have a little more loose sulphuric acid. In practice the effect of such a paste is controlled by the duration of its application and the thickness of the layer of paste used. An application for a few minutes will produce slight destruction. If the paste is left on the surface until it completely neutralizes itself—for several hours—it produces an eschar which is, roughly speaking, twice the thickness of the layer of paste applied.

The effect of a sulphuric acid paste is sharply localized; there is no hemorrhage and little likelihood of infection in the lesion; localized pain is moderate for three or four hours, and there is a good deal of subsequent inflammation.

A sulphuric acid paste may be effectively used for destroying lesions in the skin. In my opinion, however, it is not a desirable agent to use for the removal of blemishes or when one needs to consider cosmetic results, for two reasons:

1. The extent of its action is not easily estimated, so that unnecessary destruction is likely to be done, with correspondingly unnecessary scarring. Any one who has removed moles or warts with sulphuric or nitric acid will appreciate this difficulty.

2. All of the mineral acids, particularly sulphuric, I believe, when used on the skin, are not infrequently followed by keloids or unsightly hypertrophic scars. I know of a number of such scars which have lately been produced by sulphuric acid paste. Trimble[3] recently called attention to a series of such scars in his experience following the application of nitric acid, and in the discussion of his paper Dr. James C. White called attention to the fact that according to his impression these accidents more frequently followed sulphuric acid applications.

A sulphuric acid paste is not, therefore, in my opinion a preferable means for removing cutaneous blemishes, in view of the eligible methods at our command. Even for the treatment of lesions in which effectiveness is the chief or sole end aimed at, as in epithelioma, I believe it is not a preferable caustic; for such lesions the caustics most used, and, I believe, the best ones are zinc chlorid, caustic potash, acid nitrate of mercury and, for lesions not covered by epidermis, arsenious acid in paste form.

If one wishes to use a sulphuric acid paste, however, one will find pastes such as I have given above easily prepared and efficient.

7 West Madison Street.

A SIMPLE METHOD OF BLOOD-TRANSFUSION

THOMAS B. COOLEY, M.D.
AND
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DETROIT

During recent years much has been written on the subject of direct blood-transfusion. In addition much valuable experimental work has been done, and many different instruments and methods have been devised by different investigators in order that the difficulties always present in this form of surgical procedure might be more easily overcome. Even with the advances made, however, this portion of surgery has been mastered by only a few, and even the well-trained and well-equipped operator will sometimes find difficulty in obtaining the desired results.

Direct blood-transfusion has recently attained much popularity because, in proper cases, the results are so rapidly satisfactory as to be startling. As has been the case in most surgical procedures, this operation has fallen into some disrepute because it has been applied in cases in which there was no rational indication for its performance; but during the last few years the indications for its application have become more thoroughly recognized, and it must from now on be a procedure that every surgeon should be competent to carry out.

Formerly it was thought that in order to obtain the best results an artery of the donor and a vein of the recipient should be used. The arterial pressure was supposed to render it more certain that the blood would flow properly and that a larger amount would be received in the same length of time than when a vein of the donor was used. Later it was ascertained that the vein-to-vein anastomosis was of equal efficiency, and consequently this method, because of its simplicity and less injury to the donor, has come more into favor.

Recently Soresi[1] has shown that the belief that vein-to-vein anastomosis is the one to be preferred rests on an anatomic basis, and he has also given a lucid explanation why the jugular vein of the recipient should invariably be the vessel of choice. Soresi has also incorporated in his article a clear statement of the character of cases in which direct transfusion is indicated.

While the technic of direct transfusion is not difficult for one who has had special training and practice, yet at times difficulties will arise that render the operation almost impossible to perform; and again, it is not always possible to obtain the services of a surgeon who has had sufficient experience in this branch of surgery.

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[3] Trimble: Jour. Cutan. Dis., November, 1911, p. 576.

[1] Soresi: New York Med. Jour., Nov. 9, 1912.

For this reason the case herewith described seems to us worth reporting, because of the success of a method so simple as to be within reach of any one at any time.

REPORT OF CASE

Baby P., born Nov. 10, 1912, after a normal labor, was seen in consultation with Dr. W. P. Manton, the attending obstetrician, on the morning of November 13. About twenty-four hours before she had begun vomiting small quantities of blood, which were at first supposed to come from the mother's breast; but during the previous night the hemorrhages had become more profuse and when seen in the morning the baby was vomiting large clots and passing considerable quantities of clotted blood from the bowel. There was also some oozing from the oral mucous membrane. The general condition was still good. The only normal serum immediately available for administration was a powdered horse-serum prepared for experimental use by Parke, Davis & Co.; 10 c.c. of this were given subcutaneously at 10:30 a. m. Shortly afterward 40 c.c. of blood were drawn from the father's arm and left to clot to obtain serum for further injection. The separation of serum was slow, so that it was not ready for injection until late in the afternoon.

The hemorrhage during the day was only moderate, and it was thought that the horse-serum was having a good effect. Toward evening, however, the vomiting and passing of blood became more frequent, and the quantity unusually large; 15 c.c. (all that had separated) of the father's serum were injected, but the hemorrhages continued up to 8 p. m., when the baby appeared completely exsanguinated and it was evident that blood must be supplied. It was decided that Dr. Vaughan should attempt direct transfusion by Crile's method. The baby's median cubital vein when dissected out was found to be so collapsed and colorless that it was at first difficult to assure ourselves that we had not mistaken a nerve for it. The cephalic vein of the father was next exposed, and after prolonged effort the small child's vein was attached to a Crile forceps. The procedure was even more difficult with the father's vein, which proved to be equally small. When the anastomosis was finally completed the vein of the donor, although freed from clot, refused to bleed. The large basilic vein was then opened at the elbow, but even this would not bleed sufficiently to be of any benefit when opened in the wound, even before an attempt was made to insert the cut end in the clamp. The difficulty in adjusting the child's vein properly was caused by its being so much smaller in diameter than the lumen of the clamp. The Crile method having proved inapplicable in this case, we were forced to abandon it. The baby by this time was cold and practically pulseless. Frequent injections of physiologic salt solution into the exposed vein brought the pressure up for a short time only. Immediate action being imperative, we concluded to try taking blood from the vein of one of us into a glass syringe and injecting it into the child's vein before clotting could begin. Though we were both somewhat doubtful of our ability to do this, we found that in fact it was easily managed in quantities of 10 c.c., the capacity of the syringe. Two guy sutures of 00 catgut were inserted in opposite sides of the cut vein of the recipient. The forearm of the donor was painted with iodin and the needle of a 10 c.c. all-glass syringe into which 1 c.c. of physiologic salt solution had been previously drawn was inserted into the basilic vein compressed by a bandage above, and the syringe nearly filled with blood; 0.5 c.c. more of saline was drawn in. The sharp needle was changed for a blunt one and the blood then injected rapidly into the child's vein. We thought best to follow the blood injection immediately by one of salt solution. In fifteen or twenty minutes the first injection brought about a distinct improvement in the previously imperceptible pulse, and as no untoward effects appeared, 10 c.c. more were injected. Following the second injection the pulse improved steadily in character, so that, although we were prepared for further injections, they proved to be unnecessary, and by morning the child was apparently out of danger, there having been no further hemorrhage since two hours after the injection of the father's serum. Recovery from this time was rapid and uneventful. The total amount of fluid injected, in the form of serum, salt solution and blood, was not accurately measured, but was probably between 120 and 150 c.c.

We were much impressed with the ease of this method of injecting blood into the circulation, and the rapidity with which it could be accomplished as compared with any of the ordinary processes of transfusion. The exact time was not noted, but certainly two minutes would more than cover the period between the insertion of the needle into the donor's vein and the completion of the injection of 10 c.c. into the child.

While the coagulation-time of normal blood is given in various text-books as from five to ten minutes, yet it has been our experience in tests with the Wright method that frequently the time is much shorter. Many bloods will coagulate in three or three and one-half minutes, which, however, should be ample time in which to carry out the above-described procedure, provided the recipient's vein has been properly prepared beforehand.

It is our intention to make further study of the availability of the method, with the idea of developing a special syringe, and possibly of applying some simple method of prolonging the coagulation-time of the blood. Under ordinary circumstances, in applying the method, it would probably be advisable to test the rapidity of coagulation of the proposed donor's blood.

The above-described method is a positive one which can be applied to any vein. The technic is so simple that it can be undertaken by any one. It is especially applicable in such cases as the one cited, in which the amount of blood needed is relatively small, although there is no reason why it should not be applied in repeated small injections in any case, if care be taken to follow up each injection into the recipient's vein with a small amount of normal saline so that no clot will form in the lumen.

It is of course to be understood that in carrying out the procedure it is essential to work very rapidly, as the injection of blood in which clotting has commenced would be dangerous. For this reason the vein of the recipient must be dissected out and opened, and everything needful must be in readiness before beginning to draw blood from the donor.

THE EFFECT OF STRONG PURGING ON BLOOD-PRESSURE AND THE HEART *

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AND
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For years the treatment of anasarca, of edema and of ascites has been depletion of the body fluids. This depletion was brought about by diaphoresis, diuresis and catharsis. All these measures have a tendency to lower the blood-pressure, but especially is this true of catharsis. This indiscriminate use of strong cathartics for depletion of the body fluids in anasarca, with no control other than the disappearance of the edema, is unsafe. In many cases of anasarca with failing heart, and in many cases of edema due to kidney involvement, especially with the accompaniment of generalized arteriosclerosis, actual harm is produced. It is the experience of all clinicians that some patients in a "water-logged" condition do well when depletion is

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produced by strong cathartics, while others grow gradually worse. The question why some do well and others grow worse with this eliminative treatment ought to have some answer.

Sir James Barr[1] of Liverpool urges the danger in anasarca from failing heart, even in a condition approaching anuria, of causing profuse watery evacuations of the bowels with any cathartic. He says that many a death is thus caused by the depletion, the weakening and the terribly low blood-pressure caused by salines.

Ritter[2] in a study of the blood-pressure during a "Carlsbad cure" insists on the importance of keeping constant supervision over the blood-pressure during the spa treatment. He says that the blood-pressure declined systematically in all but two patients. The decline, he thinks, is undoubtedly due to the hypotonic mineral waters. This, he says, is sustained by the decline in the blood-pressure and heart in animals injected with salines.

W. Jaworski[3] notes the aggravation of heart disturbances or their first development in certain cases when attempts are made to relieve constipation by catharsis. By purging, the blood is drawn away from the surface, and the heart does not have sufficient blood to pump. He says that, if the heart is in good condition, as a rule no trouble follows; but on the other hand, if the myocardium is injured from any cause, symptoms of "reflex shock" develop. The external temperature declines, and the skin becomes pale and cold. The pulse becomes soft, and sometimes arhythmia develops. He says that in the old or in any one with arteriosclerosis the danger is relatively greater. He warns against the indiscriminate use of strong cathartics in the acute intoxications. He adds that a purge might serve as a test for latent cardiac insufficiency.

About two years ago it occurred to us to try the effects of strong purging on the blood-pressure, rate of heart-beat, character of heart-beat, etc. From time to time we selected individuals in whom this treatment was indicated, and others who were practically normal, who were informed of what we wanted to record, and who offered no objection to the treatment. In a study of this kind certain factors must be considered:

1. What is the effect on the blood-pressure? Is it lowered? If so, to what extent and how rapidly?

2. What is the effect on the pulse-pressure, that is, the difference between the systolic and diastolic pressure?

3. What is the effect on the rate of heart-beat and the character of the heart-beat?

4. What are the effects on the subjective symptoms of the patient, and what is his general condition during strong purging?

METHOD OF CARRYING OUT THE EXPERIMENTS

The patients were all kept in bed. On the day the experiment was to be done, the patients were given no breakfast. At 7 a. m. the blood-pressure, rate of heart-beat and character of pulse were noted. Immediately after this the patients were given the dose of the cathartic to be used in any given experiment. The pressure-readings and the character and rate of the heart-beat and pulse were taken at regular intervals. These intervals were each one hour for four periods and two hours for two periods. The experiments extended from 7 a. m. to 4 p. m. The pressure readings, etc., were taken again twenty-four hours later. At 11 o'clock the patients were given their dinner. When the bowels moved the patients were allowed to go to the water-closet. If they went to the water-closet near or at the time the readings should have been taken, sufficient time was allowed for the circulatory disturbances brought on by the exercise to return to the normal for that period before these readings were taken. The pressure readings were taken with the patient flat in bed with the arm and blood-pressure apparatus at the same level. The Faught instrument was used in the majority of the experiments, and the left arm was always used. At first the Erlanger instrument was used on the right arm, but as no constant differences in the two arms were noted, the right arm pressure was discontinued. The method of reading the systolic and diastolic pressures was taken by the palpatory method for the systolic and the fluctuation of the mercury column for the diastolic. This method was replaced early in the experiments by the auscultatory method of Korotow, as this is much easier and more exact.

We found that the systolic reading is generally from 5 to 10 mm. of mercury higher and the diastolic about the same degree lower than the readings by the other method. Two readings were taken as rapidly as possible since variations in the pressure occur if the air-cuff is left on for too long a time.

The cathartics used were magnesium sulphate, sodium sulphate, sodium and potassium tartrate and compound jalap powder. The salts were used in saturated solution, an ounce or ounce and a half being given at 7 a. m. and 10 a. m.; 2 gm. of compound jalap powder were given at 7 a. m., and in some instances a second dose was given at 10 a. m. The dosage was rather large but not much greater than is used for therapeutic measures.

The object was to produce rapid and profuse catharsis. There are some differences in the action of these cathartics. These differences will be mentioned later. The results of our experiments with these cathartics will be given as a whole, in order to avoid lengthy and complicated tables.

RESULTS OF THE EXPERIMENTS

1. Effect of strong purging on the systolic pressure of those with high, medium and low initial pressures.

The systolic pressure was tested in 126 patients, of whom 109 showed a lowering of the systolic pressure varying from 5 to 35 per cent. Twelve showed practically the same blood-pressure throughout the experiment. Five showed an increase during the experiment. Twenty-four hours after the cathartic was given, forty-eight had a systolic pressure from 5 to 15 per cent. lower than before the cathartic was given. Twenty-six had practically the same as at the beginning. Only those who remained in bed were tested twenty-four hours afterward. The action of the cathartics was practically the same except that the compound jalap produced a more constant and greater lowering than the other cathartics. It also showed in most instances quite a decided lowering at the end of the twenty-four hours. It was found in this set of experiments that those individuals with a systolic pressure of 140 and above, the highest tested being 190, gave an average lowering at the fourth period of 23 mm. of mercury, or a percentage lowering of 18. Fifty-seven individuals with a pressure of from 110 to 140 gave an average lowering of 13 mm. of mercury, or a percentage lowering of 15.

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[1] Barr, James: Brit. Med. Jour., April 24, 1909.

[2] Ritter: Ueber den Einfluss von Salzlösungen auf den Blutdruck und Blutdruckmessungen während der Karlsbader Kur, Deutsch. Arch. f. klin. Med., 1910, Nos. 1 and 2, p. 220.

[3] Jaworski, W.: Heart Disturbances Induced or Aggravated by Purgatives, Wien. klin. Wchnschr., Aug. 24, 1911, p. 1207.

Thirty-four individuals with pressure 110 or lower gave an average lowering of 7 mm. of mercury, or a percentage lowering of 6.

The reason for making these calculations from the data made at 12 o'clock, or the fourth period, is that theoretically the maximum effect ought to be produced at that period by the second dose of the cathartic which was given at 10 a. m.

It was found, however, that in some of the patients the maximum effect was not produced until much later, which fact must, of course, keep our averages higher than otherwise.

2. Effect of strong catharsis on the systolic, diastolic and pulse-pressure, and the rate of heart-beat.

A study of these points was made on sixty-eight individuals.

The percentage lowering of the systolic pressure in this number, taken as a whole, was 17 per cent.

The diastolic pressure was lowered 8 per cent.

The pulse-pressure was decreased 24 per cent.

The number of heart-beats was decreased 14 per cent. as a whole. Fifty-six patients showed a decrease, nine showed an increase and five showed no change.

The patients frequently complained of dizziness on standing. Many of them complained of cold feet and chilly sensations during the purging. In a number of individuals arhythmias developed, particularly in those with sclerosis and a high blood-pressure, and in those with a low pressure at the beginning of the experiment.

If we examine these results we find that an average lowering for all cases is 18 mm. of mercury. The average lowering for those who had initial pressures ranging between 140 and 190 was 23 mm. of mercury. Those individuals who had a low initial pressure lowered only 7 mm. of mercury. The individual records show that many, perhaps the majority, have a much greater lowering than the general average. For instance, one lowered from 180 to 100; another from 170 to 120; another from 190 to 115; another from 120 to 80; another from 108 to 78, etc. It is in these extreme results that we most frequently find the development of an arhythmia or the increase of an arhythmia already developed. In these cases the heart more often increases its rate than in those in which the lowering is not so marked.

It may be these factors which cause some cases of edema due to heart disease and sclerosis to become more water-logged, when depletion methods, especially free catharsis, are used. An increased weakness of the heart is shown by 8 or 9 per cent. of the total, since the heart-beats increase in bed and the increase when standing is less than the normal increase.

The explanation of the facts brought out in these experiments is somewhat hypothetic. What causes the lowering of the systolic pressure? We must at once conclude that, in part, it is due to the removal of liquids from the blood. This decreases the total volume of the blood, and the pressure presumably must fall. This is shown by the experiments; as a rule the greater the number of bowel movements, the lower and the more rapidly the pressure falls.

Another fact must be considered as the cause of this decrease of pressure, namely, the distribution of blood during purging. The blood has undoubtedly been drawn from the surface to the internal organs, especially to the intestines and their blood-supply, the splanchnic vessels. The cathartics act as an irritant to the walls of the alimentary canal and produce perhaps an inflammatory reaction. This causes capillary and arteriole dilatation, and the blood collects in the splanchnic area. This is comparable to the experiment on the dog, in which the severed splanchnic nerves cause a fall of blood-pressure. The splanchnic vessels become engorged, and the pressure falls. The severing of the nerves has cut off the vasoconstrictor impulses which come from the cord, and the splanchnic vessels dilate. This theory is substantiated by the subjective symptoms of the patients, the dizziness, shortness of breath, cold feet and the cold, clammy feeling of the skin.

A third fact also must be considered, namely, the drugs used may have some systematic action which weakens the heart. Of course, it is conceivable that the withdrawal of the blood to the splanchnic area does not give the heart sufficient blood to pump. This might be followed by a weakening of the heart because it would not be properly nourished if arteriosclerosis were present. This is borne out by the fact that the old, especially with arteriosclerosis, may show cardiac weakness and arhythmia if catharsis is too severe. It also explains why an already failing heart often becomes weaker when strong purging is produced.

The fall of the systolic pressure in these experiments is far greater than the lowering of the diastolic pressure. This difference results in a 25 per cent. decrease in the pulse-pressure. It may be that in all cases when blood-pressure is lowered the diastolic pressure does not and cannot lower in the same degree as the systolic pressure. Again, it may be the increased viscosity of the blood during strong purging which causes the difference. F. Blunschy[4] says that violent exercise causes an increase in the viscosity of the blood, due to the loss of fluid in the perspiration. It is therefore probable that the viscosity of the blood increases considerably when loss of water is brought about by strong purgation.

The diastolic pressure of the blood is that pressure of the arterial blood at the end of diastole, or the relaxed period of the heart. During this period the blood is equalizing itself; that is, it flows forward into the arterioles and capillaries as fast as the conditions allow it. The factors concerned in its forward movement are the strength of the heart-beat, the resistance it meets in the arterioles and capillaries, and the viscosity of blood. If we grant the increased viscosity of the blood we have a factor which retards the forward movement of the blood, and thus the diastolic pressure remains relatively high because the ebb of the blood is less in diastole than normal. This increased viscosity may explain why diseased hearts often become worse and why latent weakness of the heart may be developed during strong purgation. As a result of this increased viscosity, the heart must pump harder to propel the blood forward, even in spite of the lowered pressure caused by dilatation of the splanchnics and the loss of fluid by the free catharsis.

The lowered number of heart-beats is difficult to explain. All the factors brought out in this discussion ought to increase the number of heart-beats. A marked lowering of the systolic blood-pressure is generally followed by a more rapid heart. If the heart becomes weakened because of poor nourishment, it ought to beat more rapidly. The withdrawal of blood to the splanchnic area, giving the heart less blood to pump, ought to cause it to beat faster. The change in viscosity would tend to weaken the heart because of increased work and possible interference with its nutrition, and as a result it ought to beat more rapidly. The only explanation then seems to be that the cathartics used either stimulate the vagus and cause the heart to beat more slowly, or lessen the excitability of the heart muscle, which would produce the same result.

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[4] Blunschy, F.: Beiträge zur Lehre von der Viscosität des Blutes, Zurich, 1908.

Again, this slowing of the heart may be due to a reflex inhibition of the augmentor nerves of the heart. This inhibition may be brought about by the irritative action on the intestinal wall of the strong cathartics used. The nervous mechanism of the intestines is intimately connected with the sympathetic system through the splanchnic nerves, and through these the reflex inhibition is brought about.

This is borne out by the clinical fact that we often have a slow pulse in certain diseases of the peritoneum and peritoneal coverings of the intestine.

The result from this set of experiments, supported by the clinical fact that patients with diseased hearts may become worse on brisk catharsis, warrants the assumption that all cases in which severe purging is used for depletion of the blood ought to be controlled by watching carefully the blood-pressure, rate of beat, regularity of heart and the general condition of the patient.

Our thanks are given to the intern staff of Alexian Brothers' Hospital, especially to Drs. A. W. Stine and L. F. Kurykendall for aid in this work.

THE IMPORTANCE OF PRESERVING THE INTEGRITY OF CONTIGUOUS STRUCTURES WHEN OPERATING ON THE TONSILS

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The time was when almost any medical man felt competent to use a tonsillotome in the amputation of offending tonsils, and a fair proportion of patients thus operated on were sure to be disappointed in the results attained. About ten years ago when dissection and extirpation of the gland were first being practiced in some quarters, the new operation was viewed with much diffidence on account of the danger of hemorrhage and the difficult technic. Now, after the matter has been discussed at great length, and countless demonstrations of different methods have taken place, familiarity has induced many men of varying surgical attainments to attempt the enucleation of tonsils with about the same degree of ardor and indifference which characterized the use of the tonsillotome years ago.

The situation to-day comprises several good simple operative procedures based on correct surgical principles, and any number of fanciful variations amounting in some instances to positive absurdities. In recent years most of the discussion connected with the tonsil and adenoid operation has centered on the indications for surgical interference and how best to remove the organs. Strange to say, little has been said about the postoperative condition of these throats except to report the absence of obstruction, and freedom from inflammation. Supportive treatment before and after the operation evidently has not received the attention it deserves, and thorough preoperative general examination has not been the rule.

It is apparently a fact that lack of skill or total indifference as to the integrity of contiguous structures has been responsible for deficient function of those important muscles which constitute the velum palati. After healing, the results of operative trauma may be seen in some throats. A portion of a faucial pillar or practically all of it may be absent, and the contracting scar tissue which has replaced it will have drawn the velum to that side, necessarily interfering with its function. In some cases the uvula has been sacrificed. The velum palati is formed by the insertion or blending of the palatoglossi, the palatopharyngei, the azygos uvulae, the levator palati and the tensor palati muscles; and in itself or through these individual muscles has a diverse action. Deglutition, respiration, phonation and ventilation of the tympanum are all intimately dependent on this group of muscles. During respiration they are all at rest; during the act of swallowing all are in action; and at such times the eustachian tube is dilated through the action of the levator palati and tensor palati.

During the act of swallowing the palatoglossus muscles, which form the anterior pillars of the fauces, contract in such a way as to prevent extrusion of fluids or solids into the mouth, while the palatopharyngeus muscles, forming the posterior pillars of the fauces, assist in performing a similar function for the nose by acting with the other component muscles of the velum, drawing it upward and backward and closing the posterior nares. In speaking, these muscles are used in a variety of ways. Thus it is shown what important structures may be injured (sometimes unavoidably) in removing diseased faucial and pharyngeal tonsils. Mention should also be made of the possibility of injuring the cartilaginous orifice of the eustachian tube or excising a portion of the superior constrictor muscle of the pharynx.

Admitting that such an operation as the one in question has been faultlessly done, perfect local results are not likely to occur unless the granulating surfaces are frequently cleansed and astringents applied according to judgment until healing is assured. Reduction of exuberant granulations by mechanical means is sometimes advisable.

Such local treatment in small children, especially in the nasopharynx, is an impossibility, but I have always regretted my inability to use it.

Denuded areas in the nose and throat are always subject to moisture and all sorts of irritants; and nodules of poorly constructed connective tissue or contractile cicatrices may result from improper healing, causing pharyngeal obstruction, impaired muscular action or both. Dr. Pynchon of Chicago early called attention to the importance of postoperative treatment, and some others have emphasized it; but I have reason to believe that it has not been practiced so often as it should be, even in the matter of prescribing tonic and alterative measures.

One has only to follow these cases and observe the fauces with ordinary illumination for confirmation of the foregoing. In studying the nasopharynx with the mirror, the Hays electric pharynogoscope, or through a roomy nose, one may often see tags and nodules of new tissue, which should remove the conceit that we have done a perfect operation. Chronic catarrhal inflammation or actual obstruction may recur in such a case. In referring to obstructive new tissue, I am describing a situation in which absolutely all of the pharyngeal tonsil has been removed at the time of operation.

The defects following these operations are to be deplored, and our efforts should be centered on giving the patient true and proper function rather than simply to rid him of some diseased organs by a procedure which varies in its excellence according to the methods, talents and experience of the operator.

It is my view that many of the aforesaid drawbacks could be avoided by the suggested after-treatment and proper, careful technic in operating. Too little assistance, improper illumination, inefficient anesthesia, undue haste, dissection in the midst of blood, unnecessary trauma and above all a deficient conception of the surgical importance of operations on the nose and throat, are contributing factors in what I have been attempting to describe. That the pendulum has already begun to swing toward conservatism is evidenced by some recent admissions of the ill results of indiscriminate operating. It is unfortunate, though inevitable, that reports must appear of fatal hemorrhage, lung disease, cervical adenitis, local infection, septicemia, impairment of the voice and subsequent quinsy and tonsillitis following tonsil removal; but I have reason to believe that few such complications would occur if the operator were fully capable in the dual rôle of physician and surgeon—certainly a patient would not be subject to tonsillitis or quinsy if the gland had been totally removed. Nevertheless, if the tonsillotome method were used as recklessly to-day as is the extirpation method, its record would undoubtedly show less to recommend it. Radical removal of a portion of the neck should be condemned rather than a radical removal of the tonsil. Neither should every tonsil be removed simply because it happens to exist.

Most patients are well satisfied with the conditions following the removal of tonsils and adenoids, because of the freedom from obstruction and recurrent infection; but could some know how much they are needlessly losing through impaired function of the velum and component structures, such surgery would be placed in the category of that demanding the most expert service.

A CRITICAL STUDY OF THE ALBUMIN REACTION IN THE SPUTUM OF TUBERCULOUS PATIENTS *

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The attention of the medical profession in the United States is being more and more directed toward a chemical study of the sputum in diseases of the respiratory tract, especially in an effort to discover easier and more reliable methods of accurately diagnosing some of these diseases. The trend of modern investigation was turned toward these channels by the pioneer work of the French school of physicians, and has since been continued by the laboratory workers of England and America. The chemical study of the sputum was begun in 1835 by a French physician, Biermier,[1] and his work was supplemented by his colleagues. One of the first results of this work was the discovery that albumin occurred in certain diseases of the respiratory tract and not in others. With this as a working basis, Roger and Levy-Valensi[2] attempted to discover the exact relationship between the presence of albumin in the sputum and diseases of the respiratory tract. Their published observations gave stimulus to other investigators entering the same field of research, and the problem was attacked by Geeraerd[3] of Brussels, Lecaplain[4] of Rouen, Dieudonné[5] of Lysin and Smolizanski[6] of Paris, not to mention almost innumerable other observers. After examining a large number of cases, 1,605, the unanimous conclusions of the French observers were that when the sputum gave a negative reaction for albumin, all possibility of the patient having pulmonary tuberculosis might be dismissed; that with a positive albumin reaction, the diagnosis was not absolute, but suspicious enough to warrant the patient being kept under observation and reexamined frequently; and that when the pulmonary lesions were active, albumin was always to be found in the sputum.

The amount of work done by the British medical profession was not as extensive as that of the French. Foullerton[7] of Glasgow was not wholly satisfied with the value of the reaction and reported adversely on its applicability. He examined 100 cases, applying to them four well-known tests for the detection of albumin, and considered a sputum to possess a positive reaction only when it responded to all four characteristic tests, namely, the nitric acid contact test, the heat and acetic acid test, the picric acid test, and the potassium ferrocyanid test. He noted that the amount of albumin in the positive cases was subject to variations within wide limits, and made use of the terms "abundant," "moderate," "slight," "a trace," and "nil." He drew the conclusions that in a great majority of cases of pulmonary tuberculosis the sputum contained albumin in considerable amount; but in a small proportion of cases, little or no albumin was found; that a positive reaction occurred in various diseases of the respiratory tract, e. g., bronchitis and pneumonia; and that the albumin reaction was not entirely reliable in diseases of the respiratory tract and only of limited value in pulmonary tuberculosis.

The work of the British and French observers attracted the attention of the American medical profession, several members experimenting with the reaction. B. G. Williams[8] reported the results of the reaction as applied to thirty-seven cases, which he checked up with a search for the tubercle bacilli in the stained smears. He found that in no case did he obtain negative albumin reactions in cases in which the tubercle bacilli could be demonstrated in smears. Works[9] of the Public Health Service reported a similar study of the sputum in 100 cases, and concluded that a negative albumin reaction in the sputum was an accurate means of excluding the possibility of pulmonary tuberculosis.

TECHNIC OF THE REACTION

I desire to call attention to a series of eighty-five cases which were recently examined at the Army Medical School in an endeavor to ascertain the degree of reliance which might be placed on a negative reaction. The sputum was obtained from the District of Columbia Tuberculosis Hospital, each sputum coming from a patient in whom the clinical signs were those of a pulmonary tuberculosis, and in whose sputum the tubercle bacilli had been found. Each sputum was examined for the bacilli and the albumin reaction. The technic of the albumin reaction was as follows: About 5 c.c. of the sputum were diluted with an equal volume of water, and 5 drops of glacial acetic acid added; the whole was shaken vigorously for five minutes and filtered through

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* From the Pathologic Laboratory of the U. S. Army Medical School.

[1] Biermier: Quoted by Roger and Levy-Valensi. See Footnote 2.

[2] Roger and Levy-Valensi: Bull. et mém. Soc. méd. d. hôp. de Paris, July 23, 1909.

[3] Geeraerd: L'albumino-réaction de l'expectoration chez les tuberculeux, Tuberculosis, 1910, p. 372.

[4] Lecaplain: Note sur quelques cas d'albumino-reaction des expectorations, Presse méd., March 11, 1911.

[5] Dieudonné: L'albumino-reaction, Société de médecine de Lysin, Rev. de la Suisse romande, March 24, 1910, p. 394.

[6] Smolizanski: L'albumin dans les crachats des tuberculeux, Thèse de Paris, 1911.

[7] Foullerton: The Albumin Reaction of the Sputum in Pulmonary Tuberculosis, Glasgow Med. Jour., July, 1912.

[8] Williams, B. G.: Some Experiences with the Lessilur-Prirey Test, New York Med. Jour., Aug. 24, 1912.

[9] Works, B. O.: The Quantitative Examination of Albumin in the Sputum of Pulmonary Tuberculosis, The Journal A. M. A., Oct. 26, 1912, p. 1537.

a fine filter-paper to obtain a clear filtrate. The nitric acid contact test was performed on the filtrate thus obtained. The use of glacial acetic acid was tested first as compared with a greater dilution of acetic acid and was found to act similarly, as with this dilution the strength of the acetic acid in the solution was only 0.003 per cent.

RESULTS OF EIGHTY-FIVE EXAMINATIONS OF TUBERCULOUS SPUTA

The series of eighty-five cases included thirty-two cases of the disease in its incipiency and fifty-three cases of advanced pulmonary tuberculosis. Of the thirty-two cases of incipient pulmonary tuberculosis, all showed the presence of the tubercle bacilli in smears, while the sputum was negative to the albumin reaction in six cases, and a faint or doubtful reaction was noted in eleven cases. Of the fifty-three cases of more advanced pulmonary tuberculosis, two cases gave a negative albumin reaction, while again twelve cases gave a doubtful reaction. The histories of the patients giving a negative reaction were carefully examined, all furnishing the dominant characteristics of pulmonary tuberculosis: gradual loss of weight, nocturnal sweats, rise in temperature, and dulness and râles over the apices and other portions of the lungs. Absolute diagnosis was afforded in two fatal cases, one of which was particularly instructive. On examination, the sputum was negative toward albumin, but there was some doubt concerning the presence of the bacilli. A second sputum was obtained two days later, the patient having had a moderate hemorrhage in the meantime. The bacilli were found in the second sample, but the albumin reaction was so slight that it might easily have been caused by the serum-albumin in the blood mixed with the sputum, following the hemorrhage. In about three weeks this patient died in a hemorrhage, and at autopsy typical tuberculous lesions were found.

Here then we have a patient within three weeks of a fatal termination from pulmonary tuberculosis, yet furnishing us with an absolutely negative albumin reaction the first time, and a very doubtful one the second time. In the second case death occurred, and at autopsy typical tuberculous lesions were found. In view of these facts I believe that there can be no doubt that patients suffering from an active pulmonary tuberculosis may and do eject sputa containing no albumin, and hence the search for albumin in the sputum is not to be relied on in the diagnosis of such pathologic conditions.

SUMMARY OF THE CASES EXAMINED

Stage of Disease	Cases		Albumin Positive		Albumin Negative		Albumin Doubtful	
	Total	Presenting Bacilli	No.	Per Ct.	No.	Per Ct.	No.	Per Ct.
Incipient.	32	32	15	46.0	6	18.0	11	36
Advanced	53	53	39	73.0	2	3.8	12	23
Total.	85	85	54	63.5	8	9.4	23	27

From a study of the accompanying tabulation it will be noted that by the aid of the albumin reaction alone we would be able to diagnose fifty-four cases as being tuberculous, provided the other signs and symptoms were those of pulmonary tuberculosis; in eight cases, trusting the information furnished by the negative albumin reaction would lead to an absolutely incorrect diagnosis; in the twenty-three doubtful cases we would again be forced to rely on the search for the bacilli in the sputum taken in conjunction with the typical physical signs and symptoms.

POSSIBLE SOURCES OF ERROR IN THE REACTION

As a result of the investigations in this series of eighty-five cases, we noted that the reaction was subject to certain variations in the end-point, which in my opinion vitally affects the value of the reaction. In a number of cases we noticed a "delayed reaction" on contact with the nitric acid. Often as long an interval as an hour would elapse before the ring would form. A characteristic albumin should form this ring immediately on contact. Closely allied to this phenomenon was a second, the "inconsiderable reaction," which showed so faint a reaction that many times there was doubt as to whether the sputum was positive or negative. These two reactions often occurred in sputa which were teeming with the tubercle bacilli in stained smears. There was doubt whether this delayed reaction and the inconsiderable reaction might not be due to some other substance in the sputum than albumin, which in time would give a reaction similar to albumin, such as elastin, etc.

Again a "diffuse cloudiness" was often noted rather than a clear-cut white ring at the zone of contact with nitric acid, this diffuse cloudiness occurring in certain sputa in spite of all efforts to avoid mingling of the filtrate and nitric acid. This cloudiness often did not appear for some time after the test was made, as much as an hour at times.

One of the greatest objections noted was the fact that the reaction will change when the sputum is allowed to stand, either at room temperature or in the ice-box. One sputum, in particular, was received late in the afternoon, and tested for albumin. It was negative. It was placed in the ice-box until the next morning, when it was again tested, showing a faint but distinct ring. On being allowed to stand about six hours at room temperature, it gave a very heavy ring. This showed that, in order to be reliable, the albumin test in the sputum must be performed on sputa that have just been ejected, and since in the majority of cases the practitioner is unable to examine at once the freshly ejected specimen, his results must be open to doubt on account of the age of the sputum and the possibility of its reaction having changed from the original, on account of age. The great desideratum in accepting newer methods of diagnosis in place of our old methods is that the newer shall be more easily interpreted and be more reliable than those which we are about to discard; since the albumin reaction does not fulfil this cardinal principle, it is unsatisfactory.

CONCLUSIONS

As a result of the careful study of eighty-five cases of clinical pulmonary tuberculosis, in which the examination for the tubercle bacilli has been positive in all the cases, certain general conclusions may be drawn:

1. In cases which have been clinically diagnosed as pulmonary tuberculosis, in which also the examination for the tubercle bacilli has been positive, we note that there was an absolutely negative albumin reaction in about 10 per cent.

2. The positive albumin reaction is admittedly of little value, since it may occur in any of a number of different diseases of the respiratory tract.

3. The value of an "inconsiderable" or doubtful reaction is questionable.

4. Practically all the albumin reactions are of no value in the routine diagnosis of pulmonary tuberculosis, (*a*) because the positive reaction occurs in many affections of the pulmonary tract other than tuberculosis, (*b*) because a negative reaction may occur in about 10 per cent. of positive pulmonary tuberculosis cases, (*c*) because with the test there are certain variations which would have to be eliminated in each sputum examined to permit of a reliable result, and (*d*) because in the case of an "inconsiderable" or "doubtful" reaction, one does not know in any given case how much importance to attach to the reaction.

DEATH FROM SPINAL ANESTHESIA

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In reporting this case I am prompted by a desire to place on record the dangerous side of this valuable method of anesthesia. It serves to illustrate the truth of the statement that there is no safe anesthetic.

On the morning of the day when the fatality occurred I had for operation two cases of fracture which required Lane plates. The first patient was a man about 40 years of age, with an oblique fracture of the tibia which would not remain in place with an ordinary splint. Morphin, 1/6 grain, and scopolamin, 1/100 grain, were administered half an hour before the operation. Stovain was injected, and satisfactory anesthesia to the middle of the abdomen quickly followed. The Lane plate was applied, the wound dressed and splinted, and the patient returned to his bed in comfort. This operation was witnessed by the physician who had brought the second patient. He had never seen spinal anesthesia used before, and remarked that it was surely an ideal anesthetic.

His patient was a woman 60 years of age with a fracture of the femur at the junction of the middle and lower third. She had received the same dose of morphin and scopolamin as the man, and at the same time, having consequently had the dose about half an hour longer. She was scarcely quieted by it, and was sensitive to movement and fully awake, exhibiting no evidence of drowsiness. The ordinary dose of stovain was injected, and anesthesia appeared almost instantly. Within two minutes her face became pale, and she ceased to breathe.

Following the suggestion of Babcock[1] I immediately commenced artificial respiration, and had it continued by the interns and assistant. The heart action continued slow, but there was no respiration. After a while I intubated the trachea with a rubber catheter, and attached an oxygen generator. Artificial respiration in addition to the oxygen was continued for one hour and fifty-five minutes, at the end of which time the patient began to breathe naturally. I am certain that had it not been for Babcock's admonition I would have abandoned the effort as hopeless before this time. The patient did not, however, become conscious after she began to breathe, and no attempt was made to plate the bone. A long splint was applied, and she was sent to bed. At the time I left the hospital about noon she was breathing regularly, her pulse slow, but there was no return of consciousness. At 4 o'clock in the afternoon I received a telephone message from the hospital that she was doing badly, and instructed the nurse to call the same interns who had done artificial respiration in the morning. Their efforts were unsuccessful, and she died within half an hour.

There are certainly some unusual features about the case, but the rapidity with which respiratory paralysis followed the stovain injection must make reasonable the presumption that the final death, though occurring nearly six hours after the stovain injection, was actually caused by it.

329 Alder Street.

New and Nonofficial Remedies

THE FOLLOWING ADDITIONAL ARTICLES HAVE BEEN ACCEPTED BY THE COUNCIL ON PHARMACY AND CHEMISTRY OF THE AMERICAN MEDICAL ASSOCIATION. THEIR ACCEPTANCE HAS BEEN BASED LARGELY ON EVIDENCE SUPPLIED BY THE MANUFACTURER OR HIS AGENT AND IN PART ON INVESTIGATION MADE BY OR UNDER THE DIRECTION OF THE COUNCIL. CRITICISMS AND CORRECTIONS ARE ASKED FOR TO AID IN THE REVISION OF THE MATTER BEFORE PUBLICATION IN THE BOOK "NEW AND NONOFFICIAL REMEDIES."

THE COUNCIL DESIRES PHYSICIANS TO UNDERSTAND THAT THE ACCEPTANCE OF AN ARTICLE DOES NOT NECESSARILY MEAN A RECOMMENDATION, BUT THAT, SO FAR AS KNOWN, IT COMPLIES WITH THE RULES ADOPTED BY THE COUNCIL.

W. A. PUCKNER, SECRETARY.

SODIUM GLYCEROPHOSPHATE—Sodii Glycerophosphas.—Sodium glycerophosphate is hydrated sodium glycerophosphate, $Na_2(C_3H_5(OH)_2)PO_4.5\frac{1}{2}H_2O$, the sodium salt of monoglycerophosphoric acid, $H_2(C_3H_5(OH)_2)PO_4$, containing not less than 99 per cent. of hydrated sodium glycerophosphate.

White, monoclinic plates or scales, having a saline taste; odorless; easily soluble in cold and hot water; nearly insoluble in alcohol.

At about 60° C. (140° F.) it begins to lose its water of hydration; when strongly heated the salt yields inflammable vapors and at a red heat is converted into sodium pyrophosphate.

The aqueous solution (1 in 20) is alkaline to litmus and to phenolphthalein.

If an aqueous solution (1 in 20) be acidified with nitric acid, and an equal volume of cold ammonium molybdate solution added, it should remain clear for one hour. On heating, however, a yellow precipitate will be formed.

The aqueous solution (1 in 100) acidified with hydrochloric acid should not respond to the U. S. P. VIII time limit test for heavy metals.

The aqueous solution (1 in 100) acidified with hydrochloric acid on addition of barium chloride solution should show no distinct turbidity within one minute.

The aqueous solution (1 in 100) acidified with nitric acid should not show more than a slight opalescence with silver nitrate solution.

The aqueous solution (1 in 100) acidified with acetic acid should not become turbid within one minute on addition of ammonium oxalate test solution.

If 1 Gm. of sodium glycerophosphate be thoroughly triturated in a mortar with 20 Cc. of alcohol, the liquid filtered and the alcoholic solution evaporated spontaneously the residue, after drying over sulphuric acid, should correspond to not more than 1 per cent. of the weight of the salt taken.

If from 2 Gm. to 3 Gm. of the salt be weighed, disolved in distilled water and the solution titrated with half-normal hydrochloric acid, using methyl orange as indicator, the acid consumed should correspond to not less than 99 per cent. of hydrated sodium glycerophosphate.

Actions and Uses.—See Calcium Glycerophosphate.

Dosage.—From 0.25 to 0.65 Gm. (4 to 10 grains) in wafers, capsules or tablets or dissolved in water or syrup. Hypodermically 0.2 to 0.25 Gm. (3 to 4 grains) in normal saline solution.

Non-Proprietary Preparation:

Sodium Glycerophosphate, Monsanto.—Manufactured by the Monsanto Chemical Works, St. Louis, Mo.

VACULES DIGITOL.—This dosage form of an accepted proprietary article has been accepted.

Each vacule contains digitol 30 Cc. in sealed ampules.

The air in the container is removed before sealing, whereby, it is claimed, deterioration of digitol is retarded.

Therapeutics

TABES DORSALIS: LOCOMOTOR ATAXIA

While there is little new in the treatment or management of this progressive disease, and while many treatments have been supposed to cause remissions in the progress of the disease, it is well to note exactly where we stand to-day in the application of therapeutic methods in the management of this chronic, painful, progressive disease of the spinal cord. Toward this end reference may be made to the article of Dr. E. L. Hunt.[1]

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[1] Babcock: Surg., Gynec. and Obst., November, 1912.

[1] Hunt, Edward L.: Am. Jour. Med. Sc., September, 1912, p. 398.

Hunt emphasizes the fact that the earlier treatment is commenced, the longer in abeyance will be active symptoms, and that the more rigidly the patient carries out his treatment, or perhaps the more persistently he continues his restrictions, the slower will be the progress of the disease.

The management of the life and activity of the patient is many times of as much value as active medicinal or physical treatment. Rest alone is an agent for good. It relieves weakness, prevents muscle tire and renders the patient better able to walk and less likely to have acute pains during his periods of activity. In other words, the patient, whether in the stage of more or less ataxia or whether in the beginning of the disease, must rest more hours during the twenty-four than the number to which he has been accustomed. The amount of this rest depends entirely on the patient's muscular weakness and the frequency and severity of the pains—the greater the weakness and the greater the frequency of the pain, the longer the rest each day. If the patient is not able to walk about or be at all active, he must have the fresh-air treatment in his room or on a veranda; he will not do well if he is closely housed. If cold weather causes the pains to be more severe, he should, if possible, go to a warmer climate.

Anything that increases the circulation in the limbs and dilates the peripheral blood-vessels helps these patients, and therefore massage and frequent warm baths are of value. Warmth brings the blood to the surface of the body and relieves the tendency to abdominal congestion or abdominal blood-vessel spasm. The value of electricity is doubtful, although gentle faradism to stimulate the circulation on the surface may be of some slight benefit.

The diet should be that which is the most readily digested with the least disturbance to the person; the patient should be individualized. If he is losing weight, such nutritives as olive oil, extra butter, cream and other fats should be given to endeavor to prevent the loss. Any particular food that is found to cause gastric or intestinal gas should be eliminated from the diet. Anything that tends to cause vasoconstriction, such as caffein and nicotin, is of disadvantage in this disease; therefore tea, coffee and tobacco should generally be prohibited absolutely.

Intestinal peristalsis is always more or less sluggish, or at least irregular, and laxatives are necessary. The laxative best for the individual must be determined. Salines are inadvisable if a patient is losing weight. Vegetable laxatives and laxative foods and laxative substances such as agar-agar are the ones that should generally be used.

Hunt enumerates the various methods of applying counterirritation to the spine, but we can probably rule out mustard plasters, cantharidal blisters and galvanism. Whatever good results can be developed from counterirritation will occur after cauterization. Cauterization of the spine has seemed to do good, at other times to fail utterly, but it may be tried.

Stretching of the spinal cord by means of suspension of the patient by his head and arms was thought for some time to be of benefit, and probably it often is. Hunt, however, states that this is accomplished as well and much more safely by the patient bending his body over his extended legs while he is sitting on the floor.

When the patient is ataxic much good can be done by regulated gymnastic exercises according to Fraenkel's method. These are mostly of course for the legs, but if the arms are ataxic, they may also be taught to become more efficient. Hunt urges that these exercises should be taken with the eyes covered, so that the patient will learn to walk or direct coordinate movements without the aid of the sight He also thinks that no cane or support should be used during these exercises. This gymnastic work should not be carried on to the point of weariness, from ten to fifteen minutes once or twice a day generally being sufficient. Hunt says that women are less ataxic with this disease than men because they are used to wearing skirts and walking without the aid of the eyesight. These exercises carefully and persistently carried out are unquestionably of marked benefit in postponing and relieving ataxia.

It is still a mooted question how frequently locomotor ataxia can occur without having syphilis as its cause, but the majority of all cases of this disease will give a specific history or a possibility of specific infection. Consequently, the Wassermann test or some modification of it should be made in every case of tabes dorsalis; but Hunt urges the caution that the test be not taken too soon after the patient has been taking iodids and mercury, as these may prevent the test being positive.

While Hunt states that it is questionable whether any satisfactory results have occurred from the use of salvarsan in locomotor ataxia, it seems that it should be conceded that occasionally it has been of value. The danger of the arsenic hastening or causing optic neuritis and optic atrophy cannot be stated too frequently, and Hunt says that salvarsan should not be given if arsenic has been recently given the patient.

He believes that mercury should always be given as soon as it is decided that the cause is syphilis, the only contra-indications, in his opinion, being a beginning optic nerve atrophy, anemia, advanced cases, and those in which there is a positive intolerance to mercury. When the disease is advanced and with anemia the decision whether or not mercury should be used could perhaps be made according to whether or not the patient had recently taken large amounts of mercury. Sometimes a patient becomes less anemic under small doses of mercury. Hunt believes that the hypodermic method of its administration is the best, and inunction the next best method of its administration. Whether given coincidently with mercury or without mercury, iodid, best in the form of the sodium iodid, many times seems to prevent the advance of the disease and slow the optic atrophy, and to lessen the frequency of ataxic pains. The digestion and nutrition, however, should be paramount, and if mercury or iodid, or both, interfere with the digestion and prevent proper nutrition, they do more harm than good in locomotor ataxia.

As the most important and most troublesome symptom is pain, the various methods of preventing it or shortening it are of constant interest in this disease. The more rest, the better nutrition, the better digestion, the less constipation and the better general elimination that can be secured for the patient, the less frequently do these terrible pains occur. As long as it is possible to withhold it, morphin should not be given, but if the pain is severe and the suffering intense, there is nothing but morphin that will stop it. It must be given in good-sized doses, hypodermatically. Such patients do not readily form the morphin habit, as generally these severe attacks do not occur frequently. Of course the precaution should always be taken that the patient does not give himself the hypodermatic injections; they must be given either by the physician or by a nurse. Codein may at times be a good substitute for morphin, but if the pain is severe it will fail unless used in very large doses. Salicylates have sometimes been thought to prevent or postpone these attacks. They should be tried, especially if there are any associated joint pains. The various "coal tar" products have all been used, and as they all act more or less similarly, it is not necessary to consider any of these drugs other than the official acetanilid and antipyrin; no other will act any better. Sometimes these are very successful. When the pain is not intense, but there is a general soreness and stiffness and tendency to cramps, local treatment of the region involved with dry cups, liniments, cautery, massage and faradization are enumerated by Hunt and are all of value.

The gastric crises when they occur are stopped only by morphin. If chloral or bromid is used the dose must be so large that morphin becomes much the safest drug. Hunt recommends cerium oxalate in 5-grain doses every half hour for these gastric disturbances. We must take exception to the value of this drug, as the crystals can do nothing but irritate the mucous membrane. The drug is not soothing, can never do anything that bismuth subcarbonate could not do better, and should be dropped from the Pharmacopeia. Strychnin is suggested, but it hardly seems that strychnin would be indicated in pain or muscle contractions caused by a disease of the spinal cord. As soon as the pain in the abdomen has ceased, that is, when the spasm has relaxed, brisk catharsis should be caused.

A most frequent troublesome complication is insufficiency of the bladder, and later perhaps paralysis of the sphincters. If cystitis occurs, it must be treated properly, and it may be prevented by hexamethylenamin. Proper antisyphilitic treatment may cause a bladder to improve much and become sufficient again. If it becomes paretic, rubber urinals must be worn, catheterization may be necessary, and bladder washing may be the future.

If optic neuritis has once occurred, it may be slowed or stayed by general and antispecific treatment, but it cannot be improved. Sometimes local treatments have been tried, but probably are of questionable value.

When the joints become affected but little help can be given them, as various local treatments, except possibly cauterization, have been proved to be of but little value. Electrical treatments of such joints are of no value.

DISTURBANCES OF THE HEART

(Continued from page 367)

MANAGEMENT IN ARTERIAL HYPERTENSION

The above-enumerated causes of hypertension suggest its prevention, its cure or its amelioration. To prevent the condition the physician must constantly preach greater care of patients after serious illnesses, less severe athletic competition, less tobacco, less overeating, and, especially, fewer late dinners, less coffee and tea to those who need such advice, and more careful watching of pregnant women as to their food and their excretions, especially the urine, more prevention of intestinal indigestion and colon putrefaction, and if possible less strenuous life and more periods of rest and relaxation.

The very enumeration of these suggestions of prevention of hypertension names the conditions to be investigated and corrected when hypertension is present: the removal of any cause that can be removed, such as nicotin, caffein, too much meat (if it should not temporarily be interdicted entirely), too much liquid of any kind (even water); more strenuous physical exercise, if the patient's habits are sedentary; warm baths, possibly even Turkish baths; better elimination by the bowels, that is, daily sufficient movements; and more rest, with relaxation—all these before physical or medicinal treatments are even considered.

It is a fact that mental as well as physical strenuosity raises the blood-pressure, and that fear, anxiety and even acute worry or sorrow may raise it. The patient's blood-pressure is lowered during the first part of sleep, at night or whenever he lies down and absolutely relaxes.

Brooks and Carroll[2] have shown that the greatest drop of blood-pressure during sleep occurs during the first part of the night's sleep; the blood-pressure then gradually rises, perhaps to reach its maximum the following afternoon. In other words, a sleepless night, or a night in which one is repeatedly aroused, does not give the normal diurnal lowering of blood-pressure, and it is these periods of relaxation that tend to ease the heart and the arteries. It is not the short-lived increased pressure that is serious; it is the continued increased pressure, or the continually repeated increased high pressure.

These investigators also showed that prolonged bed rest or a longer sleep did not tend to lower the pressure any more than the normal sleep and the normal rest, but that mental rest or psychic rest, or complete mental relaxation did lower blood-pressure at whatever time of day it was accomplished. We therefore come to the conclusion, as far as rest is concerned as a means to lower blood-pressure, that prolonged rest in bed if a patient is nervous, irritated or objecting is of no value, but vacation relaxation when one entirely forgets his business cares and irritations does reduce blood-pressure. In other words, vacations, even short ones, and repeated daily relaxations, if possible, are essential in the treatment of high pressure.

The physical methods of lowering blood-pressure are hydrotherapeutic, hot air (body baking), electric (autocondensation) and electric-light baths. If there is kidney disturbance, or while there are toxins in the blood still uneliminated, nothing can be of more value than various sweat baths, whether given by body baking, by electric light or by Turkish or Russian baths. Sweating is needed, especially if the patient is overweight and his heart is in good condition. Internal congestions are relieved, surface circulation is improved, capillaries are dilated, and the blood-pressure is temporarily always lowered. If the blood-pressure soon returns to a high mark, such treatments should not be too long continued, or if continued should be used only intermittently. Not infrequently, however, some patients are more or less permanently benefited by these treatments, the benefit lasting for months.

The autocondensation treatment always lowers the blood-pressure, but it must be repeated frequently, and the lasting effect of the treatment, unless the patient cooperates in every other way, is rather unsatisfactory. As an addition to other methods of lowering the blood-pressure it is excellent.

In line with the vacation treatment is the advisability, if possible, of selecting a change of climate to a warm one. Cold always increases the blood-pressure; consequently warm climates tend to lower it, and a patient with high blood-pressure in a cold climate will generally have his pressure lowered in a warm one. A corollary to this is that patients with high tension should be warmly clothed during cold weather, and more or less frequent warm baths are of benefit to them.

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[2] Brooks and Carroll: Arch. Int. Med., August, 1912, p. 97.

The most positively successful way of reducing blood-pressure is by venesection, and this method should not be forgotten when the blood-pressure at any time is suddenly enormously excessive. How frequently it should be used in seriously high blood-pressure is a question, as many times the return to high pressure is rather rapid, even after such a radical measure. It is therefore doubtful if it is advisable, except when a heart is seriously in acute trouble, with a very high blood-pressure, and the danger of apoplexy or a congestion of the lungs or a paralysis of the heart is imminent.

Drugs to lower the blood-pressure are mostly nitrites, and of these nitroglycerin, sodium nitrite, erythrol tetranitrate and amyl nitrite are the ones used, and the frequency of their use to lower blood-pressure is in the order named. Other drugs used to lower blood-pressure are iodids, thyroid, alkalies, chloral and bromids.

The nitrites all more or less rapidly lower blood-pressure, but the lowering does not last long. The most intense action is from amyl nitrite, but the action from this drug is so rapid and so intense that it should not be used in ordinary hypertension. Nitroglycerin, especially in tablet form, which is the handiest method for its administration, loses its activity more or less rapidly with age. Well-made nitroglycerin tablets will generally be active for months. If given hypodermatically or dropped on the tongue nitroglycerin will act in from one to two minutes, the greatest intensity of its action occurring within a few minutes. The blood-pressure may be lowered temporarily from 20 to 30 mm. of mercury. The action is stated to last not much longer than half an hour. Such an intense action of nitroglycerin is not advisable and not needed in chronic hypertension. The best method of giving nitroglycerin for this purpose is after meals and on going to bed. Whenever it is given on an empty stomach it should be taken with a large amount of water, in order that the action may be slow, and, if possible, not felt by the patient; throbbing of the head is not desirable. The dose may be from 1/500 to 1/100 grain three or four times a day, or every three hours, as desired. While the blood-pressure may not be perceptibly lowered at first, many of the symptoms of hypertension are removed, even with the small dose named, and when 1/200 grain is given four or five times in twenty-four hours, with the rest of the management of the patient, the blood-pressure is decreased.

The dose of sodium nitrite should not be more than 0.03 to 0.06 gm. (½ to 1 grain). It is always best given on a full stomach, as it is likely to irritate. Its action is slower than nitroglycerin, and it does not ordinarily reduce the pressure quite so much, but such reduction often lasts considerably more than an hour.

Erythrol tetranitrate is thought to act more satisfactorily by some clinicians, its effects often lasting longer than the other substances. On the other hand, nitroglycerin seems to be as satisfactory as the other substances named.

To those clinicians who believe that these short reductions of blood-pressure are of little value in the treatment of hypertension, it should be said that even short periods of relaxation, causing reduction of pressure, to say nothing of the physiologic lowering of blood-pressure during sleep, tend to intermit the continued high pressure, and therefore act for good. It is not asserted that the nitrites will cause a continued low blood-pressure. A tolerance is soon established and the dose must be more and more frequently repeated if they are used to their full effect and with the given frequency. On the other hand, if a nitrite is administered four times a day, the blood-pressure often remains slightly lowered, and even a slight lowering of the blood-pressure is valuable. A blood-pressure of 120 mm. may be perfectly satisfactory to the welfare and ability of a person, and if for any reason his blood-pressure drops to 100, he is generally more or less seriously disabled. In other words, a lowering of the pressure even 20 mm. is of importance to a person with high pressure.

Interesting experiments have been made by Lawrence[3] on the systolic and diastolic fall of blood-pressure under the various nitrites, as well as by other measures. He concludes that the diastolic fall of blood-pressure from almost any method of treatment is approximately one-half the systolic fall, and that sodium nitrite reduces the diastolic pressure more rapidly than the more complex compounds.

It is sometimes noticeable that when there is no kidney lesion a very high blood-pressure shows more of a fall under nitrites than does a medium high pressure.

It has long been thought that small doses of iodids, doses that are not sufficient to cause indigestion, will act as vasodilators and render the blood more aplastic or alter the viscosity. This has been recently shown by Capps[4] not to be a fact. Capps concludes that iodids in therapeutic doses are not active vasodilators, and when long continued do not materially affect blood-pressure; also that iodids do not alter the viscosity of the blood to any marked degree. Of course these findings do not mitigate against their value in syphilitic sclerosis, or sclerosis from any cause. As previously stated in these articles, small doses of iodid, daily, stimulate the thyroid gland to greater activity, and one of its activities is to lower the blood-pressure.

If a patient is obese, or if there are other signs of subsecretion of the thyroid, and hypertension is present, thyroid is the proper medicament to give. The dose need not be large, and from 0.1 to 0.2 gm. (1½ to 3 grains) of an active thyroid preparation (the dried gland), given daily for a considerable length of time, will be of value in such instances.

In many instances the blood-pressure is lowered under the action of an alkali such as potassium citrate. It is quite probable that when an alkali is given the diet has also been regulated, and that the alkali may combat some acid irritants. In other words, alkalies may aid in combating gouty tendencies or uric acid tendencies, and these causes of hypertension may be ameliorated. At any rate, they are often of benefit.

Unless a patient had very high tension and for some reason other drugs were unsatisfactory or inadvisable, hydrated chloral would probably rarely be used; but hydrated chloral in small doses, 0.20 to 0.25 gm. (from 3 to 4 grains) given three times a day, after meals, sometimes diminishes the blood-pressure.

The blood-pressure is always lowered by bromids, but of course such treatment is rarely advisable. If insomnia calls for medicinal treatment, bromids and chloral and many other hypnotics will cause a lowering of the blood-pressure, and, if frequently used, may lower the blood-pressure more or less continuously. Such a lowering of pressure, however, is quite likely to be due to some weakening of the heart. In other words, active physical measures should not be taken to lower the blood-pressure while these active drugs are being administered.

(To be continued)

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[3] Lawrence: Arch. Int. Med., April, 1912, p. 409.

[4] Capps, Joseph A.: The Journal A. M. A., Oct. 12, 1912, p. 1350.

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SATURDAY, FEBRUARY 8, 1913

ATHLETICS AND HEALTH

It is inevitable, we believe, that the problem of university athletics and the conduct of intercollegiate contests, to which we referred a few weeks ago,[1] should receive a more serious consideration from those who assume responsibility for these extracurricular features of American college life. Too often whatever savors of criticism of long-established practices is resented by the "interests" attacked, or ignored because it would abolish or modify some of the customs which are firmly implanted in our routine of life. Only after years of patient unremitting effort has the plea for a "safe and sane" Fourth of July led to a reform which will soon evolve into a nation-wide plan of rational celebration. Persistent exposure of the dangers of reckless football contests with their attendant fatalities cannot fail to bring welcome changes sooner or later. Signs of effective protest are already apparent, so that we may confidently anticipate the elimination of undesirable performances.

It happens that this is a most timely moment in which to inaugurate a campaign against the athletic recklessness of the past. Conservation is the key-note in campaigns of progress in all departments of national activity. Propaganda for the conservation of health and life is directly furthered by this more general spirit of the times. If college athletics of to-day are a menace to health, they cannot escape the attack of those who are alert for every evidence of human extravagance and waste. The day has gone by when university directors of athletics can overlook criticisms of performances, approval of which in the past has centered chiefly in their alleged hygienic value.

The Surgeon-General of the Navy, an officer who may be expected to look at the situation with unbiased mind and with a fund of expert information at hand, has made a serious charge against the ill effects of strenuous competitive athletics. An excess of disabilities involving degenerative diseases of the heart, arteries and kidneys occurs, he alleges, as the result of the overstraining and overtraining of spectacular athleticism. It will henceforth require more facts and statistics than the data commonly quoted regarding the expectation of life in college athletes or than mere impressions regarding a few Marathon runners, to settle controversies over the remote effects of the more active and violent exercises and sports.

In an address before the recent International Congress on Hygiene and Demography, Dr. R. Tait McKenzie,[2] professor of physical education in the University of Pennsylvania, and a strong supporter of the cause of college athletics, pointed out that the mere presence of a heart murmur has been considered so serious and disabling in character that the necessary activity of many young persons has been harmfully curtailed. He believes that its importance in the field of cardiac symptoms has been grossly exaggerated, and that too often the graver and more significant signs of heart weakness have been put too far into the background. An investigation disclosed murmurs after exercise in seventy-four out of 266 young men in apparently normal health. No marked difference could be found between men who led an active athletic life and those whose occupation had been sedentary. Dr. McKenzie maintains that the presence of murmurs in nearly 28 per cent. of normal young men even on slight exertion should lead to caution in giving an unfavorable prognosis when they are found immediately following severe strain or fatigue. The murmurs may appear or disappear on change of posture alone; and the facts presented are taken to illustrate the fallacy of diagnosticating heart damage from the presence of a murmur only. Dr. McKenzie contends that murmurs always appear and slowly fade away; after the most severe strain one can seldom find any measurable injury in a week's time in a heart originally sound, if the athlete has not passed 30; occasionally, however, they persist longer. He regards it as demonstrated that even severe athletic competition does not, as a rule, appreciably damage the circulatory apparatus, though its rôle in hastening the onset of arteriosclerosis is still difficult to determine.

These conclusions, from one of the foremost teachers of physical education in this country, deserve consideration and may be taken as fairly representative of the views of those who defend modern college athletics. To us, however, they seem far from convincing in respect to the advantage of extreme forms of exertion such as one sees exhibited in intercollegiate contests or similar performances. Athletics in the forms objected to must better justify their existence if their vogue is to be countenanced.

It seems to us that the enthusiasts for physical education have hitherto failed to emphasize the important distinction between those strenuous performances which tax the capacities of the organism to its utmost (comprehended in the term "athletics"), and that exercise of the bodily functions more appropriately included under the designation "physical education." Europeans have a far happier expression for the employment of their bodily activities in the word "sport," which implies the combination of a healthy spirit of pleasure and satisfaction with what we call exercise. Such an attitude is almost unknown here. Instead, there exists a form of overdoing that finds its chief reward in the applause of the multitude rather than in the joy of the performance. For this unfortunate situation our teachers of physical education are by no means wholly responsible. "Athletics" have long been under the dominance of so-called "trainers," frequently men of keen judgment and technical skill, usually persons devoid of any systematic acquaintance with physiologic or medical truths. Their sole concern is to turn out a winning team or a victorious athletic giant. From these anomalous and domineering guardians of athletics has come the ridiculous "training-table," with its physiologic incongruities, teaching that beefsteak makes muscle and suppressing obvious stimulants from the dietary while subtle ones are unsuspectingly introduced to whip up the jaded college youth. The best intellectual feature of rival contests — the encouragement for each man to put forth the best that is in him and to exercise his own ingenuity in the development and maintenance of an efficient, superior organism — is suppressed by the advent of that guardian saint, the trainer.

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[1] Effects of Strenuous Athletics in the Navy, editorial, The Journal A. M. A., Jan. 6, 1912, p. 40; A Further Report on Athletics and Health in the Navy, editorial, ibid., Jan. 11, 1913, p. 131.

[2] McKenzie, R. Tait: The Influence of Exercise on the Heart, Am. Jour. Med. Sc., 1913, cxlv, 69.

In his book on "Exercise in Education and Medicine," McKenzie says: "Physical education for college students must then include personal hygiene and the correction of remediable defects, the education of their physical powers to the highest point of efficiency, and the cultivation of those social qualities that can be taught through the agency of athletic activity better than by any other means." We fancy that this "social" feature of college athletics is far more insidious in its effects than appears at first glance. Many a man enters the gridiron and literally tortures himself to win coveted fame, only to find in succeeding years that he has failed to learn any sport or game that is an economic or physical possibility for him in his subsequent career. It would be a fortunate circumstance for many a college graduate consigned to a sedentary and confining occupation to have acquired interest and dexterity in some form of exercise or sport, such as rowing, tennis, boxing, fencing, etc., which could enable him to preserve some continuity between the bodily activities of his student days and his subsequent years. The physician often sees the situation which is here referred to. What is "physical education" or "athletics" doing to meet this need?

The men who present themselves as candidates for athletic teams not infrequently have unsuspected organic heart lesions, dangerous hernias, or incipient tuberculosis. This emphasizes that the examination of the physical condition of competitors should be put into the hands of more competent men than it all too frequently is. We shall continue to deplore the serious accidents in rough games, despite the statement of so prominent an advocate of athletics as Dr. McKenzie that "the chance of a twisted ankle or knee, or even a broken collar-bone or arm or leg, is one of the things that make such games attractive to the healthy young man."[3] We are ready to admit that the cultivation of physical intelligence furnishes a valuable asset to man in developing coordination and promoting health and happiness. But when the results of vigorous sports or exhausting struggles are involved, something more than a "pardonable pride in an expanding chest and swelling biceps" should furnish the guiding motive. The obvious abuses of athletics must be threshed out.

CHEMOTHERAPY OF PNEUMOCOCCUS INFECTIONS

The history of the treatment of pneumonia by drugs consists of a series of false, usually poorly grounded hopes, and the subsequent disillusionment. Characterized by a sudden spectacular crisis, and a great variability as to mortality in different epidemics and in different groups of cases occurring at the same time, pneumonia offers more pitfalls for the unjudicial, optimistic and credulous therapeutist than almost any other disease, and as a result the proposed systems of "specific" treatment are legion. A review of the history of the drug treatment of pneumonia by Felix Rosenthal[1] brings out the wide range of medicaments used, and the poor grounds on which the advocacy of most of them has rested. It would seem that of all drugs for use in pneumonia only quinin has persisted in finding advocates from the earliest to the most recent times. Among these advocates have been men of large experience and recognized ability, notably Aufrecht. This has served to direct the attention of those in the new field of chemotherapy who are investigating the treatment of pneumococcus infections, to quinin and its derivatives, especially as compounds of this class have already been investigated in connection with the chemotherapy of trypanosome infections.

These studies have come chiefly from Morgenroth and his associates, who had worked with these compounds, had noted resemblances between pneumococci and trypanosomes in regard to their behavior with bile salts, and who collated these facts and the clinical repute of quinin in pneumonia. With this background, they undertook an investigation to determine whether or not the derivatives of quinin which had been found effective in trypanosome infections might be effective against pneumococci, or at least might serve as a starting-point for work on pneumococcus chemotherapy. They had learned that against trypanosomes quinin itself was less effective than certain derivatives, hydroquinin and hydrochlorisoquinin, whose relation to quinin is shown by the following graphic formulas of the side-chains of the quinin molecule in which the sole differences exist:

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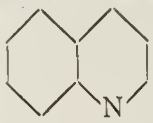
[3] McKenzie, R. Tait: Exercise in Education and Medicine, Philadelphia, 1909, p. 190.

[1] Rosenthal, Felix: Ztschr. f. Chemotherap., 1912, Part 2, p. 1149.

$:CH.CH:CH_2$ quinin.
$:CH.CHCl.CH_3$ hydrochlorisoquinin.
$:CH.CH_2.CH_3$ hydroquinin.

These two compounds were found entirely ineffective against pneumococci, but more favorable results were obtained by modifying the  or quinolin group of the quinin molecules. To this group in quinin is attached a CH_3O group, which can be replaced in hydroquinin by a C_2H_5O group, forming "ethylhydrocuprein," a compound which was found to be very active in pneumococcus infections in mice. By injecting an oil solution of the free base subcutaneously, which permits of a suitable rate of absorption to secure the maximum effects from the drug, it was found possible to save from 80 to 100 per cent. of mice given subsequently a lethal dose of pneumococci; favorable but less striking curative effects were also obtained with infected mice. Quinin itself is quite ineffective under these conditions, as is the hydroquinin; but a propyl derivative was of considerable activity, although somewhat less than the ethylhydrocuprein. It is interesting that, just as trypanosomes tend to become resistant to chemicals used unsuccessfully to destroy them ("drug-fast" is the term used to describe this condition), so too the pneumococci surviving treatment with ethylhydrocuprein produce strains resistant to this drug.

As yet little has been done in human pneumonia with this drug, which produces such striking results in experimental animals, and the results so far obtained are not all that could be desired. Fraenkel thought that an undoubted effect was produced in many cases, but Wright could see no favorable influence. A serious complication was a severe but transient amblyopia, observed in three of twenty-one patients treated with ethylhydrocuprein, an occurrence which again emphasizes the necessity for extreme care in the use of new compounds on human subjects. From these results it is evident that the experimental work so far conducted on a specific chemotherapy for pneumonia has not advanced beyond the earliest stages, and that it is still far from practical therapeutics. But it is important that a definite advance has been made in the application of chemotherapeutic principles to bacterial infections, and we have every reason to hope that eventually the goal will be reached. The results obtained in so brief a time are encouraging.

THE STOMACH IN HUNGER

The hundredth anniversary of the entry of one of America's pioneer medical investigators, Dr. William Beaumont, into the practice of medicine was fittingly commemorated last year by the publication of a biography of merit prepared by Dr. Jesse S. Myer[1] of St. Louis. The devoted efforts of this undaunted man of science — a backwoods physiologist, as Osler has suggestively designated him — have furnished the inspiration to a number of successors to repeat the observations which Beaumont made on his famous subject Alexis St. Martin, the man with the "lid on his stomach." It happens that most of the subsequent opportunities — at least those which have arisen since the days of the modern antiseptic surgery — have been cases of gastric fistula which was the intentional outcome of gastrostomy operations performed to relieve a complete occlusion of the esophagus. They have therefore differed from the classic instance of St. Martin in affording a chance to study the stomach and its secretions in man without any complicating factors introduced by the contribution of the saliva or other materials which would ordinarily pass down the esophagus and mingle with the gastric contents.

Recently Professor Carlson of the University of Chicago has experienced the fortunate circumstance of securing a young man in normal health who for the last sixteen years has fed himself through a permanent gastric fistula owing to complete closure of the esophagus as the result of accidentally drinking a strong solution of caustic soda. On this exceptional subject Carlson[2] has investigated the movements of the stomach by the technic which the physiologic investigator of to-day employs; and he has furnished some interesting and conclusive contributions to the physiology of hunger.

There have been diverse theories of hunger from earlier days to the present era. Until quite recently it has been widely believed that hunger is essentially a general sensation with a local reference to the stomach. In ultimate analysis this would mean that the metabolism of the body cells in connection with their functional requirements modifies the make-up of the circulating blood so that this in turn alters the excitability or activity of those elements of the nervous system, central and peripheral, which govern the activities of the entire digestion-complex. This modified situation produces, in the hypothesis here contemplated, the sensation of hunger. In more rudimentary terms this might mean that as time passes food substances disappear from the blood, and consequently the nerve cells, "suffering from the shortage of provisions," give rise to the sensation.

Cannon has vigorously combated this view, and maintains that hunger is not a general sensation.[3] The sharp onset of its pangs and the abrupt arrival of the characteristic ache which many have noted could scarcely be the expression of a general bodily state; for this does not change with such critical suddenness. Neither will the general sensation theory explain the intermittency of hunger which is frequently observed. Cannon's experiments[4] lead to the conviction that hunger results from powerful contractions of the stomach. With this general view the observations which Carlson has now been able to make on his new fistulous subject are in accord. He notes that the empty stomach exhibits, at least during the first twenty-four hours after a meal, two types of rhythmic movements; one is relatively feeble but continuous; the other falls into periods of relatively strong contractions. The latter involves the fundus. In confirmation of Cannon the individual contractions of the continuous rhythm are recognized as hunger pains. There is a close correspondence between the intensity of the hunger experienced by the subject and the amplitude of the contractions of the empty stomach simultaneously registered. There may, however, be considerable motor activity of the empty stomach without any definite sensations of hunger. The latter are due to the stimulation of afferent nerve fibers in the muscle layers.

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[1] Myer, Jesse S.: Life and Letters of Dr. William Beaumont, C. V. Mosby Co., St. Louis, 1912, pp. 317.

[2] Carlson, A. J.: Contributions to the Physiology of the Stomach: I, Am. Jour. Physiol., 1912, xxxi, 151.

[3] Cannon, W. B.: The Nature of Hunger, Harvey Society Lectures, 1911-1912.

It is interesting to learn evidences of alterations in the tonus of the central nervous system concomitant with, or as a result of, the sensation of hunger. Thus during the strong contractions of the stomach the knee-jerk is greatly augmented. Fluctuations in vasomotor tone occur; and Carlson suggests that the close association between the vasomotor center and the bulbar tonus center may explain the feeling of faintness experienced in strong hunger by many persons. The strong "hunger contractions" of the empty stomach are promptly inhibited by chewing palatable food and by stimulation of the gustatory nerve endings in the mouth. The inhibition is merely temporary; it appears sooner, but does not last so long as the secretion of gastric juice following this stimulation. Accordingly the gustatory stimuli, which are so commonly emphasized as the occasion for "psychic" secretion of gastric juice, lead to "psychic" inhibition of the gastric tonus and movements and the attendant hunger sensations. According to Carlson the mere sight or smell of food, or any kind of olfactory stimulation, does not appear to affect the stomach movements of a hungry man.

The stomach contractions (and the hunger sensations) are not influenced by the introduction of therapeutic quantities of a variety of drugs such as epinephrin, phenol, chlorbutanol, etc. Familiar beverages — water, coffee, tea, beer, wine and brandy — on the other hand cause inhibition, water appearing to have the least effect in this direction. During the strong contraction periods bile frequently enters the stomach cavity; but the tests for pancreatic juice have always been negative. It appears that, in the earlier periods of hunger at any rate, the empty stomach is never completely at rest.

Hunger, or the lack of it, is a condition which at times commands the considerate attention of the practitioner. The absence of the sensation in fevers can now be referred to the total cessation of all movements of the alimentary canal in infection with systemic involvement. The pathologic inordinate hunger (bulimia) of certain neurotics is attended with disturbances in the tonic innervation of the alimentary canal. The fortunate physiologic observations on an occasional unfortunate individual serve a useful purpose in medicine by directing attention to numerous little-understood and hitherto unexplained gastric manifestations of disease.

THE HISTORY OF MEDICINE REVISED

Under the name of Paracelsus the history of medicine has become familiar with the career and teachings of Theophrastus Bombast von Hohenheim, a physician at one time professor in the university at Basel, who lived at the opening of the sixteenth century. There are probably few men of whom so much good has been written and who also have been so roundly censured and discredited as this man.

To understand the assumed place of Paracelsus in the teachings of his generation it must be recalled that the backbone of the study of medicine at that time was anatomy. The name of Galen carried the dominant authority; the work of Vesalius and his followers was coming into vogue. Paracelsus was essentially a medical chemist and one of the earliest pharmacologists, if indeed this designation is appropriately applicable to that period. He considered the relations between diseases and drugs; and the use of laudanum as well as of many other vegetable therapeutic agents is said to have been due to him. The names of zinc and bismuth appeared to have been first mentioned by Paracelsus, who also noted the bleaching action of the fumes of sulphur, and prepared hydrochloric acid from oil of vitriol and salt. These illustrations serve to indicate how radical and progressive must have been the activities of this student of the nascent science of chemistry in a day when the great teachers of medicine paid no heed to chemical learning, and the investigations of so-called science were pursued by ecclesiastics in solitude and retirement. Little wonder, then, if a physician like Paracelsus incurred the antagonism of the orthodox medical profession, which still accepted the sacred authority of Galen and others.

The doctrines for which Paracelsus is supposed to have been responsible have entered alike into the science of chemistry and the practice of the occult. The adjective "paracelsian" has crept into the language with a significance determined by the momentary bias and personal interpretation of the individual. The wide difference of opinions in respect to the merits of one whose name at one time achieved a prominence second perhaps only to that of Harvey is illustrated by a reference to the views of recent students of medicine. Park does not mince words in proclaiming Paracelsus as the most colossal figure in the collection of medieval charlatans and knaves. The potent influence of this sixteenth-century physician and chemist is rated as retrograde rather than progressive; so that "although this man was such a prominent character in his day, his name must be erased from the list of those who have contributed to the world's progress." On the other hand, Sir Michael Foster, in his delightful lectures on the history of physiology, refers to Paracelsus in these words: "He may have been the turbulent, disorderly, noisy combative fellow that he is represented to be: often deep in his cups, and always, whether drunk or sober, ready to shout aloud that his opponent was an ignorant fool and idiot, and that he alone held the keys of truth. Even if he had not been this, if he had been modest, quiet and shrinking, he had laid hold of something which the ordinary doctors of his time ignored and despised, the beginning of that chemical knowledge which in later years was to become one of the foundations of their science and the mastery of their art."

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[4] Compare Cannon, W. B., and Washburn, A. L.: An Explanation of Hunger, Am. Jour. Physiol., 1912, xxix, 441.

During the years in which the warfare between the Galenists and Paracelsists was at its height attention appears to have been attracted to the publications of an alchemist, one Basil Valentine, a Benedictine monk of whose life little is known aside from what his writings teach. Although Valentine is reputed to have lived before the birth of Paracelsus, the printed books purporting to come from this obscure follower of the Benedictine order did not appear until long after Paracelsus' death. The marked similarity between the doctrines of the two men and the strange coincidences in the character of their chemical discoveries make it evident to any one who compares such data that one author must have drawn from the other or both from an unknown third source. In this way there gradually arose, in addition to the mass of legends derogatory of the ability and character of Paracelsus, an apparently justifiable occasion to explain the profound knowledge of chemistry which he possessed. His scholarship was attributed to the inspiration of Valentine's doctrines which he had probably early learned. Thus the best that Paracelsus had to offer to his times has been believed to be merely the borrowed treasures of a man of a generation before him who had long carefully concealed his identity.

It is a well-known fact that the estimate which posterity places on the men of history tends to be eminently more just and proper when it is formed long after the heat of passion has been dissipated, and after vision, dimmed by the changing prejudices of a day and generation, has been restored. The publications of Paracelsus mark him as a chemist of importance if they were derived from his own experience and not borrowed from some other source. The name of Basil Valentine has long stood to deprive Paracelsus of the glory of initiating a new school of biochemical thought and giving a better theoretical basis to some of the phenomena of medicine. Prof. John M. Stillman of Stanford University has now published an illuminating review of the controversy,[1] and has designated Basil Valentine as a seventeenth-century hoax. The writings of Basilius are undoubtedly forgeries, written years after the death of Paracelsus and borrowed not only from him, but presumably also from Agricola and minor writers whose works appeared in the latter half of the sixteenth century.

With the disappearance of the mythical personage called Basil Valentine—a name honored by chemical and medical historians to the present day—the name of Paracelsus will again receive the recognition which it appears to deserve through the verdict of modern scholarship. As Dr. Stillman says, chemical tradition is hard to divert from channels established for three centuries. But perhaps these newer scholarly researches into medical history will at length serve to modify our estimate of a picturesque man whose name has become a "by-word for fantastic thought" and even for charlatanry. Perhaps instead of designating the school which Paracelsus would have founded as a school of ignorance, dissipation and boasting—a school of medical dishonesty, as Park expresses it—we shall yet come to recognize in it the beginnings of our chemical physiology of to-day.

THE LIMITATIONS OF EUGENICS

In a striking address on "Heredity and Responsibility," delivered before the American Society of Naturalists,[2] the well-known biologist, Prof. Edwin G. Conklin of Princeton University, has called a halt to some of the doctrines which are being propounded on the authority of certain guardians of the "infant science," eugenics. The modern theories of heredity are profoundly influencing human thought and planning in various fields. Of late much emphasis has been placed on the intrinsic factors in development, and it is taught that not only race, sex and anatomic features are predetermined in the germ cell, but that character and behavior are also in good measure unalterably fixed by heredity—that "our reactions are predetermined by heredity and that we can no more control them than we can control our heart-beat." We formerly heard, Professor Conklin remarks, that all men were created free and equal; we now learn that all men are created bound and unequal. We were once taught that voluntary acts, if often repeated, become habits, and that habits determine character; we now learn that acts, habits and character were foreordained from the foundation of the family.

In this depressing hypothesis in which all is explained by heredity and there is no possibility of change or control, in which there is "hypertrophy of intellect and atrophy of will," there is an error from overlooking the fact that in all organisms the potentialities of development are far greater than the actualities. There are illustrative biologic cases in which a small part of the body, when separated from the remainder, is capable of distinctive growth in a way that would not have been realized under the usual conditions of environment. Here development is determined by extrinsic factors. The hereditary potency of an organ or organism to develop is conditioned on the existence of a particular environment; but this cannot always be materialized, and therefore many hereditary possibilities are likely to remain latent. Professor Conklin has wisely emphasized that it is the environment which brings these out. No one will deny that functional activity is one of the most important factors of development. Use strengthens a part and disuse weakens it; and use or functional activity is a response to stimuli which may be external quite as much as they are predetermined or internal in origin. Latent capacities are brought out by often unanticipated surroundings, and habits are formed through superimposed experiences.

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[1] Stillman, J. M.: Basil Valentine: A Seventeenth-Century Hoax, Pop. Sc. Month., 1912, lxxxi, 591.

[2] The address is reprinted in Science, Jan. 10, 1913, u. 46.

The unsatisfactory feature of the extreme modern doctrine of eugenics, important as its application to human welfare doubtless may be, lies in the dreary contentment with an alleged inevitable inheritance which it tends to inculcate. There is a loss of real personality. But proper environmental stimuli are certain to call forth unsuspected capacities and native endowments; hence we must hesitate to pronounce on the probable outcome of any union so involved in unknown hereditary elements as those which pertain to the human race to-day. "Society can safely eliminate its worst element from reproduction," says Dr. Conklin, "but it cannot wisely go further than that at present." We cannot predict the careers or capacities of the majority of children of given parents. "Giving advice regarding matrimony is proverbially a hazardous performance. . . . With a more complete knowledge with regard to the inheritance of human defects than we now possess, at least in many instances, it will probably be possible to give such advice wisely; but apart from certain bodily peculiarities, he would be a bold prophet who would undertake to predict the type of personality which might be expected in the children of a given union. Some very unpromising stocks have brought forth wonderful products."

Reflections of the foregoing order need to be brought home to the physician, because it is to him, perhaps, more than to any other member of society that the practical consequences of eugenics and the proposed remedial procedures are being referred. Let us therefore hesitate to charge all defects to heredity, to make men irresponsible, to hold that everything is predetermined. One antidote lies in "euthenics" or the science of controllable environment, in the appeal to develop the unknown possibilities of our inheritance. Such a doctrine brings vigor and inspiration. It gives a chance for self-discovery. Responsibility makes men wrest from themselves powers which otherwise would remain latent. Supposed defective inheritance or arrested development is sometimes merely the expression of some inhibition which can be overcome by intelligent control from within or without. "To most of us heredity has been kind — kinder than we know."

CARBON DIOXID AND THE CIRCULATION

Considerable importance has lately been assigned to carbon dioxid as a regulator of various physiologic processes in the body. Haldane especially has pointed out its preeminent rôle in the orderly maintenance of the respiratory activities, and made it clear that various functions in breathing are determined, within the normal range of variations, more by the changing content of the blood in carbon dioxid than by its richness or poverty in oxygen. Henderson, in this country, has argued for the necessity of taking into account the detrimental possibilities of acapnia, i. e., lowered content of carbon dioxid in the blood, in a variety of phenomena, among which the familiar cases of surgical shock are included.[1] According to Henderson by far the greater number of all deaths under anesthesia are fundamentally due to the acapnia exemplified in diminished carbon dioxid in the blood and tissues resulting from the excessive pulmonary ventilation during the stage of excitement.[2] This view has furnished the scientific basis for the method of rebreathing in anesthesia for general surgical cases, a procedure especially championed by Dr. W. D. Gatch of Baltimore.[3]

In order to accomplish an exact analysis of the action of a chemical agent such as carbon dioxid is under the conditions here encountered, it is desirable to know something about the behavior of the fundamental tissues involved toward the substance under investigation. What is the real effect of carbon dioxid on simple muscular and nervous structures and what are the modifications induced by its absence or accumulated presence? Henderson has insisted that the essential failing element in traumatic and toxemic shock is what he terms the venopressor mechanism.[4] This he assumes to consist in part of the tonus of the tissues and in part of osmotic processes. The tonus of the contractile tissues is regarded as largely dependent on their content of carbon dioxid. It is asserted to prevent stasis by compressing the capillaries; and when acapnia occurs, the blood stagnates in the venous reservoirs.

This hypothetic action of carbon dioxid on venous tone, i. e., on venous and arterial musculature, has been made the subject of investigation by Professor Hooker of the Physiological Laboratory in the Johns Hopkins University.[5] He has found that carbon dioxid does not appear to be directly beneficial to the muscular tissue of the walls of the blood-vessels and alimentary tract, except in the case of intestinal muscle when arhythmic. In minimal effective amounts the gas always relaxes vascular muscle. If the muscle is exhibiting rhythmicity, the latter is abolished or depressed. Oxygen is essential to rhythmicity in vascular muscle, and also to its maintenance of tone. The kind of reaction produced by carbon dioxid and oxygen is the same for all percentages; the amount of reaction varies directly with the amount of the gas.

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[1] Henderson, Y.: Bull. Johns Hopkins Hosp., 1910, xxi, 1.

[2] Henderson, Y.: Primary Heart Failure in Normal Subjects Under Ether, Surg., Gynec. and Obst., August, 1911, p. 161.

[3] Gatch, W. D.: The Journal A. M. A., March 5, 1910, p. 775; Nov. 11, 1911, p. 1593. Teter, C. K.: Ibid., Nov. 23, 1912, p. 1850.

[4] Henderson, Y.: Acapnia and Shock, Am. Jour. Physiol., 1911, xxvii, 152.

[5] Hooker, D. R.: The Chemical Regulation of Vascular Tone, Am. Jour. Physiol., 1911, xxviii, 363; The Effect of Carbon Dioxid and of Oxygen on Muscular Tone in the Blood-Vessels and Alimentary Canal, Ibid., 1912, xxxi, 47.

From the foregoing it would appear as if carbon dioxid actually produces vascular relaxation instead of the expected tonus. This isolated fact does not, however, settle the question of possible indirect benefits of the gas. It seems likely that carbon dioxid produces in the medullary centers an overcompensation of the unfavorable effects produced in the periphery. The sum total of this might easily be a typical rise in arterial pressure. Hooker has pertinently asked whether the administration of carbon dioxid in cases of surgical shock, as advised by Henderson, is an advantageous form of stimulation, since the peripheral effect weakens the central influence. He adds that if a stimulus is advisable in conditions of shock it ought, if possible, to be of direct as well as indirect benefit to vascular tone.

Additional experiments[6] indicate that carbon dioxid is detrimental to the efficiency of the heart when isolated from the body. It must be admitted, of course, that such evidence gives no conclusive information as to the effect, beneficial or otherwise, of the gas on the body as a whole; but as long as carbon dioxid must be regarded as detrimental to cardiovascular tissue in that it relaxes tone and abolishes contractile rhythm, the theories and practical consequences which have of late been associated with the physiologic rôle of this product of tissue metabolism must be regarded as still open for debate.

Current Comment

APPLIED IDEALS

Old in phrase, but distinctly modern in force is the keynote of the inaugural address of Governor Sulzer of New York: *Salus populi suprema lex.* His appeal was especially strong to employers to recognize the economic wisdom of keeping their employees as free as possible from infection, adequately remunerated, well housed and not overworked. Conditions, still too frequently found, in which the work of women and children is unnatural and beyond their strength, must produce a race of workers lacking in both stamina and resourcefulness. But, if a healthy individual means a healthy business, not less must that healthy individual mean a healthy government. Hence the natural conclusion, according to Governor Sulzer, is that ". . . any industry that robs the vitality and destroys the initiative of workers is detrimental to the best interests of the state and menaces the general welfare of the government." Governor Sulzer's remarks are timely. They also serve to recall the many instances in which factory, mining and other great business organizations have already applied to the conditions of their operatives such betterment ideals as those mentioned, and not only these but also many others whose fitness shows special study of particular conditions. A list of "features of factory administration designed for the benefit of operatives" in but one state includes, among many other items of welfare work, factory ventilation and sanitation, family supplies at cost, gymnasiums, hospitals and emergency and medical treatment, lavatories and lockers, lunch and dining-rooms and annual outings. This is, indeed, "the hopeful side of the labor problem." Such consideration results in mutual loyalty between employer and employed, in healthier and better satisfied workers, in work of both higher grade and greater value. An adequate summary of the situation is given by the report of one firm employing over 20,000 men and spending thousands of dollars on welfare features that "it pays." Truly the day of those who grind the face of the poor is passing.

THE NEWSPAPERS AND MEDICAL ITEMS

We commented recently[1] on the too seldom recognized responsibility of the newspaper in printing medical items. One particular instance cited consisted of the careless treatment by a portion of the lay press of a so-called consumption cure. Newspaper reports of a cancer cure and a cure for infantile paralysis, both emanating from Chicago, have been going the rounds of the newspapers. Neither has been reported regularly to the medical profession. Some papers publish these items without comment, while others maintain a conservative or skeptical attitude toward them. This skepticism, probably due to the failure of many hastily reported "cures" eventually to justify the enthusiastic reports concerning them, reflects unfavorably, but also unjustly, on the ethical members of the profession. Concerning the so-called cure for infantile paralysis mentioned above the Pittsburgh *Post* says: "The report comes from Chicago of the discovery of a remedy for infantile paralysis so simple that the parents of a victim can treat and cure the case themselves without the aid of a physician. Discoveries of so-called cures for various ills have been so frequent of recent years that the public has grown skeptical and will not be inclined to jump at conclusions as to the reliability of this latest announcement." The skepticism of the public and the newspaper in this instance is no doubt justified; but it is the lay press and not the medical profession that is responsible for the previous disappointments of the public. If in the past the newspapers had been less eager to print items regarding such alleged wonderful medical discoveries before ascertaining that these discoveries had a scientific foundation and the endorsement of scientific men much harm to the public would have been avoided. Another instance of injury done by newspapers which may be attributed to pure carelessness is in the reporting of contagious or infectious diseases. The Joplin (Mo.) *Globe* prints an item purporting to be a "special" from Memphis to the *Globe* that in a town of 1,000 population in Arkansas, 500 people were afflicted with meningitis, and that an average of twenty deaths out of every thirty cases occurred. It is also stated that there had been over 1,000 deaths in eastern Arkansas. This shamelessly exaggerated report is still further garbled by the careless headline writer in the line: "Meningitis Kills Thousands." Such reports cause undue alarm and may be the source of much inconvenience or suffering. Still another instance of carelessness on the part of the newspapers is an article which has appeared in many newspapers with large headlines to the effect that "Infantile Paralysis is Not Contagious." A more or less accurate account is given of the work of Rosenau and others in demonstrating that infantile paralysis may be transmitted by the biting stable-fly. The vice in this report is that the investigators did not claim unequivocally that the disease may not be transmitted by other means, for which there is the authority of many good observers; the public will gain a wrong impression of this deplorable disease, and the resulting indifference may allow it to spread needlessly. The newspapers are to be commended for their efforts in helping to educate the public in preventive medicine, or in giving publicity to authentic medical news, but medical items should not be presented so heedlessly or so hastily as to do harm rather than good in this respect.

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[6] Ketcham, C. S., King, J. T., Jr., and Hooker, D. R.: The Effect of Carbon Dioxid on the Isolated Heart, Am. Jour. Physiol., 1912, xxxi, 64.

[1] Responsibility of the Newspaper, editorial, The Journal A. M. A., Dec. 14, 1912, p. 2159. Science and Newspaper Sensationalism, ibid., Jan. 18, 1913, p. 211.

THE SPECIALIST

The hurriedly made specialist in medicine—"the egregious expert," to modify slightly a familiar and at present popular proverb — believes and acts on the principle that nothing succeeds like excess — excess of refinement in specialism. The *Medical Press and Circular*[1] asserts that a truer reading of this proverb would be "Nothing recedes like success." It is believed that the narrow specialist, exotically grown and narrowly confined, cannot last and even now is on the wane. Feeling that he is marching in the footsteps of natural advance when he decides to become a specialist, he believes that, like the cell, the more highly specialized the more advanced the organism. As he proceeds in experience his views become more and more narrow. He forgets that no group of cells acts independently. "The man who lives and moves and has his being only among experts of his own type is merely an example of frenzied isolation." The man who goes abroad for three months and thenceforth sets himself up in the temples of the experts and "confines his attention to bladders to the total exclusion of hearts, kidneys and other distant structures" is said to be "largely a bearer of other men's responsibility — or a scapegoat." But he is unnecessary. While it is true that "no man can study medicine in its entirety," and "surgeons, physicians, eye-men, gynecologists, and so forth, we must have," each is a part of a whole and no one should attempt to dominate the whole. The refinement of specialism leads to narrowed efficiency and thence to the vanishing-point of practical effectiveness. Too close concentration will lead to elimination. Let the narrow specialist know his limitations and keep to his place. As the *Press and Circular* says, "His opinions should be treated gravely as such and not as absolute, proved facts. He makes an excellent servant but a bad master."

WHAT'S IN A NAME?

Any one who has followed the evolution of trade labels in American commerce cannot fail to be amused, not to say astounded, at the many fanciful ways in which suggestion is made to perform a part in the sale of secret concoctions and mysterious products. To a chemist accustomed by training and experience to associate soaps with fats from which they are prepared, the designation of a soap, for example, by reference to some raw material from which it can by no manner of manipulation be produced, represents an absurdity. The layman, on the other hand, is impressed in an indefinable way when he reads of Buttermilk Soap or Olive Tablets; and by an unanalyzed association of ideas he hastily assigns unique virtues to what is on its face a ridiculous contention. We supposed that after years of experience we were almost immune to the humor of the lying label. Two recent additions to the growing collection of the government's exposures in connection with the Food and Drugs Act will bring a smile even to the most stolid countenance. One of these is Liquid Extract of Smoke. The purchaser who hoped to find in this the promise of a remarkable concentrate useful wherever smoke has virtues was deluded into the purchase of crude pyroligneous acid — a mere wood distillate. The other disseminator of humor to the initiated was Cream of Hops. One might feel doubt whether this was a face lotion or a canned soup. The fact is that it was sold and guaranteed by a temperance beverage company as a non-intoxicating beer. The picture of a grapevine and grapes on the bottles helped to add a grateful confusion in regard to the nature of the contents, which concealed 3.5 per cent. of alcohol.

SENATE DECLINES TO CONSIDER OWEN BILL

The United States Senate on Monday, by a tie vote, refused to take up the consideration of the Owen bill. This does not finally dispose of the bill as it still retains its place on the Senate calendar and can be called up at any time and considered by a majority vote of those Senators present. As it is realized by those friendly to public health legislation that there is little chance of the bill passing the House at the present session, the tie vote on the question of its consideration can justly be regarded with satisfaction by the friends of a broader national health organization. It is generally understood that Senator Owen will introduce a bill at the next session of Congress, if the present bill does not pass, but it is highly probable that such a bill will be redrafted and considerably modified. If this is the case it is to be hoped that Senator Owen will go back to the original plan and draft a bill calling for a Department of Health, with a secretary in the cabinet. The growing realization of the importance of this subject and the increasing support for it show the educational value of the agitation which has extended over the last three years. The opposition has reached its high-water mark, and the false statements which were so widely circulated regarding the object of the measure and the purposes of its advocates have reacted. The Owen bills have made people think. If they will only think hard enough and long enough to realize the great importance of health conservation, the eventual, inevitable result will be the establishment of a national Department of Health. Nothing short of this should be the aim of those who appreciate the present public health conditions and the needs of the future.

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[1] Med. Press and Circ., Nov. 27, 1912, p. 562.

PHYSICIANS IN THE INDIAN SERVICE

The recent organization of the "Medical Association of the United States Indian Service" as noted in our news columns this week, calls attention to this neglected branch of governmental medical service. It also calls attention to the need for further coordination or the reorganization under one head of the medical service of the various departments of the government. The object of these men as asserted in the organization, "to improve the health conditions among their respective charges, to advance the cause of preventive medicine by an interchange of helpful suggestions, to produce a more helpful intercourse among the physicians in the field and to take advantage of the benefits accruing from concerted efforts of an earnest body of men actuated by a common impulse," should be encouraged. At present this small body of men, although engaged in highly important work under the most adverse conditions, receives little consideration from the authorities. Most of them live in remote districts, among uncomfortable surroundings, their duties being among people of insanitary habits, often afflicted with dangerous contagious diseases. They work hard and it is a wonder that men of any degree of efficiency as physicians can be induced to remain in the service under the conditions accompanying it at such ridiculously inadequate salaries. It is understood that Congress is to be asked for some adequate appropriation and for increase in salaries for this service, and it is highly important that something be done. It is only by adequate support of the Indian Medical Service and sufficient salaries paid to physicians to secure good men that the conditions among the Indians themselves may be improved and the spread of diseases among the white population prevented. Efforts of the organized physicians in the Indian Service to better conditions are deserving of support.

The Value of Experimental Physiology to the Community.—The science which they (the physiologists) teach is the science of life, from which is eliminated all sordid and selfish considerations. A scientist in his laboratory discovers a great truth, which saves the lives of thousands of human beings. The doctor engaged in everyday practice makes use of that knowledge to preserve, perhaps, the life of your child. Give him any praise you think fit, but don't entirely forget the physiologist who taught him the art.—F. M. Sandwith, *Clin. Jour.*

Medical News

CALIFORNIA

New Officers.—San Francisco County Medical Society at San Francisco: president, Dr. H. B. A. Kugeler; secretary-treasurer, Dr. Rene Bine, reelected for the fourth term, both of San Francisco.——Los Angeles County Medical Association: president, Dr. William M. Lewis; secretary-treasurer, Dr. George H. Kress (reelected), both of Los Angeles.——Northern District Medical Association at Chico: president, Dr. D. H. Moulton, Chico; secretary, Dr. F. F. Gundrum, Sacramento. Lake Tahoe was selected as the next meeting place.——Glenn County Medical Association was organized at Willow with Dr. J. A. Randolph, president, and Dr. F. M. Lawson, secretary, both of Willow.

Extensive Gifts to University of California.—With gifts of $400,000 assured to build and equip new departments of the University Hospital in San Francisco, new measures have been planned by the president and Dr. Herbert C. Moffett, the new dean of the medical college. It is proposed to put the last two years of the medical course on a strictly academic basis, that is, to have the instruction given by men who devote their time solely to teaching and scientific research, to the exclusion of private practice. The university expects also to have courses of instruction for graduate physicians during the summer session. As a preliminary to this course, there will be held a special series of clinics, conferences and addresses during commencement week in May.

GEORGIA

New Medical Building Dedicated.—The Medical Department of the University of Georgia, located at Augusta, dedicated its new medical building January 29. Special exercises were held during which the LL.D. degree was conferred on Dr. William M. Polk, dean of Cornell University Medical College, and Dr. J. A. Witherspoon, president-elect of the American Medical Association. Governor Joseph M. Brown, Mayor L. C. Hayne of Augusta and a large number of other distinguished guests were present.

ILLINOIS

Personal.—Dr. T. D. Doan, Scottville, is taking treatment for tuberculosis in the Modern Woodmen of America Sanatorium, Woodmen, Colo.——Dr. and Mrs. Frank W. Hanford, Rockford, are spending the winter in Southern California.

University of Illinois Again Gets Medical School.—The College of Physicians and Surgeons of Chicago again passes under the control of the University of Illinois. This time it is a gift to the state institution partly by the stockholders and partly by the alumni who purchased the stock not donated. The medical school has for several years held a contractual relationship with the University of Illinois, but that relationship was cancelled last spring. By the present transfer of all the stock, however, the medical school becomes an organic department of the University of Illinois.

The Governor and the Board of Health.—In his final message Governor Deneen devotes considerable space to the State Board of Health giving its history, general aims and purposes, with especial reference to its laboratory work. He recommends a material increase in the appropriation for the State Board of Health for sanitary work; repeats his recommendations that a law be enacted for a better method of registration of mortuary statistics; calls attention to the need of revision of the section of the medical practice act which enables the board to revoke certificates of physicians for unprofessional and dishonorable conduct; repeats his former recommendation that the appropriation for free distribution of diphtheria antitoxin be continued, and urges the creation of a state sanatorium for tuberculosis.

Chicago

Buy Sanatorium Site.—The Crane Company has purchased Buffalo Rock on the Illinois River, near Ottawa, and will build and equip a sanatorium for the employees of the concern in need of recuperation.

New Officers.—Chicago Ophthalmological Society, twenty-first annual meeting and banquet, January 20; president, Dr. Willis O. Nance; secretary-treasurer, Dr. Wesley H. Peck.——Bohemian Medical Association incorporated at Chicago by Drs. James F. Chvatal, Frank J. Fara and Frank J. Novak.

Medical Reserve Corps Lecture.—The Medical Reserve Corps, United States Army, Illinois Division, will have a joint meeting with the Chicago Medicolegal Society at the Morris Institute for Medical Research, Twenty-Ninth Street and Groveland Avenue, on Monday evening, February 10. Col. H. E. Carbaugh, Judge Advocate, United States Army, will lecture on "The Customs and Usages of War from the Legal and Red Cross Standpoint."

Personal.—Dr. Frederick A. Speik, formerly assistant to Dr. B. W. Sippy, has opened an office in the suite of Dr. Norman Bridge in the Auditorium Building, Los Angeles, Cal.——Dr. Charles A. Ullerick, Austin, was cut and bruised in a collision between his automobile and a wagon, January 28.——Dr. M. M. Matthies is now associated as serologist with the National Pathological Laboratory.——Dr. S. C. Stanton has been appointed colonel, surgeon-general, M.C., Ill. N. G., succeeding Brigadier-General Charles Adams, retired at his own request.

INDIANA

New Officers.—Seventh Councillor District Medical Association at Martinsville: president, Dr. H. C. Robinson, Martinsville; secretary Dr. David W. Layman, Indianapolis.

State Board Election.—At the annual election of the State Board of Medical Examiners, Dr. W. A. Spurgeon, Muncie, was reelected president and Dr. W. T. Gott, Crawfordsville, secretary.

Memorial Services.—Hamilton County Medical Society at its December meeting in Noblesville paid memorial tribute to two deceased members, Drs. Henry Moore, Indianapolis, and J. A. Axline, Noblesville.

School to Operate Dispensary.—The Board of Health of Indianapolis, January 20, approved a contract to be entered into with the trustees of the Indiana University School of Medicine for the operation of the city dispensary in 1913 for which the university will receive $10,625.

Personal.—Dr. Robert O. McAlexander, Indianapolis, won the suit for malpractice brought against him by Henry E. Brown in which damages of $10,000 were asked.——Dr. I. N. Cochran, Delphi, while attempting to turn on an electric light, fell over the banister to the floor below, suffering severe internal injuries.——Drs. Dwight Mackey, Hobart and John Kent, Mulberry, recently fractured their arms while cranking their automobiles.——Dr. Olive Nelson, Huntington, is reported to be critically ill in the Piedmont Hospital, Atlanta, Ga.——Dr. Mary H. Fulton, a medical missionary to Canton, China, is visiting her old home in Indianapolis.——Dr. C. S. Stewart, Auburn, is reported to be ill in the Garrett Hospital.——Dr. E. M. Conrad, Anderson, has been appointed acting chief surgeon of the Indiana Union Traction Lines and local surgeon for the Pennsylvania System.——Dr. and Mrs J. B. Fattic, Anderson, sailed for Europe, January 18.——Dr. J. H. Ford, Indianapolis, has been appointed chief surgeon of the Cincinnati and Northern Railroad.

MASSACHUSETTS

Dental Clinics.—The city of Newton has provided for a dental clinic for school children too poor to pay the regular dentist's fees. Equipment costing $400 has been installed in two school rooms and here Monday and Thursday afternoons and Saturdays when there is no school, twenty dentists have promised to do dental work free.

Personal.—Dr. Walter C. Bailey, Boston, has been nominated a trustee of the hospitals for consumptives, vice Dr. Arthur T. Cabot, deceased.——Dr. Albert Ehrenfried has been appointed assistant visiting surgeon to the Boston City Hospital.——Dr. Albert C. England, Pittsfield, has been appointed agent of the Board of Health.——Dr. Philip Castleman has been appointed assistant in the bacteriological laboratory of the Boston Board of Health.——Dr. Thomas B. Smith, Lowell, has been appointed associate medical examiner for Middlesex County, vice Dr. R. E. Bell, deceased.——Dr. James H. Knowles, Gloucester, is spending the winter at the Colonial Hotel, Nassau, Bahamas, where he expects to remain until the end of April.

MINNESOTA

Medical Board Appointments.—Drs. Charles Bolsta, Ortonville, J. W. Andrews, Mankato, and F. B. Hicks, Grand Marias, have been reappointed members of the State Board of Medical Examiners.——At the annual meeting of the State Board of Health held in St. Paul, January 14, Dr. W. A. Jones, Minneapolis was reelected president and Dr. B. J. Merrill, Stillwater, vice-president.

Reorganization of Medical Faculty.—The reorganization of the University of Minnesota School of Medicine, recommended by President Vincent, is under way. The faculty of the medical college met January 15, and presented a collective resignation. The reorganization plan calls for a reduction of professorships and instructorships by about 50 per cent., while the half-time lecturers engaged in practice in St. Paul and Minneapolis are also to be dropped from the faculty roll. The resignation carries with it no discredit to the instructors, but has been recommended in order to increase the efficiency of the school and perfect the machinery of instruction.

Personal.—Dr. D. C. Jones, St. Paul, has been elected president of the Coroners Association of Minnesota.——Dr. W. J. Marcley, Minneapolis, has been elected president, Dr. W. D. Beadie, St. Paul, a vice-president, and Dr. H. Longstreet Taylor, St. Paul, secretary-treasurer of the State Antituberculosis League.——Dr. C. E. Dutton has been appointed health commissioner of Minneapolis, vice P. M. Hall.——Dr. C. D. Whipple, Minneapolis, sailed for Europe January 8.——Dr. Arthur B. Ancker, St. Paul, has been reelected physician of St. Paul and Ramsey County. He has served in this capacity for nearly thirty years.——Dr. I. J. Murphy, assistant health commissioner of Duluth, has resigned.——Dr. I. W. Timmons, Winona, recently suffered a cerebral hemorrhage.

MISSOURI

State Board Election.—At the annual meeting of the State Board of Health, held in Jefferson City, January 3, Dr. G. B. Schulz, Cape Girardeau, was elected president; Dr. L. E. Bunte, St. Louis, vice-president and Dr. Frank B. Hiller, Jefferson City, secretary (reelected).

Medical School Sued.—Drs. J. W. Ousley and G. Wilse Robinson, specialists in nervous and mental diseases, have brought suit in the Circuit Court of Kansas City against Drs. E. J. Short, Flavel B. Tiffany and the University Medical College, to recover $1,000 which the complainants alleged they invested in the stock of the college with the understanding that they were to be placed on the faculty of the institution as instructors.

Personal.—Dr. A. W. Teel, Kahoka, has been elected a member of the state legislature.——Dr. Bondurant Hughes, Keytesville, has been appointed superintendent of the State Sanatorium for the Treatment of Tuberculosis, Mount Vernon, vice Dr. John Stewart, Warrenton.——Dr. S. A. Newman, Cassville, has been appointed surgeon to the State Penitentiary.——Drs. T. H. Gronoway and L. O. Mason, Bevier, were badly bruised in a runaway accident, January 25.——Dr. G. O. Cuppaidge, Moberly, has been appointed colonel on the staff of the Governor.——Dr. J. W. Conrad, Sumner, suffered the loss of his right hand, January 19, in the accidental discharge of an automatic shotgun.——Dr. Dora Greene Wilson, Kansas City, was seriously injured in an automobile collision, recently.——Dr. C. L. Woolsey, Braymer, has been appointed assistant physician of State Hospital No. 2, St. Joseph.——Dr. M. O. Biggs, Bowling Green, has been appointed superintendent of State Hospital No. 1, Fulton.

St. Louis

Noted Chemist Dies.—Henry Dettmer, well known as an analytical chemist and teacher, died at his home, December 21, following a nervous breakdown.

Hospital Saturday and Sunday.—The executive board of the Hospital Saturday and Sunday Association has authorized the distribution of $45,000 to the various hospitals of the city.

Diphtheria Closes School.—The St. Louis Industrial School was ordered closed January 13 on account of the prevalence of diphtheria. Thirty-eight pupils were transferred to the Isolation Hospital and positive cultures were obtained from one-hundred and fifteen of the children.

St. Louis University to Build.—A permit for a three-story addition to its medical college at Grand Avenue and Caroline Street was taken out December 16, by St. Louis University. The new building will cost about $10,000 and will contain the offices of the faculty, the library, and a recreation and assembly room for students.

Personal.—Dr. Russell D. Carmen was given a testimonial dinner prior to his removal to Rochester, Minn.——Dr. F. B. Hall has been appointed roentgenologist of the Jewish Hospital.——Dr. Emma Phelan has been appointed registrar of vital statistics of University City.——Dr. Algernon S. Barnes is reported to be seriously ill at his home.——Dr. P. M. Carrington, U. S. P. H. Service, has been elected medical director of the St. Louis Society for the Relief and Prevention of Tuberculosis, vice Dr. George C. Crandall, deceased.——Dr. John Sutter has been appointed health commissioner of University City.

NEW YORK

New Laboratory for Students.—The new physiologic laboratory in connection with the Long Island College Hospital was opened January 31. It is considered one of the most complete in the state and occupies a room in the Polhemus Memorial Building.

Fighting Small-Pox.—The State Department of Health is taking steps toward the prevention of a general epidemic of small-pox. The disease is reported as being epidemic in widely separated localities in the state. Among the places reporting cases are Whitehall, Mechanicsville, Palatine Bridge, White Plains, Canojoharie, Tonawanda, Niagara Falls and Corning. The disease is usually of a very mild type.

New York City

Insurance Company Gives Health Lectures.—The Mutual Life Insurance Company is giving a series of lectures by eminent men. The lecture of January 29 was delivered by Surgeon-General Rupert Blue, U. S. P. H. Service, who spoke on the bubonic plague and other contagious diseases.

Harvey Society Lectures.—The seventh of the present course of Harvey Society lectures will be given at the New York Academy of Medicine on the evening of February 15 by Dr. Theodore C. Janeway of Columbia University on "Nephritic Hypertension: Clinical and Experimental Studies." The postponed lecture by Major J. J. Russell, U. S. A., on "The Prevention of Typhoid Fever," will be given February 8.

Personal.—Dr. David Louis Rauch disappeared from his home January 10 and has not yet been found, and no cause can be found for his mysterious disappearance.——Dr. Theodore C. Janeway, Dr. Linsy R. Williams and Dr. Richard Kovacs represented the New York physicians at the American Society for Physicians' Study Travels organized in Philadelphia January 25.——Dr. Frederick B. LaFarge, one of the staff of the Rockefeller Institute, was injured in an explosion in the laboratory, January 30, but was not seriously hurt.

Laboratory Incorporated.—The Harriman Research Laboratory, which was established in 1910 and is maintained by Mrs. E. H. Harriman for the study of chemical problems connected with disease and owns and operates a building on the grounds of Roosevelt Hospital, has been incorporated. The work up to date has consisted of investigation of ferment acid on the human body from the standpoint of the comprehension and cure of various diseases. It is believed that incorporation will facilitate the work in this comparatively new field of medical science.

Health Department Issues New Publication.—The weekly report of the Department of Health is now appearing in enlarged form as the *Weekly Bulletin*. It is the intention to make this the official communication between the Department of Health and the physicians, social workers, journalists, and other groups of citizens of New York who are especially interested in the work of the department. The *Monthly Bulletin* will be continued as heretofore and will include a special article relating to some one of the divisions or offices or to some special topic.

A Mosquito Problem.—The residents of Westchester County recently made preparations to exterminate the mosquitoes in the swamps lying to the south of Pelham. It became evident that unless New York City cooperated in this campaign little could be achieved. Health Commissioner Lederle asked for an appropriation to assist in the work of extermination, but his request was refused by the Board of Estimate. He is now planning to hold a conference on the subject of mosquito prevention and an endeavor will be made to interest land owners in some plan for a general clean up.

Faculty and Directors of Medical School Dine.—The directors and faculty of the New York Post-Graduate School and Hospital held their annual dinner January 30. Dr. James F. McKernon was toastmaster and W. Bourke Cockran made the principal address in which he defended the surgeon's fees. The sea law for salvage should govern charges. When a mariner comes across a wreck and saves it he is entitled to a fee, not according to the trouble the wreck has given him, but according to the value of the goods salvaged. William R. Riddell, Chief Justice of the King's Court Division of the High Court of Ontario, was the guest of the evening.

What Antitoxin Has Done in New York.—In connection with the recent announcement that the free administration of diphtheria antitoxin by the Department of Health will be discontinued after February 1, it is stated that this practice was begun in 1895 and had as its object not only the cure and prevention of the disease but the education of the medical profession and the general public. These ends are now said to have been accomplished. The death-rate from diphtheria in Manhattan and the Bronx has fallen from 15.9 per 10,000 of the population in 1894 to 2.2 in 1912. In 1894, 29 out of every 100 cases reported died, while in 1912 less than 9 cases out of every 100 reported died. Since 1895 almost 40,000 persons have been treated with antitoxin by the Health Department and less than 6 per cent. died. The records show that antitoxin is now used in practically every case of diphtheria.

NORTH CAROLINA

Change of Date of Meeting.—The date of meeting of the Board of Medical Examiners has been changed from January 18 to January 3, on account of the change of the date of meeting of the Medical Society of the State of North Carolina.

Honor to Dr. Lewis.—At a recent meeting of the Wake County Medical Society resolutions were adopted in appreciation of the signal service rendered by Dr. Richard H. Lewis, Raleigh, in the securing of health legislation and the enforcement of laws.

Hospital and Sanatorium Notes.—Arrangements are being made for the opening and maintenance by the city of Wilson, of a free ward as an addition to the plant of the Wilson Sanatorium. Special provisions are to be made by the city for colored people.——Dr. Robert S. Carrol has begun work on the $30,000 addition to the Highland Sanatorium, Asheville, which is to be completed this year.

Memorial Tablet Placed.—In the rotunda of the Rex Hospital, Raleigh, a tablet was recently placed in memory of Dr. Peter Evans Hines, who "as physician and trustee was one of the small band of Christian workers, who in 1878 established Rex Hospital."——The daughters of the late Richard H. Battle have equipped a room in the hospital as a memorial to their father who was for many years a trustee.

Personal.—Dr. M. Eugene Street, Glendon, has been elected superintendent of the North Carolina Sanatorium for the Treatment of Tuberculosis at Montrose.——Dr. A. D. Parrott, Kingston, has been elected superintendent of health of Lenoir County.——Dr. Samuel Westray Battle, Asheville, has been reappointed surgeon-general, and Dr. B. R. Hunter, Huntersville, assistant surgeon-general of the National Guard of North Carolina.——Dr. R. W. Crawford, Rocky Mount, has been appointed chief surgeon of the relief department of the Atlantic Coast Line System, vice Dr. G. G. Thomas, Wilmington, who, it is reported, will be made medical director of the road.——Dr. E. A. Hennessee, Glen Alpine, is reported to be in critical condition at the Long Sanatorium, Statesville, from wounds received in a feud fight.

OHIO

State Board Appointments.—Dr. T. A. McCann, Dayton, has been reelected vice-president of the Ohio State Medical Board and Dr. Frank Warner, Columbus, reappointed a member of the State Board of Health.

State Medical Board Overruled and Upheld.—The governor and the attorney-general have overruled the state board and ordered the restoration of the revoked certificate of Dr. Levy W. Hunt, Toledo, charged with unprofessional conduct. They sustained the board's revocation of the certificate of Dr. M. F. Lambright, Cincinnati, charged with lending his professional services in aid of a fraud.

Endowment for Medical College.—Dr. John C. Oliver, chairman of the endowment committee of the Ohio-Miami Medical College of the University of Cincinnati, has announced a donation of $125,000 from a donor whose name is being withheld. An effort is being made to raise an endowment fund of $1,000,000. The income from the donation announced is to be used for the pathological department.

Medical Members of Legislature.—The medical members of the Ohio Legislature are as follows: Senators—Drs. C. T. Gallagher, Mount Sterling; I. C. Kiser, Fletcher; R. H. Finefrock, Prospect, and Lewis P. Cook; representatives, U. S. King, R. B. Cameron, Jewell; J. V. Winans, Madison; M. J. Jenkins, Plain City; G. J. C. Wintermute, Celina; Van S. Deaton, Alcony, and W. M. Dickson, Flints Mill.

Personal.—Dr. J. M. Anderson, Greenville, is reported to be ill with appendicitis.——Dr. W. F. Scatterday, Columbus, who has been ill with pneumonia and rheumatism, has recovered and resumed practice.——Dr. Silas Schiller, Youngstown, suffered a slight cerebral hemorrhage, January 9, and is reported to be convalescent.——Dr. Webster Smith has been elected chief of staff of the Miami Valley Hospital, Dayton.——Dr. G.

A. Pachmayer, Lima, who has been ill with septicemia in the Lima Hospital, is reported to be convalescent.——Dr. L. D. Blanchard has been elected president of the Canton Civil Service Commission.——Dr. J. H. McCassy, Dayton, was operated on for appendicitis and stricture of the colon at Good Samaritan Hospital, January 10, and is reported to be doing well.——Dr. Herbert Ferry, Poland, is reported to be ill with pneumonia.

Cincinnati

Women Organize Academy.—The women medical practitioners of Cincinnati met January 25 at the office of Dr. Nora Crotty and organized the Academy of Medicine for Women.

Hospital News.—Funds have been assured for the completion of the new Good Samaritan Hospital. When the new Municipal Hospital is finished, the aggregate clinical resources of the University of Cincinnati will amount to 1,700 beds.

Personal.—Dr. William Ravine has resigned as chief medical school examiner.——Dr. Charles A. L. Reed was installed as president of the Cincinnati Academy of Medicine, January 13. ——Dr. P. A. Keck, who has been seriously ill with bronchitis, is reported to be convalescent.——Dr. Harry T. Summersgill has returned from Europe.

Prevention of Blindness.—The Cincinnati Association for the Welfare of the Blind employs a visiting nurse to investigate each case reported, which she refers to the nearest hospital or clinic, thus securing treatment for a class of people who, but for timely aid, would become dependent on the public. There were 141 cases handled, all saved, with 41 still under treatment, the nurse having made 2,449 house visits. The total expenditure for this work was $900, which represents just one-fifth of the cost of one blind child to the state, and one-tenth the cost of the pension for a blind person who lives to be fifty.

PENNSYLVANIA

State Society Meeting.—The Medical Society of the State of Pennsylvania will hold its annual meeting in Philadelphia, September 22-25.

Contagious Disease Hospital Ready.—The new contagious disease hospital for the city of Allentown and county of Lehigh has been completed at a cost of nearly $8,000.

Personal.—Dr. E. Hunter Perry, New Castle, has become rector of Trinity Church, Punxsutawney.——Dr. R. W. Montelius, Mount Carmel, is reported to be ill with pneumonia.——Dr. W. A. Nason, Roaring Spring, has been elected chief surgeon and Dr. John D. Hogue, secretary of the staff of Mercy Hospital, Altoona.——Dr. W. H. Morrow and wife, Swissvale, were seriously burned by an explosion of gasoline in their garage.——Dr. J. W. Ellenberger, Harrisburg, has returned from Europe.

Inspect Rittersville Asylum.—The Appropriations Committee of the House of Representatives visited the new State Hospital for the Insane at Rittersville, January 31, to find out why the trustees asked for $75,000 as a deficiency appropriation. The hospital was opened for patients last October and now has 800 inmates, and no appropriation has been provided for maintenance. More than $1,000,000 will be asked of the present legislature to complete the asylum and grounds and maintain it for the next two years.

Gives Hospital to Danville.—Mrs. Abigail A. Geisinger, Danville, is giving to that city a hospital which will represent an investment of about $600,000, $400,000 of which is to be devoted to erection and equipment and the remainder to endowment. The hospital will be located on a hill overlooking the town and river, will be constructed of light colored brick, steel and concrete, will be fireproof and three stories in height, excepting the central administration building, which will be four stories. Three buildings are to be constructed on the pavilion plan, each being connected with the administration building by passageways.

Philadelphia

Measles Still Epidemic.—Although reports received by the Bureau of Health show that in the week ended February 1, there was a decrease in the number of new cases of measles (458 new cases being reported, as compared with 503 for the previous week), yet since October 1, 2,748 cases of measles have been reported, and Dr. Neff has issued a bulletin pointing out that measles is a preventable disease and warning the public to protect young children from the disease.

Tuberculosis Pavilion.—Plans for a large pavilion for the treatment of tuberculosis and also a dormitory and dining-room extensions to the Home for Feeble-Minded on the city's tract at Byberry, have been made by Philip H. Johnson, and the contracts have been awarded to John W. Emery. The tuberculosis pavilion will consist of a main building, 30 by 80 feet, with two wings, 82 by 44 feet, and will cost $29,000. The plans for the Home for Feeble-Minded include an addition 57 by 30 feet, to be used as a dormitory, and also two wings, 21 by 119 feet, for dining-room.

Making Old Houses Sanitary.—During the year, the Octavia Hill Association has been making improvements in housing conditions in various parts of the city. In East Rittenhouse Street, Germantown, a group of three old houses were demolished, others renovated and made sanitary and two new buildings containing apartments for fourteen families erected. The North Front Street group contains accommodations for nineteen families, and the repairs consisted of cutting in windows. The management of a group of houses on Fitzwater Street has also been undertaken by the association for the Henry Phipps Institute. The group, consisting of five houses, will be rented by the institute to families of their tuberculosis patients at $8 per month, the families to receive care and oversight of the visiting nurses of the institute.

TEXAS

Officials of County Society.—In The Journal, January 25, a mistake was made in noting the newly-elected officers of the Harris County Medical Society. The president is Dr. S. M. Lister and the secretary, Dr. E. L. Goar, both of Houston.

Improvements for State Sanatorium.—Dr. Bascom Lynn, in charge of the State Tuberculosis Sanatorium, Carlsbad, has asked for an appropriation of $34,786 for the maintenance of the institution until September, $3,250.70 to pay the back indebtedness of the institution and $2,328 for the construction of a dam for irrigation purposes.

Personal.—Dr. George R. Tabor, Dallas, formerly state health officer of Texas, has been appointed acting assistant surgeon of the U. S. P. H. Service.——Fires have burned the offices of Drs. J. H. Lander and C. C. Bowes, Greenville, the residences of Drs. L. Kusch, Gay Hill, W. F. Whitaker, McKinney and O. I. Halbert, Waco, and the house and office of Dr. E. H. Cowan, Crowell.——The office of Dr. G. S. Field, Gainesville, was damaged to the extent of $2,000 by fire.

GENERAL

Personal.—Dr. J. A. Nydegger, U. S. P. H. Service, has been appointed lecturer of tropical medicine in the University of Maryland, and entered on his duties January 1.

Pediatrists Meet.—At the annual meeting of the Northeast Pediatric Society held in Boston, Dr. James S. Stone, Boston, was elected president; Dr. F P. Webster, Portland, Me., vice-president, and Dr. Fritz Talbot, Boston, secretary-treasurer.

Honor General Torney.—In celebration of the reappointment of Brigadier-General George H. Torney as surgeon-general of the Army, officers of the Medical Corps on duty in and around Washington, gave a banquet at the Army and Navy Club, January 14, over which Colonel Louis A. La Garde presided as toastmaster.

The De Roaldes Prize.—A gold medal is offered by the American Laryngological Association for the best essay pertaining to laryngology or rhinology, preference being given to essays offering new suggestions of practical value arising from original work. The competition is open to practitioners of the United States and Canada in regular standing who are not members of the American Laryngological Association. Essays must be typewritten in English and must be in the hands of the secretary, Dr. Harmon Smith, 44 West Forty-Ninth Street, New York City, before May 1.

Medical Men Form Travel Society. January 25 the American Society for Physicians' Study Travels, with national headquarters in Philadelphia and proposed branches throughout the United States, was formally organized at a meeting of prominent medical men at Philadelphia. Dr. James M. Anders was elected president and Dr. Albert Bernheim was chosen as secretary. The society proposes to send travel parties to foreign countries to report on the methods of leading medical men and scientists in Europe and South America. All physicians and scientists qualified to become affiliated with the American Medical Association will be eligible for membership, and also associate and honorary members will be elected among the prominent medical and non-medical men of this and foreign countries.

Bell System Creates Health Department.—The American Telephone and Telegraph Company, the Western Union Telegraph Company, and the Western Electric Company have made public a comprehensive plan for the payment of sick benefits and life insurance for their 175,000 employees. It is said that $10,000,000 is available for this purpose. In connection with this pension plan there is to be gradually established a system of medical supervision and preventive sanitation designed to preserve the health of employees. The preventive measures will not only include early detection of disease among employees, but also a supervision of sanitary conditions in offices and workshops and the instruction of employees in hygiene. The plan does not necessarily propose to furnish medical attendance to employees, but it will aid them in securing prompt and efficient treatment. Arrangements will be made with hospitals throughout the country for the prompt reception of those who seek this kind of treatment. It is believed by the companies that this plan will be an economical advantage to both parties. Dr. Alvah H. Doty, formerly health officer of the port of New York, has been appointed director of this department.

Organization of Physicians in the Indian Service.—At a meeting of the Sioux Conference held at Flandreau, S. Dak., in November, the "Medical Society of the Sioux Indian Service" was organized. At this meeting it was also proposed that steps be taken to organize the physicians in the United States Indian Service into a society to be called the "Medical Association of the United States Indian Service." This association has now been formed, with the following officers: president, Dr. John N. Alley, Fort Lanwai, Idaho; vice-presidents, Drs. John E. Dougherty, Lower Brule, S. Dak.; Ferdinand Shoemaker, Washington, D. C.; W. H. Harrison, Denver; Robert L. Russell, Washington, D. C.; Jacob Breid, Phoenix, Ariz. (Indian School); secretary and treasurer, Dr. Cornelius W. Lane, Miles, Wash. The objects of the organization are the usual ones of any medical society, improvement along the lines of their work, and in addition the improvement of the Indian medical service in general. It is also one of the aims of the new organization to endeavor to secure adequate salaries for the physicians connected with it. At present these salaries range from $480 to $1,600 per annum. Physicians receiving more than $720 per year are under the civil-service regulations, and instances are reported of men remaining in the service as long as twenty years who have only recently been advanced to a salary of $1,200 per annum; very few receive the higher sums. Among the Indians on the reservations sanitary conditions are not good. Trachoma, tuberculosis and syphilis are very prevalent and, owing to lack of hospitals, facilities and men for properly taking care of them, these diseases are spreading, and already have become in some instances a menace to the surrounding white population. It is hoped by the concerted action of the physicians in the service who are on the ground and understand the needs of the service through their association to enlist the greater interest of Congress in the physical condition of the Indians on the reservations with the result of securing better appropriations, etc.

LONDON LETTER

(From Our Regular Correspondent)

London, Jan. 25, 1913.

The National Insurance Act: The British Medical Association Releases Physicians from the Pledge

The defeat of the resistance of the British Medical Association to the national insurance act has already been reported (The Journal, Jan. 25, 1913, p. 298). The object of the meeting of the representative body called to consider the desirability of releasing physicians from the pledge to work the act only on terms acceptable to the association might be described as somewhat belated, as 15,000 of the 27,000 who had taken the pledge had refused to be bound by it for one reason or another, given in previous letters. The proceedings were of an anxious character and lasted two days. As on former occasions, there was a struggle between two parties—those who thought the pledge should be maintained and those who thought it should be abrogated. The following motion was first discussed: "That while expressing the deepest sympathy with and declining in any way to blame those members of the profession who, compelled by economic pressure and the defection of their fellows have against their will gone on the panels, the representative meeting expresses their opinion that, until agreements to treat insured persons under the act are satisfactory to the medical profession and in accordance with the declared policy of the association, the pledge must be considered still binding." A long and animated discussion followed in which the danger of alienating the men who had remained loyal to the pledge was pointed out on the one side and the danger of driving from the association the men who had—often by force of circumstances—been compelled to break the pledge, was pointed out on the other. An attempt was made to find some middle course which would be equally acceptable to both parties, but without effect. In the end by a majority of 115 votes to 35 it was decided to release the physicians who had signed the pledge.

PROLONGATION OF THE RESISTANCE IN LONDON

The abrogation of the pledge removes the last vestige of difficulty which the government may have in forming adequate panels to work the act in the country generally, but in some districts of London the panels are still inadequate and resistance to the act is being maintained by "the London Medical Committee"—a body of physicians which, while independent of the British Medical Association, is endeavoring to carry out a similar policy. The London panel contains only about 1,000 physicians — a number which is inadequate. There are about 5,000 physicians in London who might serve on the panels if the terms were satisfactory. An agitation the keynote of which is "Insist on having your own doctor" is going on. The advantage to the insured persons of being able to be attended by their own physicians, whether on the panel or not, is pointed out, and they are supplied with blanks to forward to the insurance committee asking to be allowed to make their own arrangements for medical attendance. While the physicians receive a sympathetic hearing, and motions are carried in favor of this course, the agitation does not appear to have much prospect of success. The insurance committee has issued a statement saying that it will consider each application of the insured person to make his own arrangements on its merits, but in deciding will be influenced by the general effect which such applications may have on the panels. This is a plain intimation that it will not countenance the attempt of the physicians opposed to the act to use the clause which gives the insurance committee power to allow contracting out for medical attendance to be made the basis of a system of medical attendance designed to supersede that of the act. The British Medical Association tried to bring forward such a scheme without success, and the London Medical Committee is trying to introduce a somewhat similar one.

On the other side the National Insurance Practitioners' Association—a body of physicians formed for the purpose of working the act (described in a previous letter)—has issued a long manifesto emphasizing the necessity for organization and pointing out that "in many cases the arrangements of the act are experimental and in all cases officially provisional." They offer the use of the organization to the physicians on the panels, acting individually or collectively, in efforts they may desire to make in order to secure such rights and privileges for the medical service as can be granted by the insurance commissioners' committees. Suggestions for simplifying the records required from physicians are now being considered. Complaints have already been made that the clerical work is proving onerous. In ordering medicine for an insured person a physician has to write three prescriptions—one in a book supplied for the purpose and two for the pharmacist, who retains one and forwards the other to the committee. The adoption of a list of stock mixtures and preparations in constant use, such as can be found in every hospital pharmacopeia or the codex, is suggested as a means of lightening the labor of prescribing and the cost of dispensing.

An International Conference on Postgraduate Teaching

During the forthcoming international medical congress to be held in London next August, a conference on postgraduate teaching will be held in connection with the meeting of the international committee. Under government auspices a British committee, composed of the British delegates to the international committee and of representatives of postgraduate medical schools, has been formed with Sir William Osler as chairman to make the necessary arrangements. The following program has been drawn up by the international committee, of which Professor von Waldeyer is president and Professor Kutner, Berlin, secretary: Reports: (1) the curriculum of medical education in the United Kingdom; (2) the present condition of postgraduate medical instruction in the United Kingdom. Discussions: (3) the reforms in the present methods of instruction necessary to ensure technical proficiency in the general branches of medical practice; (4) the importance of the sociologic aspects of medicine (public health, school hygiene, tropical diseases, health insurance, physical training, etc.), in postgraduate medical instruction.

PARIS LETTER

(From Our Regular Correspondent)

Paris, Jan. 17, 1913.

An Institute for Dietetics

There exists at Paris a Société scientifique d'hygiène alimentaire et d'alimentation rationnelle de l'homme. In pursuance of the purpose for which it was chartered this society is to build an institute for the study of the hygiene of nutrition. This institute will be a center not only of research and of teaching of the applied sciences of nutrition but also of popular education, where instruction will be given in simple terms, and principles necessary for the solution of practical dietetics will be taught. The department of research will comprise laboratories necessary for the study of all the sciences bearing on the general purposes of the society. The latter will construct along this line a room for the calorimetric determination of respiration (a *chambre respiratoire calorimétrique*). In addition to the meetings exclusively for members the society will have scientific and popular conferences, the latter as far as possible practical demonstrations and object-lessons so that all may understand the meaning of dietetics. Finally a bulletin will be published which will be a permanent record of all the transactions of the society and experiments done in connection with dietetics. The constitution of the society prevents it from considering industrial and commercial questions and enjoins its members from using, naming or recommending in any way commercial products.

Breathing Exercises by Means of a Bottle

While practitioners are agreed that the effects of breathing exercises are excellent, they often lack the time to go into details of the necessary movements and the attitudes to take so that the patient loses interest in a method which presents difficulties too great for him to overcome. Therefore Dr. Pescher has invented a simple and practical method which he described at one of the recent meetings of the Société de l'internat des hôpitaux de Paris. This process is based on the well-known physical phenomenon that a bottle filled with water and inverted in a receptacle containing a little water does not empty itself on account of the pressure of the atmosphere. Now if the equilibrium is disturbed by blowing into the interior of the bottle through a tube, a volume of water is displaced about equal to the amount of air introduced. As the normal capacity of the adult lung at each respiration is about half a liter (half a pint) if a patient is made to blow enough air into the bottle to displace a liter of water he will be obliged, as a preliminary, to inhale this amount of air which will result in a true breathing exercise since the quantity of air in circulation in his lungs will be double the ordinary amount. By the use of bottles graduated to all capacities this exercise can be prescribed in progressive amounts, in accordance with the condition of the patient's lungs as determined by the physician.

The patient is made aware from day to day of his progress not only subjectively but objectively. It is best to begin with receptacles of medium capacity: half a liter in the case of children, a liter with adults. Progress ought to be graduated according to the results obtained. One can go as far as 2 or 2½ liters with children and to 4 or 4½ liters with vigorous adults. Inspiration should be made through the nostrils and should be slow and rhythmic. The blowing into the bottle should be slow and regular—not a sudden exhalation—until the patient has become accustomed to the exercise; he should not entirely empty his lungs at first but as the patient progresses he may empty his lungs completely and drive as much water out of the bottle as he can. After each exercise of inhalation and exhalation he should rest for a time equal to that taken in the exercise. From ten to one hundred exercises should be done two or three or perhaps four times during the twenty-four hours. They should be taken between meals, on an empty stomach, before eating or an hour and a half after eating. Ten exercises done carefully require about a quarter of an hour. Those who get the most benefit from the exercises are narrow-chested children, those who have difficulty in respiration, patients with chlorosis, anemia and adenopathy, and neuropaths, convalescents from all acute affections of the respiratory tract, the pretuberculous and even the tuberculous. The wide range of possibilities in the exercise whereby as little or as much as is needed may be taken permits its application even in those cases in which breathing exercises are ordinarily contra-indicated. Dr. Pescher has been able to apply his method even in emphysema, hemoptysis, whooping-cough and certain forms of cardiac arhythmia.

BERLIN LETTER

(From Our Regular Correspondent)

Berlin, Jan. 18, 1913.

Personal

On December 29 the well-known gynecologist of Jena, Bernhard Schultze, completed his eighty-fifth year. He published his method of swinging to resuscitate the new-born in 1866.

Professor Oberst, for many years assistant at the Freiburg surgical clinic, has retired from his position.

Professor Wullstein of Halle has been appointed chief physician of the miners' corporation hospital Bergmannsheil at Bochum, as successor of the deceased Professor Löbker, who was for many years president of the German *Aerztevereinsbund* (the league of united German physicians).

Professor Pfaundler of Munich has been appointed regular professor, as reward for his refusal to accept calls to the Strasburg and Leipsic universities.

Professor Salge has been called to the pediatric clinic at Strasburg, as successor of Professor Czerny.

Professor Hofmann, director of the hygienic institute of Leipsic, will retire on October 1.

F. Körte, father of the well-known surgeon of Berlin, celebrated January 16 his ninety-fifth birthday. He is considered the Nestor of the German medical profession and is beloved and esteemed in the widest circles. He played formerly an especially great rôle in the affairs of the profession.

A few days ago Professor Binz, the pharmacologist, who was formerly a regular professor at the Bonn university, died in his eightieth year. The Bonn pharmacologic institute was founded by him in 1869. His prominent works treat especially of quinin, salicylic acid, alcohol, halogens, ethereal oils, arsenic and the antagonism between morphin and atropin. He was also renowned as a teacher. Binz was the father-in-law of von Noorden, the clinician of Vienna.

Strike of Medical Students at Halle

After many negotiations, the strike of medical students at Halle, in regard to which I reported some time ago, has finally been brought to an end. The demand of the students has been granted, namely, that foreign students be not admitted to clinics until they have passed the preliminary medical examination (tentamen physicum) or else proved by a certificate that they had already passed an equivalent examination. This measure is now being introduced in the other universities, as students in various places have also threatened to suspend attendance at lectures.

University at Hamburg

The success of the Frankfort citizens, in their endeavors to secure the foundation of a university in their city, has aroused the ambition of some of the leading citizens of Hamburg, who have succeeded in inducing the senate of Hamburg to lay also before their citizens a project for the foundation of a university. However, the university is at first to have only three faculties, namely, legal, philosophic and for colonial commerce. The fact that a medical faculty is not to be included naturally meets with lively opposition on the part of many Hamburg physicians. On the other hand again, there are a number of those who are satisfied with this decision, because they fear that the establishment of a medical faculty would be disadvantageous to practitioners.

Regulation of Moving Picture Theaters

Our police have started a crusade against the unfavorable influences of improper moving picture shows on the young. According to a new regulation of the Berlin police, which came into effect the first of January, children under six years of age are absolutely excluded. Children from six to seventeen will be allowed to attend only special performances for the young. These shows must end at 9 o'clock and must be specially designated on the program of the play, at the entrance, as performances for the young. In many cases it will not be easy to determine the age of a young theatergoer; but at any rate, these new regulations present an effective arrangement by which it will be possible to protect our youth against the demoralizing influences of questionable moving picture theaters.

Decrease of Births in Berlin

The director of the municipal statistical bureau has just made a report as to the decrease of births in Berlin in 1911. In this year there were born in Berlin 44.834 children—a number which already in 1876 was surpassed by 1.464, that is at a time when the population amounted not quite to half of the present. As reckoned per 1.000 of population, the number of births amounted at that time to 47.19, while in 1911 it was

21.64—a decrease of not less than 54.1 per cent. Comparing the figures of legitimate and illegitimate children, the number of the illegitimately born has decreased. But this last consideration is of small consequence as regards the real point at issue. It is only necessary to point out that there is no reason for supposing that the number of illegitimates is decreasing. Investigations of the figures gives the following results: The fertility of marriages in Berlin has been decreasing since nearly the middle of the 70's; in 1910 it amounted to 37.7 per cent. of the maximum reached in 1876. A characteristic feature is the marked decrease of mothers who have borne three or more children in the last few years. The decrease in the number of births in the last five years was least among the younger married women capable of bearing children, and greatest among the older. As regards the different parts of the city, those populated mostly by working classes show the greatest proportional decrease of legitimate births.

VIENNA LETTER

(From Our Regular Correspondent)

VIENNA, Jan. 20, 1913.

The Medical Home in Marienbad

The second report of the Aerzteheim in Marienbad shows that this institute is doing a large amount of good for diseased physicians. The institute is the result of the modern ideas of organization of our noble profession, with a view of helping ourselves. It is supported by contributions, by medical organization chiefly from Austria and Germany, and offers free board and lodging, or free lodging only, to physicians requiring the baths of Marienbad.

The "Lupus Home" in Vienna

A few instructive facts about the Vienna Lupus Institute have become known to the general public from the report of this charitable home made recently. It has been demonstrated that more than two-thirds of all cases of lupus begin in childhood, and that a children's department is therefore of the utmost importance. This will be contained in the new institute to be opened shortly. In the old house more than 2,000 cases have hitherto been treated by all recognized means: surgery, *x*-rays, Finsen light and radium. It is interesting to note that the reputation of the institute is so well based that numerous applicants from all over the world come for help, and that gifts and bequests are becoming frequent now.

The Medical Profession in 1912

The year which has just ended has been rather negative as regards the economics and social ethical attainments of the profession in Austria. There were three different problems under consideration: first of all, the national insurance against sickness and accidents, which in the form the government gave it would spell ruin to the general practitioner. Stout resistance was offered to this scheme, and the profession has been able to make its just position and its legitimate demands clear to the general public and the legislative bodies. The bill has not passed the preliminary stage yet, nor is it likely to do so soon; at any rate, the gain of time is also a gain of weight of our arguments with the lawgivers. The second important problem concerns the medical regulations (*Aerzte-Ordnung*) which are intended to bring modern stipulations into our antiquated laws concerning the rights and duties of the physician. The coercion to practice, as well as a number of gratuitous services, hitherto imposed on the practitioner, will be done away with under certain conditions, and some of the most onerous conflicts between the conscience of the physician and citizen (professional secrecy in court) have been modified to the wishes of the profession. This bill, too, has been left undiscussed, and numerous obstacles are yet in its way before it may become a law. A third bill is that dealing with epidemics and public health (*Seuchengesetz*). In this case the bill has been discussed several times, and as it imposes expenses on the state and municipalities it was several times rejected in committee. This bill is quite up to date. It stipulates the right of the community to protect the common welfare by certain measures against those who endanger it It requires the notification of infectious diseases, disinfection, vaccination, the hearing of officers of health in all cases in which public health is involved, it deals with diseases among cattle and with modern disposal of town refuse and waste, and it orders the payment of the physician for some of the work done in the interest of the state. Nevertheless, or perhaps because of these sensible clauses, the law has met so much opposition that it will take long before it passes the two legislative bodies of our parliament.

Association News

THE MINNEAPOLIS SESSION

Announcement of Excursions in Connection with the Annual Meeting of the American Medical Association

The Committee on Arrangements for the session of the American Medical Association at Minneapolis, June 17-20, 1913, is planning special excursions to follow. One of these will be to the Yellowstone National Park by means of a special train leaving Minneapolis Friday evening, June 20, on the Northern Pacific Railway. The train will include standard sleeping-cars, one or more special dining-cars and a parlor observation car. Its route will be through the Central and Western parts of North Dakota, passing through the famous Dakota hard-wheat belt, including the Dalrymple Farm of 21,000 acres and the Pyramid Park of North Dakota. It will arrive at Gardiner, the gateway of the Yellowstone Park, Sunday morning, June 22. Seven days will be spent in the Yellowstone in coaching trips, the several nights being spent at the principal resorts in the park.

A second party will leave Minneapolis for the same trip twenty-four hours later, Saturday, June 21, occupying one day less in the excursion. Return will be made to Minneapolis on Monday, June 30, or may be postponed to enable excursionists to make side trips to the Canadian or Colorado Rockies.

This Yellowstone excursion may be taken simply en route on a more extensive trip to the Pacific Coast and to Alaska. If a sufficient number of members prefer this more extensive journey, a separate party will be planned for the Alaskan visit, which may be extended at the pleasure of its participants over the ordinary route of excursion travel; or for those who desire a more essential pioneer experience, to remoter points.

Details with reference to these excursions may be had by communicating with Dr. H. H. Kimball, chairman of the Committee on Excursions, Minneapolis.

The entire expense of the trip will be covered by excursion tickets, including hotel accommodations, coaching travel and dining-cars.

THE JOURNAL has received a letter from the Department of the Interior, stating that a circular regarding publications of the government on the national parks will be sent to any interested member on request addressed to the Secretary of the Interior, Washington, D. C. General information pamphlets on the Yosemite, Yellowstone and Glacier national parks will also be sent on request.

Marriages

HARRY REX MCKELLAR, M.D., M. C., U. S. Army, to RUTH ALEXANDER, M.D., of Philadelphia, at Portland, Ore., Dec. 11, 1912.

RUPERT HOWARD FIKE, M.D., Spartansburg, S. C., to Miss Ethel Lee Ewing of Park City, Knoxville, Tenn., February 6.

JESSE P. RANDOLPH, M.D., Hot Springs, Ark., to Miss Anna Hudgins of Mena, Ark., January 19, at New Boston, Tex.

ROBERT PRESTON WINTERODE, M.D., Crownsville, Md., to Miss Emma Horn, Baltimore, at Baltimore, January 22.

JESSE FRANKLIN DONNELL, M.D., Crystal City, Mo., to Miss Bonita H. Gullick of Paris, Tex., Dec. 30, 1912.

MERRITT W. WHEELER, M.D., Glencoe, Minn., to Miss Ruth Funk of St. Paul, Minn., Dec. 12, 1912.

HIESTER H. MUHLENBERG, M.D., to Miss Anna Miller, both of Redding, Pa., January 22.

EGIL BOECKMANN, M.D., to Miss Rachel Hill, both of St. Paul, Minn., January 30.

JEAN VALJEAN COOKE, M.D., to Miss Mary A. Pettit, both of San Francisco, recently.

PETER SAUL WINNER, M.D., to Miss Minnie Weisbrod, both of Chicago, January 7.

AUGUST STRAUCH, M.D., to Miss Clara Loos-Tooker, both of Chicago, February 1.

Deaths

Parks Ritchie, M.D. Medical College of Ohio, Cincinnati, 1870; a member of the American Medical Association; professor and chief of the department of obstetrics and gynecology, and formerly dean of the College of Medicine and Surgery in the University of Minnesota; senior physician to St. Luke's Hospital, St. Paul, and consulting obstetrician to the St. Paul City and County Hospital; one of the most prominent and best-known obstetricians of the Northwest; died suddenly February 2, from cerebral hemorrhage, aged 67.

Clinton Stevenson, M.D. College of Physicians and Surgeons, New York City, 1889; a member of the Medical Society of the State of New York and Association of Military Surgeons of the United States; major, M. C., N. G., N. Y., assigned to the Eighth Coast Artillery; medical inspector in the New York Department of Health; for ten years a member of the staff of St. John's Hospital, Long Island City; died at his home, in New York City, January 22, from pleurisy, aged 47.

Ernest Palmer, M.D. College of Physicians and Surgeons, New York City, 1879; a member of the American Medical Association; for thirty years a member of the surgical staff of Long Island College Hospital; consulting gynecologist to King's County, St. John's, Jewish and Female hospitals, Brooklyn; clinical professor of gynecology in Long Island College Hospital; died at his home in Brooklyn, January 20, aged 63.

Sarah Josephine Wadsworth, M.D. New York Free Medical College for Women, New York City, 1876; for many years proprietor of a sanatorium for nervous diseases in Morristown, N. J., and later of the Valley View Sanitarium, Maplewood, N. J.; died in St. Elizabeth's Hospital, New York City, January 20, from senile debility, aged 71.

Charles Sturtevant, M.D. Harvard Medical School, 1862; assistant surgeon, U. S. Navy, during the Civil War; coroner of Milton and Hyde Park, Mass., from 1870 to 1877 and thereafter associate medical examiner for Hyde Park; first president of the Hyde Park Medical Club; died at his home, January 19, aged 73.

Richard G. Johnson, M.D. University of Pennsylvania, Philadelphia, 1883; a member of the Medical Society of the State of New York; formerly coroner of Montgomery County and for two terms health officer of Amsterdam; physician to the Amsterdam City and St. Mary's hospitals; died at his home, January 20, from angina pectoris, aged 54.

Francis Nelson Braman, M.D. Bellevue Hospital Medical College, 1866; a member of the Connecticut State Medical Society; for many years a member of the Board of Education of New London; dean of the medical staff of Memorial Hospital and a trustee of the Mainwaring Memorial Hospital; died in Dade City, Fla., January 15, aged 76.

William L. Zeigler, M.D. College of Physicians and Surgeons, Baltimore, 1881; a member of the Medical Society of the State of Pennsylvania; for two terms a member of the city council of Steelton and of the local board of education; died at his home in Steelton, January 20, from pneumonia, aged 57.

John J. McElroy, M.D. Starling Medical College, Columbus, Ohio, 1856; for many years a practitioner of Rossville, Ill.; surgeon of the One-Hundred and Twenty-Fifth Illinois Volunteer Infantry throughout the Civil War; died at the home of his daughter in Decatur, Ill., from influenza, aged 84.

Sharon John Thoms, M.D. University of Michigan, Ann Arbor, 1898; a missionary in Arabia since that time; for eight years manager of the hospital at Bahrien; died in Muscat, Arabia, January 17, from injuries received by the fall of a telephone pole.

William Benedict Bassell, M.D. Washington University, St. Louis, 1897; physician to the State Penitentiary, Columbus, O.; a veteran of the Spanish-American War; died suddenly in Lawrence Hospital, Columbus, from nervous breakdown, aged 36.

John Reddish, M.D., Starling Medical College, Columbus, O., 1863; one of the oldest practitioners of Clark County, O.; for a time a practitioner of dentistry in Yellow Springs, O.; died at his home in Springfield, O., January 14, from senile debility, aged 85.

Richard Cox Allen, M.D. Hahnemann Medical College, Philadelphia, 1868; died at his home in Frankford, Philadelphia, where he had practiced for sixty-three years, January 19, four weeks after an operation for ischiorectal abscess, aged 84.

J. W. Sorrels, M.D. Kentucky School of Medicine, Louisville, 1876; a Confederate veteran and a member of the Arkansas Constitutional Convention of 1874; died at his home in Mansfield, January 14, from pneumonia, aged 69.

John Morrison, M.D. Bellevue Hospital Medical College, 1892; of New York City; was burned to death in a fire which destroyed his summer home at the foot of Saurland Mountain, near Somerville, N. J., January 22, aged 61.

John Winslow Chase, M.D. Medical School of Maine, Brunswick, 1867; a member of the Massachusetts Medical Society; a hospital steward during the Civil War; died at his home in Dedham, about January 19, aged 73.

Ezra Barnes Aldrich, M.D. Harvard Medical School, 1868; a member of the New Hampshire Medical Society and one of the best-known practitioners of Hillsboro County; died at his home in Manchester, January 14, aged 72.

Guildford Dudley Wilkinson, M.D. University of Virginia, Charlottesville, 1871; of Paige, Texas; a Confederate veteran; died at the home of his son in Raspeburg, Md., January 21, from grippal pneumonia, aged 77.

John Boyd Talbot, M.D. University of Nashville, Tenn., 1854; a Confederate veteran; for many years justice of the peace; died at his home near Nashville, January 12, from senile debility, aged 80.

James Alexander Petrie, M.D. University of Pennsylvania, Philadelphia, 1866; a surgeon in the United States Navy during the Civil War; died at his home in Phillipsburg, N. J., January 23, aged 69.

Newton P. Hunter, M.D. Eclectic Medical Institute, Cincinnati, 1863; a veteran of the Civil War; died suddenly at his home in North Lewisburg, Ohio, January 20, from heart disease, aged 66.

Jacob E. Kimberlin, M.D. Ensworth Medical College, St. Louis, Mo., 1898; of Union Star, Mo.; died January 14, from pneumonia, at Brownsville, Texas, where he had gone on a hunting trip.

George Edmond Reynolds, M.D. University of California, San Francisco, 1887; a member of the American Medical Association; died at his home in Hayward, Cal., January 11, aged 56.

John H. Molony, M.D. Eclectic Medical Institute, Cincinnati, 1869; at one time township physician; died at his home in Symmes Corners, Ohio, January 16, from cerebral hemorrhage, aged 71.

W. W. P. McMillen, M.D. Medical College of Fort Wayne, Ind., 1878; a member of the Indiana State Medical Association; died at his home in Decatur, January 15, from heart disease, aged 66.

Jacob T. Gahm, M.D., Barnes Medical College, St. Louis, 1897; of LaHarpe, Ill.; died in St. Joseph's Hospital, Keokuk, Iowa, January 22, four days after an operation for appendicitis, aged 42.

Reuben Fletcher Dearborn, M.D. New York University, New York City, 1874; of Lynn, Mass.; died at the home of his daughter in London, Ont., January 19, from pneumonia, aged 62.

J. F. Meador (license, Tenn., 1889); for more than half a century a practitioner of Wilson County; died at his home near Watertown, January 11, from senile debility, aged 81.

Jay Gumm, M.D. Eclectic Medical Institute, Cincinnati, 1892; of McMillan, Okla.; died in a sanatorium in Dallas, Texas, January 21, a week after a surgical operation, aged 54.

Leroy S. Riggs, M.D. Eclectic Medical Institute, Cincinnati, 1892; of Wheeling, W. V.; died suddenly at the home of his aunt in Moundsville, W. Va., January 15, aged 52.

William A. Patterson, M.D. Cooper Medical College, San Francisco, Cal., 1878; of Santa Clara, Cal.; died in San Francisco, Nov. 11, 1912, from heart disease, aged 70.

C. W. Biggers (license, Kentucky, thirty years' practice, 1893); died at his home near Temple Hill, January 20, from disease of the kidneys, aged 75.

Samuel M. Bell (license, Somerset County, Pa); a practitioner for forty-seven years; died at his home in Ellwood City, Pa., January 17, aged 68.

William Edgar McGrew, M.D. Eclectic Medical Institute, Cincinnati, 1886; died at his home in East End, Pittsburgh, January 13, aged 47.

John V. Lewis, M.D. Eclectic Medical Institute, Cincinnati, 1870; died at his home in Alliance, Ohio, January 16, from meningitis, aged 75.

The Propaganda for Reform

IN THIS DEPARTMENT APPEAR REPORTS OF THE COUNCIL ON PHARMACY AND CHEMISTRY AND OF THE ASSOCIATION LABORATORY, TOGETHER WITH OTHER MATTER TENDING TO AID INTELLIGENT PRESCRIBING AND TO OPPOSE MEDICAL FRAUD ON THE PUBLIC AND ON THE PROFESSION

THOREMEDIN

Report of the Council on Pharmacy and Chemistry

The report by W. A. Pusey[1] having questioned the claims made for Thoremedin, E. R. Squibb & Sons, in accordance with their letter,[2] submitted Thoremedin Paste and the preparations thereof—Thoremedin Liquid and Thoremedin Ointment—to the Council for consideration.

The products having been assigned to the Committee on Therapeutics, this committee secured the aid of experts to test clinically Thoremedin Paste side by side with a simple paste of sulphuric acid and lead sulphate, the identity of the two preparations not being disclosed to the experimenters. As the result of these experiments, together with other evidence, showed conclusively that Thoremedin Paste possessed no advantages over the simple sulphuric acid paste, the Council voted that Thoremedin Paste, along with its subsidiary preparations—Thoremedin Liquid and Thoremedin Ointment—be refused recognition.

The report was submitted to E. R. Squibb & Sons for comment. In reply the firm stated that in accordance with its agreement Thoremedin would be withdrawn from the market. The Council accordingly directed publication of the report which appears below as well as the letter of E. R. Squibb & Sons.

W. A. PUCKNER, Secretary.

REPORT ON THOREMEDIN TO THE COMMITTEE ON THERAPEUTICS

Liquor Thoremedin, Pasta Thoremedin and Unguentum Thoremedin were submitted to the Council by E. R. Squibb & Sons. In the submission the firm gave the following as the composition of Thoremedin Paste:

Lead sulphate	68.6	per cent.
Thorium sulphate	1.5	per cent.
Didymium sulphate	0.25	per cent.
Sulphuric acid, U. S. P.......	27.60	per cent.
Nitric and hydrochloric acids..	Traces	
Moisture by difference........	2.05	per cent.

In view of the report by Pusey[1] that the properties of the mixture depended on the sulphuric acid, and the counterclaim of E. R. Squibb & Sons that they depended largely on the thorium content, and because the claims made for the other preparations depended on those made for Thoremedin Paste, the Committee on Therapeutics, to which the products were assigned, decided first to take up Thoremedin Paste.

Inasmuch as it was possible, although not probable, that the emanations produced by the small amount of thorium sulphate contained in the paste might in some way affect the cauterant action of the sulphuric acid or influence the tissues after such cauterant action had ceased, the referee believed it necessary to make some practical trials as to the effect of thorium in such a sulphuric acid mixture. He therefore requested the A.M.A. Chemical Laboratory to prepare a sulphuric acid mixture agreeing in sulphuric acid content with Thoremedin Paste, thorium sulphate being omitted. This mixture was put up in vials identical with those which contained Thoremedin Paste, each being identified by numbers only. The referee secured the help of men of established reputation in the treatment of cancer and supplied each with specimens of Thoremedin Paste and of the A.M.A. sulphuric acid paste. The bottles containing Thoremedin Paste bore even numbers, while the A.M.A. paste was designated by odd numbers. The significance of the numbers was not known by the experimenters. The following reports have been received.

REPORT 1.—"We have concluded the clinical tests made with the preparations No. 7 [A.M.A.] and No. 8 [Squibb] sent to us from the Association Laboratories.

"In our opinion the action of the two preparations is practically identical when applied in a thick layer which is allowed to remain *in situ*.

"A single thin application of No. 8 [Squibb] allowed to remain exerts a more rapid and deeper action than one similar application of No. 7 [A.M.A.] although the same result can be secured by an additional application of No. 7 [A.M.A.].

"In one instance (lupus vulgaris) there was a better result from one thin application of No. 7 [A.M.A.] than No. 8 [Squibb].

"A thin layer of No. 7 [A.M.A.] wiped off after ten minutes produced slight desiccation of the surface of fibromatous nevus. A similar thin application of No. 7 [A.M.A.] wiped off after twenty minutes produced a decided destructive effect in the same nevus.

"If further details are desired we shall be glad to submit them."

REPORT 2.—"We tried the paste No. 1 [A.M.A.] and 2 [Squibb] in such cases as were available. In only one instance was it possible to test very accurately the action of the two mixtures. This was in a case of a negro in whom the nose and the greater part of the face had been destroyed by a carcinoma. The diagnosis was confirmed by microscopic examination. Here the paste was used on both sides of the nose.

"Neither the house officer, the resident, nor myself could see that there was any material difference in the action of the two pastes."

REPORT 3.—

"Sample No. 3 [A.M.A.]	"Sample No. 4 [Squibb]
Pure white color.	Grayish-white color.
Viscid consistency.	Not so viscid.
Absorbs water from the atmosphere.	Also absorbs water.
On standing separates slowly into a clear syrupy liquid and a white sediment.	On standing separates more rapidly into a syrupy brownish liquid and a grayish-white sediment.

"When well mixed and applied to the unbroken skin, *both* mixtures cause a stinging, burning sensation; No. 3 [A.M.A.] somewhat more than No. 4 [Squibb].

"After a three-minute application and then removal of the substance with a dry gauze, in the case of No. 3 [A.M.A.], the site of application shows a slight yellowish color. This is especially seen after treating hyperkeratotic lesions. This yellowish stain does not give the xanthoproteic reaction.

"After a similar application and removal No. 4 [Squibb] leaves a whitish spot.

"Both samples were used on pigmented moles, seborrheic warts, verrucae vulgares, and on the normal skin.

"The extent of action depends on the duration of application and on the amount used.

"Three-minute application of *both* samples to a large pigmented nevus resulted in destruction of the epidermis down to the deeper layers of the rete Malpighii.

"There seemed to be no marked difference in the action of the two samples except as above noted. They were both severe caustics, No. 3 [A.M.A.] seemingly slightly stronger than No. 4 [Squibb]."

These reports show conclusively that the action of the two preparations is practically alike and that therefore no particular virtues can be ascribed to the thorium or thorium emanations. The claims being incorrect and unwarranted, Thoremedin is in conflict with Rule 6. Although the action of Thoremedin depends on sulphuric acid, the name "Thoremedin" suggests that its activity depends on thorium or thorium emanations. Since the action is that of sulphuric acid the name must be held in conflict with Rule 8. Sulphuric acid having long been used as a cauterant, the attempt to introduce it as a new discovery must be held contrary to therapeutic advance, and hence Thoremedin is in conflict with Rule 10.

It is recommended that Thoremedin Paste be refused recognition for conflict with Rules 6, 8 and 10 and, with it the subsidiary preparations—Thoremedin Liquid and Thoremedin Ointment. It is also recommended that this report be published.

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[1] Propaganda Department, THE JOURNAL A. M. A., March 9, 1912, p. 716.

[2] Correspondence Department, THE JOURNAL A. M. A., April 13, 1912, p. 1135

Letter of E. R. Squibb & Sons

Mr. W. A. Puckner, January 15, 1913.
Secretary, 535 Dearborn Avenue,
Chicago, Illinois.

Dear Sir:—In submitting to us an advance proof of the report on Thoremedin, adopted by the Council on Pharmacy and Chemistry, you give us an opportunity for any comment we might wish to make before publication.

We do not desire to make any comment on the action of the Council. Our position in this Thoremedin matter is plainly stated in our letter of March 11, 1912, addressed to the Editor of The Journal of the American Medical Association, and published in The Journal, April 13, 1912, pages 1135 and 1136.

In pursuance of that letter we now announce that we have discontinued the manufacture and sale of Thoremedin.

Very truly yours,
E. R. Squibb & Sons,
Theodore Weicker, Vice-President.

Editorial Comment:—The Journal commends this action of E. R. Squibb & Sons, who not only submitted Thoremedin to the Council, but also promised in advance to abide by its decision. It appears from the firm's action in this case that if a product cannot stand scientific, controlled tests E. R. Squibb & Sons do not want to market it or to have the name of the firm connected with that product. This open-mindedness and readiness to profit by criticism redounds to the credit of the firm.

ODIN'S ALLEGED DISCOVERY OF A "CANCER GERM"

Our readers may remember that the most sensational matter appearing in the newspapers regarding Dr. Friedmann's tuberculosis "cure" was in the form of a syndicate letter by William Shepherd, a newspaper correspondent. The preceding week the newspapers had a similar sensational letter by the same writer concerning an alleged discovery of the cancer germ by a Dr. Odin of Paris. An article by Dr. L. K. Hirschberg of Baltimore regarding this also appeared in the *Technical World Magazine*, thus adding, as it were, a professional endorsement to the matter. On account of this publicity our readers may be interested in the following extract from a letter from Dr. Edwin Walker of Evansville, Ind.

" . . . One of my chief reasons for stopping in Paris was to investigate the alleged "cancer cure" of Dr. Gaston Odin, a report of which was published in newspapers throughout the United States.

"With a very intelligent interpreter, I went to his address, as given by the directory, 63 Rue Vaman. This is in a cheap quarter and the place proved to be a very modest apartment house. The janitor informed us that our doctor had just removed to Boulevard des Invalides, and there we found him in elegant apartments, newly furnished in the most expensive manner. The neighborhood was one of the best. Evidently prosperity was coming from some source.

"We were ushered in by a lady (who proved to be the doctor's wife) and were asked to wait until the doctor had finished his lunch; during this time we could inspect the gorgeous furniture (all new).

"Presently he entered, smoking a cigaret. He was small, about 5 feet 5 inches, weighed about 120 pounds, and was a typical Frenchman, about 45 years old, I should think. He looked well fed and well wined. He was very pleasant and talkative. His story was about as follows:

"He had been working alone on the cancer problem for fifteen years and had exhausted all his means. He was connected with no hospital and had no aid from any one. He had discovered the germ of cancer in the blood and had also found a remedy in a serum which would absolutely cure all cases.

"I asked him his methods of finding the germ, but he said he was not prepared to demonstrate it to me as his laboratory was in disorder.

"I asked him if he had published anything, and he gave me a short article, merely stating that he had found these germs but giving nothing of his methods, nor any proof, experimental or otherwise, that the 'germs' were really those of cancer.

"I then asked him about his serum. This was prepared by a process which he kept secret; he injected it under the skin, not at the site of the cancer.

"I asked him then if he was prepared to sell or formulate the serum to others. To this he answered that the French government would not allow him to sell a serum unless experts would pass on its value as well as its harmlessness. With this he broke out into a denunciation of governments in general and the medical profession in particular, because they interfered with his freedom in the matter. He was very anxious to know if he could do better in America. He was very willing to consider a proposition to buy the right to use his remedy elsewhere.

"I swallowed all this with a straight face and pretended great interest. He then volunteered to show me his cases in proof of what he had said. There were about a dozen patients waiting at the time. The first he brought in was a woman with a typical carcinoma of the breast, nearly as large as an English walnut. There were no enlarged glands under the arm. She had only a few treatments and from her own statement there had been no change. The patient should have been operated on at once.

"Then came two men suffering with cancer of the rectum; both said that they were better, but from the history I got from them I think they both had hemorrhoids. They certainly did not look as if they were suffering from cancer.

"The next was a man who undoubtedly had cancer of the larynx; he had been treated a month and said that he felt better; but he could hardly talk and certainly was in a very bad condition, lacking much of being cured.

"The next was a woman of 29. She had a tumor of the breast which had been removed by incision below; the breast had not been removed. She said that she had a return and that it had pained her. There was no evidence of return, no enlarged glands; in fact, every evidence showed that the trouble was benign and that the treatment had affected the patient's imagination only.

"I later inquired about Dr. Odin's professional standing and found that he was connected with no hospital, and with no medical organization so far as I could learn; that he had published nothing and made no demonstration of his discovery. He has never done any work on lines of research or investigation that any one knows. In short, he claims to have made the greatest discovery of the age, but nothing in his previous work or present evidence supports that claim.

"He did not appear to be overjoyed that he had found the greatest boon to the human race, but he seemed very anxious to make money, as he says only for his wife and children; he cannot afford to give it to the public on their account. He said that if some of our rich philanthropists would give him enough cash he would publish it.

"My guide said that Dr. Odin was not an educated man and spoke the 'commonest' French.

"To me there was a very sad side to this interview. He took me into his private office and showed me a large number of letters, most of them from America. These were from unfortunate sufferers from the worst of all diseases, who, in desperation, are appealing to this miserable little charlatan for relief; and this has been brought about by the unfair and distorted report published in papers which pretend to serve their patrons. . . . "

Correspondence

Morbidity Reports, Not Mortality Statistics, the Index to the Prevalence of a Disease

To the Editor:—In The Journal of Jan. 11, 1913, p. 129, the editorial entitled "Distribution of Pellagra in the United States" contains certain statements which I believe may give a wrong impression, a thing I know you are anxious to avoid. The passage in question is as follows:

> "Although it is outside the province of the United States Public Health Service to collect such statistics, Lavinder, of that service, has attempted to gather figures concerning the prevalence and distribution of pellagra in the United States. The pellagra area lies to a large extent outside the registration area of the country and the figures obtainable through the United States Census Bureau are almost a negligible quantity."

Section 8 of an act of Congress entitled, "An act to increase the efficiency and change the name of the United States Marine-Hospital Service," approved July 1, 1902, reads:

> "Sec. 8. That to secure uniformity in the registration of mortality, morbidity and vital statistics, it shall be the duty

of the Surgeon-General of the Public Health and Marine-Hospital Service, after the annual conference required by Section 7 to be called, to prepare and distribute suitable and necessary forms for the collection and compilation of such statistics, and said statistics, when transmitted to the Public Health and Marine-Hospital Bureau on said forms, shall be compiled and published by the Public Health and Marine-Hospital Service as a part of the health reports published by said service."

This, as you will note, gives specific authority for the collection and compilation of morbidity and other statistics of public health value.

To study the epidemiology of a disease properly or to control it effectively, a knowledge of the conditions under which it occurs and of its prevalence and geographic distribution is necessary. This knowledge can be acquired only through the recording of the occurrence of cases of the disease and the compilation and study of such records. The registration of deaths, important and necessary as it is for other reasons, with certain exceptions, does not show the prevalence of the diseases with which health officials are most concerned.

One or two illustrations may make my meaning clear. In the District of Columbia during 1908 there were 589 cases of measles reported for each death registered as due to the disease. On the other hand, carefully watched epidemics of measles have been recorded in which the fatality-rate was as high as 30 for each hundred cases. A knowledge of the deaths in either of these instances would be of little service to show the prevalence of the disease.

Small-pox in this country, in some states in which there have been thousands of cases over periods in certain instances of several years, has had only one death for every 500 cases, and yet in certain other outbreaks a third or more of the cases have terminated fatally. Here, again, the records of deaths would be useless to show the incidence of the disease. The same is true of many other diseases.

Pellagra in Italy has a comparatively low case-fatality-rate. We believe the rate to be much higher in this country, how high we do not know, and shall not be able to tell until we have satisfactory records of both the number of cases and the number of deaths.

Rupert Blue, M.D.,
Surgeon-General, Public Health Service, Washington, D. C.

Interpretation of Imaginative Creations by Psychanalysis

To the Editor:—In a recent issue of The Journal (Jan. 25, 1913, p. 307), appears a letter entitled "Excesses of the Freudian School," with particular reference to the application of psychanalysis to pathologic creations in literature. It appears that the letter was suggested by an editorial in the *Nation* which was devoted to a critical review of my recent book, "The Hysteria of Lady Macbeth." The general literary criticisms I left unanswered, but I feel compelled, from a medical point of view at least, to justify the views I expressed therein concerning the mental disease of Lady Macbeth, and to place the entire matter in the correct light before the medical profession.

The attempt at a critical interpretation of the sexual questions involved in such wide branches of medicine as psychopathology and psychanalysis by the writer of this letter who admits (to quote his own words), "I personally am frankly not in a position to judge," is a procedure which would not be tolerated in any other branch of scientific medicine. It is greatly to be deprecated that most of the criticisms of Freud's fundamental contributions to the psychoneuroses have come from physicians who have had little knowledge of psychanalysis and no experience in its practical applications to medicine. Above all, Freud's views concerning the sexual etiology of the psychoneuroses have not only been greatly misunderstood by the medical profession, but have likewise been grossly misinterpreted and subjected to a criticism unwarranted by the facts as established by clinical investigations.

Concerning Elizabeth Barrett, it need only be said that her psychoneurotic disturbance would have been treated far differently from isolation in a darkened room, had psychopathologic research reached the point in 1846, the time of her clandestine marriage to Robert Browning, that it has reached to-day. The only psychotherapeutic procedure then known was hypnosis. The exact nature of hypnotic suggestion and the mental mechanism of the hypnotic state have not been definitely determined until within the last few years. It seems strange too that the opinions of the "man on the street" should be listened to with respect concerning psychopathology, which is merely a branch of medicine, when the opinions of this man are valueless in far less difficult aspects of scientific medicine.

It is not necessary for the Freudians to strengthen their point of view by appeals to and analyses of imaginative literary creations, since the fundamental principles on which psychanalysis is based appear in the analysis and treatment of every psychoneurosis. Concerning Lady Macbeth alone, since this seems to be the chief point of contention, I would say that my interpretation of her pathologic mental state, which I diagnosed as hysteria whose etiology was an unconscious wish for a child, was based on the fundamental psychopathologic principles of repression, the action of unconscious complexes and mental dissociation, principles as fundamental in the psychical sphere as are the physical laws which control the circulation of the blood. Lady Macbeth's somnambulistic attacks too, as shown even by a literal reading of the text, were not only an accurate picture of the clinical manifestations of hysteric somnambulism, but were the only logical outcome of her hysteric state, in that the somnambulism was a defence reaction in which she found peace and refuge from the "tortures of the mind." When the doctor in this remarkable sleep-walking scene says "This disease is beyond my practice," he expresses the general attitude held by the medical profession toward these psychoneurotic symptoms until the investigations of modern psychopathology. Further, it can be shown that the same mental mechanisms are at work in the minds of the great poets who create these characters as in the clinical manifestations of the psychoneuroses. The psychopathologist is in a far better position to judge and interpret abnormal characters in literature than is the literary critic, who has had neither medical nor psychopathologic training. It seems then perfectly proper for the psychopathologist to undertake this task; and that he has been eminently successful in this undertaking is shown by the recent contributions of psychanalytic interpretations to fictitious literary creations. It is a proof too of the soundness of Freud's fundamental contributions to psychopathology, when it can be shown that the mental mechanisms of unconscious complexes, repression, dissociation and mental conflicts are the same for hysteria and the anxiety neuroses as for such purely fictitious creations as the mental disease of Hamlet and Lady Macbeth. Shakespeare's intuitive insight in creating these characters, so true to what is seen to-day in neurologic clinics, must ever be a source of admiration concerning the accuracy of his astonishing genius. Without exact scientific knowledge and at a period when such a quaint book as Burton's "Anatomy of Melancholy" expressed the complete knowledge of Elizabethan psychiatry, he was able to give a picture of hysteria in Lady Macbeth the clinical manifestations and mental mechanism of which corresponded to the latest advances in the conception of hysteria.

Isador H. Coriat, M.D., Boston.

The Diagnostic Doubts of Dr. Cabot

To the Editor:—The personal note that vibrates through Dr. Russ' letter (The Journal, Feb. 1, 1913, p. 386), I can afford to ignore. I owe it to Dr. Cabot, however, in defense of whose honesty Russ breaks a Quixotic lance, to emphasize that neither by word nor by inference did I question the truth of his statements of fact or the honesty of his convictions. So Dr. Russ is fighting windmills. I merely contended, and still contend, that Cabot's facts form an inadequate basis for his conclusions, and that his deductions are misleading and dangerous. Just think of it; Russ knows of only two really, truly, honestly honest American medical men, and one of them has left the country. History repeats itself. Diogenes, I believe, was in the same fix.

As to the word-play "centipede-biped" (and the whole Russ letter is, of course, intended to illuminate my failure to put this aphorism into quotation marks) I am free to confess that I should have been more careful. I had heard or read the pun somewhere, but did not remember where, or by whom it was written, or its exact wording. I dare say I should have taken the trouble to look it up (incidentally a rather difficult job). It seemed apropos (I do not concede that it is either "good literature" or "brilliant") so I employed it. In The Journal office my original wording was changed and the sentence, I agree, improved thereby. Two other phrases, one by Schiller, the other by Duckworth, whose authorship and origin I knew, were duly placed in quotation marks.

I do not agree with Dr. Russ that there are grades of honesty, but I am willing to acknowledge that there are grades of pettiness.

Alfred C. Croftan, M.D., Chicago.

Risk of Malpractice Suits from Use of Phylacogens

To the Editor:—In view of the fact that The Journal has seen fit to give timely and well-warranted warning (Feb. 1, 1912, p. 373) against the use of Phylacogens, it would seem that it might be proper to call attention to the fact that malpractice suits may result from the use of these products. Since the manufacturers advise against informing the patient of the "reaction" that may take place until the "remedy" has actually been administered, and until that time defer the "intelligent explanation" which should be forthcoming, one might pertinently ask how we are to make this explanation, being in the dark as to the nature of the "remedy" that we are using.

Careful perusal of the laws governing the practice of medicine will soon convince the careful physician that if he uses such a "remedy" as Phylacogen he will do so at his own peril and risk. This so-called remedy is nothing more than a secret, proprietary, manufactured and controlled by a firm of manufacturing druggists, and its use in such a plainly serious disease as pneumonia or rheumatism, with their most frequent cardiac complications, has the possibility of results that may have serious consequences for the physician. It might be well for the physician who cares to run this risk to obtain a signed agreement from Parke, Davis & Co. that in event of his being sued for malpractice the firm will not only bear the expense of defending the suit but will also pay damages in case these are awarded. The Journal's editorial, mentioned above, should be carefully read and well digested.

Frank H. Jackson, M.D., Houlton, Maine.

Queries and Minor Notes

Anonymous Communications will not be noticed. Every letter must contain the writer's name and address, but these will be omitted, on request.

COMPATIBILITIES OF HEXAMETHYLENAMIN

To the Editor:—Please inform me whether or not hexamethylenamin is compatible with (1) acetylsalicylic acid, (2) ammonium chlorid, (3) sodium salicylate and (4) codein sulphate.

John T. Thornton, M.D., Woodsdale, Wheeling, W. Va.

Answer.—With 1 and 2, no; with 3 and 4, yes; but it is to be remembered that hexamethylenamin is decomposed (hydrolyzed) slightly even by water, with liberation of formaldehyd, thus: $(CH_2)_6N_4 + 6H_2O = 4NH_3 + 6CH_2O$. This decomposition is decreased or prevented by alkali and increased by acids. Hexamethylenamin is a base and combines with acids to form salts. It also decomposes salts of alkalies weaker than itself; thus it liberates ammonia from ammonium salts just as do potassium and sodium hydroxids. The incompatibility of the drugs when mixed in the stomach would be slight, but if they were prescribed in a mixture, a considerable decomposition might occur. It may be of interest to take the matter up more in detail:

1. Hexamethylenamin reacts with acetylsalicylic acid to form the water-soluble hexamethylenamin acetylsalicylate. Hexamethylenamin, when triturated with acetylsalicylic acid, yields a mixture which gradually becomes pasty and gives off an odor of acetic acid, indicating some reaction with decomposition of the acetylsalicylic acid.

When to 0.1 gm. hexamethylenamin, in 10 c.c. of water, 0.1 gm. acetylsalicylic acid—slightly less than necessary to form the salt—is added, the latter dissolves completely. From such a solution, acetylsalicylic acid is precipitated by the addition of hydrochloric acid. When this solution is tested immediately the presence of formaldehyd is demonstrated. When the solution is allowed to stand for one-half hour at ordinary room temperature, the amount of formaldehyd liberated is increased, and when it is heated for the same length of time at body temperature, still more formaldehyd is liberated. When the mixture of hexamethylenamin and acetylsalicylic acid is treated with 0.2 per cent. hydrochloric acid (the average acid strength of stomach contents), more formaldehyd is liberated than under any of the above conditions. Consequently hexamethylenamin and acetylsalicylic acid should not be prescribed in the same mixture; but if the two substances are taken together into the stomach the ensuing change would not be greater than would occur in hexamethylenamin if given alone.

2. When hexamethylenamin and ammonium chlorid in molecular proportions are triturated together or when the two ingredients are dissolved in water, ammonia is evolved. The reaction which occurs is probably due to the formation of hexamethylenamin chlorid whereby ammonia is set free.

If a freshly made solution of hexamethylenamin and ammonium chlorid be tested no formaldehyd will be found. On standing one-half hour at room temperature some formaldehyd can be detected, while, when the solution is heated for one-half hour at body temperature the result is practically the same as when it is treated with acetylsalicylic acid.

3. Sodium salicylate and hexamethylenamin may be triturated without any apparent change. From the aqueous solution of sodium salicylate and hexamethylenamin, formaldehyd is liberated no more rapidly than from an aqueous solution of hexamethylenamin, and, under the influence of time, heat and acid, acts the same as the latter.

4. Codein sulphate and hexamethylenamin may be triturated together without any apparent reaction. In an aqueous solution of the mixture, formaldehyd is liberated a little more rapidly than in an aqueous solution of hexamethylenamin and ammonium chlorid. As in previous cases, when left standing the formaldehyd liberation is increased by heat and still more by the presence of acid.

ANESTHESIA—VACCINES—SPINAL CORD—URIC ACID

To the Editor:—1. When or under what circumstances is ether used for complete anesthesia, and when chloroform? When are ether and chloroform used in combination?

2. What is the principle underlying the injection of dead bacteria for vaccination? It would seem to me that dead bacteria have no power to create antibodies.

3. Where does the spinal cord terminate? Some authorities say that it ends before the last lumbar vertebra is reached; others that it tapers off and ends at the end of the sacrum.

4. A certain school of therapeutics contends that meat and coffee contain uric acid; an eminent physiologic chemist says that meat does not contain uric acid, but does contain certain compounds of the purin group, notably hypoxanthin, and that these are converted into uric acid in the organism and excreted in the form of that end-product. Which is right?

Raymond H. Arnot, Rochester, N. Y.

Answer.—1. As a general rule, ether is considered safer than chloroform, and is chiefly used in this country. Chloroform, however, seems to be more frequently used in Great Britain and on the Continent. There is no rule determining when a physician or surgeon shall use chloroform in preference to ether, or vice versa. Chloroform has been preferred by many surgeons for use in operations on children and in obstetrics. While the A. C. E. mixture was formerly considerably used to secure general anesthesia, it is now seldom used.

2. It has been demonstrated that bacteria excite a reaction resulting in the production of immune bodies (antibodies) in consequence of the absorption of toxins existing in the bodies of the bacteria, which are usually liberated only after the death of the microorganism. Consequently an immunizing reaction is called forth by the toxins contained in dead bacteria as well as by those in the bodies of living bacteria.

3. The spinal cord terminates in the adult at the lower border of the first lumbar vertebra. In the fetus it fills the entire canal, but gradually retracts until at birth the lower termination is found at the third lumbar vertebra.

4. The "eminent physiologic chemist" is right. Meat contains purin bodies, such as hypoxanthin, and the caffein of coffee is a derivative of xanthin, known as trimethyl xanthin.

PHENOLPHTHALEIN AS A LAXATIVE AND ITS GENERAL COMPATIBILITY

To the Editor:—A neurasthenic patient of mine, a physician, wants to take a small dose of calomel, say ½ grain, with phenolphthalein, but is afraid there may be some chemical reason why the two should not be given together. Do you know of any reason why they may not be given in a capsule together. P. H. N.

Answer.—There appears to be no reason why calomel and phenolphthalein should not be given together so far as chemical compatibility is concerned. As both phenolphthalein and calomel are tasteless, these two drugs may be prescribed together in the form of powders either to be placed on the tongue and taken with a swallow of water, or enclosed dry in capsule, cachet or wafer.

Phenolphthalein is admirable when a laxative is needed, as it seems to produce no other effect than that of a cathartic. If merely a laxative action is needed, it is better to give a remedy with a single action, like phenolphthalein, than to combine two or more such remedies. If, however, other remedies that can be given in a dry form seem to be indicated, there is no reason why they should not be prescribed with phenolphthalein.

Although it is much better not to combine several laxatives, many physicians do, simply because it has become a habit to do so. For those who have and believe in the habit, it is easy to combine with phenolphthalein most drugs which can properly be prescribed in powders or pills. The discriminating physician will estimate the dose of each ingredient somewhat according to the susceptibility of the patient. A trial with phenolphthalein often shows that in some cases larger doses than usual are needed to move the bowels. This is an important objection to the use of ready-made mixtures. If we depend on the phenolphthalein as the active laxative in the mixture, it should be possible to increase the amount, if after two or three doses have been given the amount which we at first prescribed proves to be inefficient. Therefore, the mixture, if one is made, should be made for only a few doses, in order that we may increase the amount of phenolphthalein in a prescription without giving undue doses of the other ingredients. Thus:

	gm. or c.c.	
℞ Phenolphthalein	1	gr. xv
Hydrargyri chloridi mitis........	0 5	gr. viii

M. et ft. pulveres, xx.
Sig.: Take two at night.

DETECTION OF MORPHIN IN THE BODY

To the Editor:—Please inform me on the following points: The examiner in toxicology says that only a lethal dose of morphin will show in the spinal fluid, regardless of the mode of administration, and that only a trace need be discovered to show that a lethal dose had been given. On being questioned the examiner says that a morphin habitué would not show the drug in the cerebrospinal fluid even though 80 grains per day were taken, unless it happened to kill him. Then it would show. Will morphin taken hypodermically give test in stomach? The examiner's point is that a lethal dose and only a lethal dose will result in a positive test for morphin in the cerebrospinal fluid. Perry S. Wilson, Houston, Tex.

Answer.—There are no established facts, as far as we are informed, that would justify the examiner in toxicology in the above statements. Although a number of writers refer to the presence of morphin in the cord after the administration of the drug, we can find no record of its detection in the spinal fluid; and the latter circumstance is in consonance with the well-known fact that solids pass from the circulation into the spinal fluid either with great difficulty, or not at all. In view of these facts we should be quite unwilling to base a diagnosis of morphin poisoning on a chemical examination of the spinal fluid, for if the results were negative we should not be justified in concluding that the alkaloid had surely not been administered.

As bearing on this question it should be borne in mind that morphin, in part at least, undergoes chemical change in the body and its detection, therefore, is sometimes a matter of difficulty. Numerous cases are reported in which morphin or opium are known to have been administered, even in large quantities, but in which none of the alkaloid was found on chemical analysis of the body after death. While, consequently, we expect to find the drug in many of the tissues and fluids when large doses are given, yet there is never a certainty that it will be discovered in any of them; and there is no reason for believing that the spinal fluid would be an exception to this rule.

Morphin when taken hypodermically is eliminated in part into the stomach and may usually be detected there by appropriate tests, especially if the dose given was large.

THE FRIEDMANN TUBERCULOSIS TREATMENT—WHY NOT READ THE JOURNAL?

To the Editor:—Please tell me what you know, and also what you think of Dr. Friedmann's treatment for tuberculosis. I see something every few days in the daily papers about Dr. Friedmann of Berlin, Germany, and his wonderful cure of tuberculosis, but The Journal has had nothing to say. I have been looking and hoping you would. I thank you very much for any information you can give me. P. R. T.

Answer.—We trust our correspondent will pardon us if we admit that on receipt of his letter we were not only peeved but amused—the latter, however, much more than the former. We have omitted his name and address, not by request, but so that he would not feel sensitive at the publicity given to his mistake. Scores have written us asking if the Friedmann matter has received consideration in our pages and, if so, where it could be found. This correspondent, however, cheerfully and blithely announces that on this subject "The Journal has had nothing to say. I have been looking and hoping you would." Well, we have devoted only seven columns to it—more than the matter will prove to be worth, we fear. We almost suspect that our correspondent does not regularly read our Current Medical Literature Department (Dec. 14, 1912, p. 2192); or our News Department (Dec. 7, 1912, p. 2081); or our Editorial Department (Dec. 14, 1912, pp. 2158, 2159); or our Correspondence Department (Jan. 4, 1913, p. 67); or our Department of Queries and Minor Notes (Jan. 4, 1913, p. 70, and Jan. 25, 1913, p. 309). Since the receipt of our correspondent's letter, another issue of The Journal has appeared containing another editorial reference (Feb. 1, 1913, p. 375).

EPIDEMIC CEREBROSPINAL MENINGITIS

To the Editor:—Please refer me to data on cerebrospinal meningitis, as we have a very severe epidemic in this part of the country. D. L. Flanary, M.D., Dyersburg, Tenn.

Answer.—In The Journal, April 20, 1912, p. 1220, appeared a list of references to articles on epidemic cerebrospinal meningitis. The following have appeared in The Journal since that time:

King, H. D.: Prophylaxis of Cerebrospinal Meningitis, Feb. 10, 1912, p. 403.
Krulish, E.: Cerebrospinal Meningitis, Feb. 24, 1912, p. 551
Sophian, A.: A New Method for Controlling the Administration of Serum in Epidemic Meningitis, March 23, 1912, p. 843.
Herold, A. A.: A Virulent Case of Epidemic Cerebrospinal Meningitis; Four Hundred and Twenty Cubic Centimeters of Serum Administered; Recovery, Aug. 10, 1912, p. 444.
Sophian, A., and Black, J.: Prophylactic Vaccination Against Epidemic Meningitis, Aug. 17, 1912, p. 527.

In addition, we suggest that our correspondent write to the Public Health Service, Washington, D. C., for Reprint 69, a pamphlet of thirty pages on "Epidemic Cerebrospinal Meningitis."

DISINFECTION OF ROOMS

To the Editor:—Which of the various methods of fumigating rooms, such as school-rooms, is at present considered most efficient? Walter Reynolds, M.D., Atlantic City.

Answer.—Room disinfection is best done by the generation of formaldehyd gas. It is not necessary to use a special apparatus for this purpose. One can hang up sheets saturated with the 40 per cent. aqueous solution of formaldehyd. The number of sheets varies with the size of the room. One sheet should be used for every 1,000 cubic feet. The room must be carefully and tightly closed and remain so for eight hours; then it should be thoroughly ventilated for eight or ten hours. It is advised by some that the discharge of gas into the room should be followed by the application of solutions of disinfectants to the woodwork.

STRENGTH OF HYPOCHLORITE IN PURIFYING WATER

To the Editor:—In The Journal (Jan. 18, 1913, p. 211), is an article entitled "The Hypochlorite Treatment of Water-Supplies." Can you give me the proportion that this agent is used in treating water? James M. Tische, M.D., Wood Lake, Neb.

Answer.—Bleaching-powder or chlorinated lime is sold in the form of a dry, white powder and can be purchased in large containers at a cost of between one and one-half and two cents per pound. Exposure to air causes deterioration in strength, from absorption of moisture and carbon dioxid. When purchased in large quantities, the "available chlorin" should be determined by chemical analysis, and the purchase price fixed on this basis.

As a rule, the solution should be made up fresh in about 0.5 per cent. strength; that is, one pound of bleaching-powder to two hundred pounds of water. This solution should be added to the water to be treated in the proportion of about five to fifteen pounds of powder per million gallons of water. The presence of a large amount of organic matter in the water or of iron in an incompletely oxidized state will make necessary the addition of larger quantities of germicide. If too much hypochlorite is added, an unpleasant odor may be imparted to the water; if too little, the germicidal action will be inadequate. Each problem is an individual one and should be studied with reference to the composition of the water. When such studies are impossible, and the water is clear and does not contain much organic matter, ten pounds per million gallons will usually be found a satisfactory amount.

ANTITYPHOID VACCINATION

To the Editor:—Please refer me to articles on antityphoid vaccination that have appeared since January, 1912.

CHARLES W. LÜDERS, M.D., Cynwyd, Pa.

ANSWER.—In THE JOURNAL, July 27, 1912, p. 293, appeared a Query and Minor Note on the administration of vaccine in typhoid in which a number of articles were cited. In addition to these the following may be referred to:

Russell, F. F.: Some Results and Fields of Usefulness of Antityphoid Vaccination, THE JOURNAL, Oct. 12, 1912, p. 1362.

Hachtel and Stoner: Inoculation of Typhoid in Public Institutions and in Civil Communities, THE JOURNAL, Oct. 12, 1912, p. 1364.

Spooner, L. H.: Antityphoid Inoculation; Three Years' Experience with Its Use in Training-Schools for Nurses in Massachusetts, THE JOURNAL, Oct. 12, 1912, p. 1359.

Weston, Paul G.: The Immunization Against Typhoid of Eight Hundred and Ninety-Eight Patients in an Institution, THE JOURNAL, Oct. 26, 1912, p. 1536.

Russell, F. F.: Antityphoid Vaccination in Children, THE JOURNAL, Feb. 1, 1913, p. 344.

THE PUBLICATIONS OF THE JOURNAL

To the Editor:—Many subscribers would appreciate a complete list of THE JOURNAL publications inserted weekly or monthly.

JAMES WILTSE, M.D., Brewster, N. Y.

ANSWER.—At the bottom of THE JOURNAL announcement on the second advertising page following the reading matter of each issue, is a reference to a price-list of the publications of THE JOURNAL.

Medical Economics

THIS DEPARTMENT EMBODIES THE SUBJECTS OF POSTGRADUATE WORK, CONTRACT PRACTICE, LEGISLATION, MEDICAL DEFENSE, AND OTHER MEDICOLEGAL AND ECONOMIC QUESTIONS OF INTEREST TO PHYSICIANS

LEGISLATIVE NEWS

ARKANSAS

H. B. 40, providing for the creation of a board of examiners for nurses, has been introduced.

CALIFORNIA

A number of bills affecting public health have been introduced, including a bill to abolish compulsory vaccination; a bill to require reports on occupational diseases; a bill to reorganize the State Board of Medical Examiners and to create three boards of nine members each: one board of medical examiners of physicians, including three homeopaths and two eclectics; one board of examiners of drugless healers, composed of two osteopaths, two chiropractors, two mechanotherapists, two naturopaths and one "metaphysician," and one board of "religious practitioners" composed of nine members, no more than three of whom shall be members of any one system. Evidently, religious systems are plentiful in California. This bill carries the creation of sectarian licensing boards to an absurdity. Another bill appropriates $100,000 for the State Board of Health for the prevention of the introduction into the state of infectious diseases. The women's clubs and women voters of the state are said to be seeking the passage of bills to require health certificates as a condition for marriage license, the establishment of maternity homes for married women, mothers' pension bill, a bill increasing the age of majority of girls to 21, a bill providing for the state registration of nurses, and bills providing for the protection of children. A bill has also been introduced providing for general reciprocity for physicians' license in other states.

COLORADO

S. B. 122 provides for the protection of school children by state and local boards of health and for physical examination of school children. Mrs. Helen R. Robinson, a member of the state senate, has introduced four bills to provide for the reorganization of the pure-food-inspection department and for the appointment of a food and drug inspector by the governor, for an appropriation for dependent and neglected children, also a bill to prohibit the sale of misbranded foods and drugs, and one to provide for compulsory sanitation of factories, dairies, hotels and restaurants.

IDAHO

A bill has been introduced requiring a certificate of health before marriage.

INDIANA

The so-called "Dickinson bill" provides for compulsory instead of optional medical inspection of schools. Other bills provide for the abolishment of the common drinking-cup on interurban and railroad trains, and for sanitary cars. One bill requires all interurban and steam railway companies to furnish a minimum of 10 cubic feet of fresh air a minute for each passenger, also that all cars must be swept every twenty-four hours and thoroughly cleaned and disinfected every three days. A bill has also been introduced increasing the salary of the members of the State Board of Health.

IOWA

A bill has been introduced establishing a state epileptic colony.

KANSAS

S. B. 76, reorganizing the State Board of Health and providing for four physicians, four business men and one lawyer on the board, has been defeated in the House. S. B. 248 reorganizes the board and provides for a board of four physicians, one registered pharmacist, one manufacturer, one person engaged in the wholesale business, one in the retail business and one farmer. These bills are said to be introduced in the interest of the packing interests of the state who wish to put a stop to the activities of the present board in the prevention of food adulteration.

MINNESOTA

A bill has been introduced appropriating $100,000 for a county tuberculosis sanatorium; also a bill requiring all fees collected by state boards to be turned into the state treasury. The State Board of Health has asked for an appropriation of $45,000 for a district health officer in each congressional district. A bill has been introduced abolishing public drinking-cups, also one amending the present cold-storage bill; also a bill requiring all persons engaged in the manufacture, handling or sale of any foodstuffs to secure a certificate showing that they are in good health.

MICHIGAN

A bill has been introduced providing for the sterilization of epileptics and criminal insane; also a bill appropriating $50,000 to hire ten sanitary experts to make a sanitary survey of the state; also a bill requiring a certificate of health as a condition for a marriage license.

MISSOURI

A bill has been introduced, with the approval of the governor, providing for a state medical supervisor to instruct physicians of the four state asylums.

MONTANA

A bill has been introduced providing for a state board of examiners for nurses.

NEW HAMPSHIRE

H. B. 303 is a new medical practice act. It provides for a board of five persons appointed by the governor which shall examine applicants in anatomy, physiology, hygiene and preventive medicine, surgery, clinical medicine, obstetrics and gynecology, bacteriology, chemistry and toxicology.

NEW YORK

A bill to regulate midwifery by the creation of a committee of three persons has been introduced in both houses. The special health commission appointed by Governor Sulzer, referred to in The Journal last week, has begun the holding of hearings at Albany. A bill has been introduced appropriating $150,000 for a state hospital for tuberculosis.

NORTH CAROLINA

The model bill for the registration of births and deaths, with an appropriation of $12,000 for its enforcement, has been introduced into the state legislature; also bills making tuberculosis a reportable disease, and allowing the county board of education to pay for part of the time of the county health officers.

NORTH DAKOTA

H. B. 38 appropriates $125,000 for laboratories at the state university for public health purposes. Another bill appropriates $6,500 for the state tuberculosis sanatorium. S. B. 33 prohibits common drinking-cups. S. B. 48 regulates cold-storage warehouses. H. B. 36 provides for the proper sanitation of hotels, making specific provision regarding sewage and toilet arrangements, bedrooms, bedding, sheets, carpets, kitchen utensils, etc.

NEW MEXICO

S. B. 27 forbids the distribution of samples of medicine or any substance injurious to life or health. S. B. 23 is a sterilization bill somewhat similar to the New York law of 1912. It provides for a board consisting of a surgeon, a neurologist and the president of the State Board of Health, authorized to examine feeble-minded, epileptic, criminal and other defective inmates in the reformatory, charitable and penal institutions of the state. In case the board decides that the individual examined should be sterilized, application must be made to the judge of the district court, who will assign counsel for the person examined and hear the evidence. Findings of the district court are subject to review by the supreme court.

OHIO

An optometry bill (H. B. 116), a sterilization bill, a bill regulating marriage and a bill providing for a "naturopathic board" (H. B. 114), have been introduced; also H. B. 105, providing for a state board of registration for nurses, H. B. 109, regulating the labeling of drugs, and H. B. 120, providing for the maintenance of the children of inmates of any penal institution.

OKLAHOMA

The following bills have been introduced in the Senate: S. B. 206, creating a board of chiropractic examiners; S. B. 207 regulating cold-storage warehouses; S. B. 209, providing for the medical inspection of rural schools; S. B. 219, regulating the practice of medicine and surgery. The following bills have been introduced into the House: H. B. 315, creating a state tuberculosis sanatorium and making appropriation therefor; H. B. 316, defining the powers of local health officers and boards of health; H. B. 333, authorizing the state examiner of health to hold an annual conference of county superintendents of health; H. B. 335, providing for the sterilization of confirmed criminals and defectives; H. B. 337, providing for the reporting of contagious and infectious diseases; H. B. 338, providing for the inspection of all charitable and penal institutions of the state by the state examiner of health; H. B. 353, requiring all railroad companies to maintain hospital service for employees; H. B. 282, regulating marriage licenses. The following bills have been reported on favorably by the House Committee; H. B. 334, providing for the reporting of all births and deaths; H. B. 93, regulating the practice of dentistry; H. B. 346, regulating the sale of patent and proprietary medicines, and defining misbranding; H. B. 347, providing for the sanitation of places where foods or drugs are prepared, manufactured, stored, sold or distributed, and providing for the licensing and inspection of slaughter-houses.

PENNSYLVANIA

The Pennsylvania Society for the Prevention of Tuberculosis has approved a bill to be introduced into the legislature, authorizing the voters of any community, on petition of 5 per cent. of their number, to vote for the establishment of a tuberculosis hospital, and the issuing of bonds for its erection and maintenance. A general pure-food bill has been introduced, prohibiting the use of sodium benzoate, sulphur dioxid, coal-tar dyes, and, in the case of confectionery, shellac and varnish.

TEXAS

Among the bills introduced in the Texas legislature so far are an optometry bill, a bill providing for sanitary school buildings, a bill providing for compulsory medical examination of school children, a bill providing for the establishment of county tuberculosis hospitals, a bill giving the State Board of Charities control over all state charitable institutions and a bill imposing civil-service restrictions on all physicians in the state service. The governor, in his annual message, strongly commended the State Department of Health and its work during the past year.

UTAH

Among the measures introduced so far are bills requiring a medical certificate for marriage license, authorizing the sterilization of criminals, extending the optometry law and providing for a more rigid meat inspection.

Medical Education and State Boards of Registration

COMING EXAMINATIONS

Connecticut: Regular, City Hall, New Haven, March 11. Sec., Dr. Charles A. Tuttle, 196 York St.; Homeopathic, New Haven, March 11. Sec., Dr. Edwin C. M. Hall, 82 Grand Ave.; Eclectic, New Haven, March 11. Sec., Dr. Thomas S. Hodge, 19 Main St., Torrington.

Kansas: National Hotel, Topeka, February 11. Sec., Dr. H. A. Dykes, Lebanon.

Maine: City Hall, Portland, March 11-12. Sec., Dr. Frank W. Searle, 776 Congress Street.

Massachusetts: State House, Boston, March 11-13. Sec., Dr. Edwin B. Harvey, Room 159, State House.

Missouri: St. Louis, February 24-26. Sec., Dr. Frank B. Hiller, State House, Jefferson City.

Nebraska: Lincoln, February 12-13. Sec., Dr. C. P. Fall, Beatrice.

Wyoming: State House, Cheyenne, March 5-7. Sec., Dr. A. B. Tonkin, Riverton.

Maryland Homeopathic December Report

Dr. O. N. Duvall, secretary of the Homeopathic Board of Maryland, reports the written examination held at Baltimore, Dec. 13-14, 1912. The number of subjects examined in was 8; total number of questions asked, 80; percentage required to pass, 75. Only one candidate, a graduate of the Hahnemann Medical College and Hospital, Chicago, 1912, was examined and he passed with a grade of 85.6.

Arizona October Report

Dr. John Wix Thomas, secretary of the Arizona State Board of Medical Examiners, reports the written examination held at Phoenix, Oct. 7-8, 1912. The number of subjects examined in was 9; total number of questions asked, 90; percentage required to pass, 75. The total number of candidates examined was 11, of whom 9 passed and 2 failed, including one osteopath. The following colleges were represented:

College	Year Grad.	Per Cent.
PASSED		
Rush Medical College	(1908)	85.2
College of Physicians and Surgeons, Keokuk	(1888)	78.8
University of Louisville	(1903)	77.1
College of Physicians and Surgeons, Baltimore	(1904)	79.6
Detroit College of Medicine	(1907)	84.1
Johns Hopkins University	(1901)	83.9
Ohio Medical University	(1901)	77.7
University of Pennsylvania	(1911)	85.1
University of Toronto, Ontario	(1907)	75
FAILED		
University of the South	(1906)	68.5

Missouri October Report

Dr. Frank B. Hiller, secretary of the Missouri State Board of Health, reports the written examination held at Kansas City, Oct. 1-3, 1912. The number of subjects examined in was 14; total number of questions asked, 100; percentage required to pass, 75. The total number of candidates examined was 48, of whom 40 passed and 8 failed. The following colleges were represented:

PASSED

College	Year Grad.	Per Cent.
Howard University, Washington, D. C.	(1912)	79
Rush Medical College	(1912)	88, 88
Northwestern University Medical School	(1912)	89
Bennett Medical College	(1912)	88
University of Kansas	(1912)	87
University of Maryland	(1900)	85
Barnes Medical College (1896) 79; (1897) 78; (1901) 75;	(1911)	77.
University Medical College, Kansas City (1902) 75; (1911) 75;	(1912)	75, 75, 80, 81, 83.
St. Louis College of Physicians and Surgeons	(1911)	76
Ensworth Medical College	(1912)	78, 80
St. Louis University	(1908)	82
American Medical College	(1912)	75, 76, 77, 77, 79, 80
Washington University	(1912)	86
Missouri Medical College	(1897)	77
Miami Medical College	(1891)	82
Jefferson Medical College (1875) 79; (1910) 89;	(1912)	79, 88
Meharry Medical College	(1911)	76
Vanderbilt University	(1911)	76, 85
Royal University of Palermo, Italy	(1906)	*
University of Edinburgh, Scotland	(1903)	83

FAILED

College	Year Grad.	Per Cent.
University of Arkansas	(1912)	64
College of Physicians and Surgeons, Keokuk	(1898)	45
Barnes Medical College (1905) 64;	(1911)	60
St. Louis College of Physicians and Surgeons	(1908)	68
American Medical College, St. Louis	(1912)	68
Meharry Medical College (1910) 62;	(1912)	59

* No grade given.

Wyoming October Report

Dr. A. B. Tonkin, secretary of the Wyoming State Board of Medical Examiners, reports the written examination held at Riverton, Oct. 9-11, 1912. The number of subjects examined in was 10. Total number of questions asked, 100; percentage required to pass, 75. The total number of candidates examined was 3, all of whom passed. Three candidates were licensed through reciprocity. The following colleges were represented:

PASSED

College	Year Grad.	Per Cent.
Maryland Medical College	(1911)	84.4
Harvard Medical School	(1912)	90.4
University of Nebraska	(1905)	75.5

LICENSED THROUGH RECIPROCITY

College	Year Grad.	Reciprocity with
Drake University	(1907)	Iowa
Northwestern University Medical School	(1912)	*
Washington University, St. Louis	(1911)	Illinois

* No state given.

Arkansas November Report

Dr. F. T. Murphy, secretary of the State Medical Board of the Arkansas Medical Society, reports the written examination held at Little Rock, Nov. 12-13, 1912. The number of subjects examined in was 12; total number of questions asked, 120; percentage required to pass, 75. The total number of candidates examined was 33, of whom 23 passed and 10 failed. Eighteen candidates were licensed through reciprocity. The following colleges were represented:

PASSED

College	Year Grad.	Per Cent.
College of Physicians and Surgeons, Little Rock	(1910)	76.9
University of Arkansas (1903) 79.7;	(1912)	75.5, 76.8, 76.8
Chicago College of Medicine and Surgery	(1912)	86.8
Jenner Medical College	(1912)	80.1
University of Louisville	(1910)	78.6
Louisville Medical College	(1912)	89
College of Physicians and Surgeons, Kansas City	(1898)	82.3
St. Louis College of Physicians and Surgeons	(1905)	79.2
American Medical College, St. Louis	(1912)	80.3
University of Oklahoma	(1911)	75.5
Jefferson Medical College (1896) 85.2; (1903) 83.9;	(1912)	88.2
Meharry Medical College (1907)* 73.1;	(1912)	77.2, 84.7
Vanderbilt University (1898) 90.3;	(1910)	82.8
Memphis Hospital Medical College	(1912)	80.8, 90.1

FAILED

College	Year Grad.	Per Cent.
University of Arkansas (1911) 70.8;	(1912)	67.5, 74.2
College of Physicians and Surgeons, Little Rock	(1910)	48.8
Chicago College of Medicine and Surgery	(1911)	72.5
Louisville and Hospital Medical College	(1908)	72.9
American Medical College, St. Louis	(1912)	65.7
College of Physicians and Surgeons, Memphis	(1909)	71.7
Meharry Medical College	(1912)	53.4
University of Tennessee	(1912)	67.9

LICENSED THROUGH RECIPROCITY

College	Year Grad.	Reciprocity with
Howard University, Washington, D. C.	(1903)	Dist. Colum.
Rush Medical College	(1907)	Illinois
Northwestern University Medical School	(1901)	Illinois
Chicago College of Medicine and Surgery	(1905)	Illinois
Indiana Medical College	(1906)	Indiana
University of Louisville (1910) (1911, 2)	(1912, 2)	Kentucky
Kentucky University	(1905)	Kentucky
Hospital College of Medicine, Louisville	(1899)	Texas
Maryland Medical College	(1908)	Texas
St. Louis College of Physicians and Surgeons	(1893)	Kentucky
Jefferson Medical College	(1905)	Vermont
Memphis Hospital College of Medicine	(1886)	Texas
University of Texas	(1908)	Texas
University of Virginia	(1910)	Virginia

* Five per cent. allowed for years of practice.

Kentucky December Report

Dr. J. N. McCormack, secretary of the Kentucky State Board of Health, reports the written examination held at Louisville, Dec. 12, 1912. The number of subjects examined in was 15; percentage required to pass, 70, and not less than 60 in any one branch. The total number of candidates examined was 19, of whom 18 passed and 1 failed. The following colleges were represented:

PASSED

College	Year Grad.	Per Cent.
Louisville and Hospital College of Medicine (1908)*	(1908)	78
University of Louisville (1898) 86; (1909) 70; (1910) 74, 79; (1911) 73, 74;	(1912)	72, 73, 78, 80, 82, 87.
Louisville National Medical College (1911) 77;	(1912)	70
Southwestern Homeopathic Med. Coll. and Hosp.	(1908)	84
Eclectic Medical College, Cincinnati	(1905)	70

FAILED

College	Year Grad.	Per Cent.
Louisville National Medical College	(1912)	50

* No grade given.

Book Notices

A Manual of Surgical Treatment. By Sir W. Watson Cheyne, Bart., C.B., D.Sc., Senior Surgeon to King's College Hospital, and F. F. Burchard, M.S., F.R.C.S., Surgeon to King's College Hospital. In five volumes: Volume 3. Cloth. Price, $6. Pp. 575, with 271 illustrations. Philadelphia: Lea & Febiger, 1912.

The third volume of this edition corresponds to Volume IV and part of Volume V of the first edition. It deals with surgical affections of joints, and of the spine, head and face. It has been thoroughly revised and considerable new material has been added; the authors, however, continue to recommend drainage in suppurative diseases or even contused wounds of joints, although it has been shown again and again that nondrainage treatment more quickly produces a cure and that ankylosis never results. The drainage treatment is usually followed by ankylosis. New operative methods are described, especially for the treatment of fractures, dislocations, unreduced fractures and recurrent dislocations, as of the shoulder-joint, in which the capsule is incised and then imbricated. Arthroplasty is described briefly but favorably. The authors believe that it is a most promising operation. The section dealing with surgical conditions of the head and face is enlarged considerably. The operative procedures for tumors of the brain are described more fully, and new measures, such as temporal and occipital decompression, are included. The Cushing operation is recommended for removal of the Gasserian ganglion. New and better illustrations have superseded many of the old ones.

A Text-Book of General Bacteriology. By Edwin O. Jordan, Ph.D., Professor of Bacteriology in the University of Chicago. Third Edition. Cloth. Price, $3 net. Pp. 623, with illustrations. Philadelphia: W. B. Saunders Company, 1912.

In this edition the chapter on leprosy has been rewritten to express present knowledge on the subject, and the chapters on cholera and typhoid have been completely revised. Recent work on poliomyelitis, measles and typhus fever has been summarized so as to present briefly and concisely what has been done in the study of the bacteriology of these diseases. The description of technical procedures in the field of serodiagnosis has been considerably amplified and clarified. Evidences of careful revision are everywhere apparent.

Practical Anatomy. An Exposition of the Facts of Gross Anatomy from the Topographical Standpoint and a Guide to the Dissection of the Human Body. By John C. Heisler, M.D., Professor of Anatomy in the Medico-Chirurgical College of Philadelphia. Cloth. Price, $4.50. Pp. 790, with 366 illustrations. Philadelphia: J. B. Lippincott Company, 1912.

This is another of the numerous dissecting manuals and laboratory guides for the study of anatomy. The number of such books published shows that none of them is entirely satisfactory. Dr. Heisler's book contains practical instructions in dissection, which are often overlooked in preparing such textbooks. Too often the teacher of anatomy forgets that the study of the human body requires not only mental application but also manual dexterity. We have all of us seen the freshman student, without training or preparation in biology, suddenly thrust into the dissecting-room, given a scalpel, a pair of forceps and a dissecting manual, and assigned a part of the human body and left to work out his own salvation. He generally does it by a burst of enthusiasm for the first week, during which he destroys most of the anatomic structures. After this, he gets through his dissection with as little labor as possible and learns a few isolated and unrelated anatomic facts, most of which he promptly forgets before his senior year. Probably in no branch of medical instruction is the application of modern ideas of pedagogy needed more than in the study of human anatomy. The directions for dissection, with the illustration in the first chapter of Dr. Heisler's volume, are particularly commendable, as are the photographs showing the lines of skin incision, the surface markings and the nerve distributions. Rather more attention is paid to ligaments, bursae and tendon sheaths than in most such books. The plates on the dissection of the perineum are especially good. Probably it is asking too much to expect any one laboratory manual on anatomy to possess all of the good points desirable in such a volume. So long as opinions on methods differ, the anatomic departments of each of our larger medical schools will probably develop methods and text-books of their own.

Oral Surgery. A Text-Book on General Surgery and Medicine as Applied to Dentistry. By Stewart LeRoy McCurdy, Professor of Anatomy and Oral Surgery, School of Dentistry, University of Pittsburgh. Cloth. Price, $3. Pp. 469, with 228 illustrations. New York: D. Appleton & Co., 1912.

This book is the first of a series of text-books projected by the Institute of Dental Pedagogics to cover all the subjects that should be presented in a dental school. In Part 1 of this volume are included brief chapters on bacteriology, inflammations, infections, syphilitic and non-syphilitic, and some general considerations as to treatment not specifically applying to dentistry, as of wounds, burns, scalds, poisoned wounds, injuries to the vascular system, hemorrhage, foreign bodies in various cavities, shock, asphyxia, and the general principles of asepsis and antisepsis. Part 2 takes up the deformities, diseases and injuries which are treated by surgical means coming within the province of the dental surgeon; discusses the effect of impaction and delayed eruption of teeth in producing constitutional and local conditions remote from their etiologic source, and describes the various methods of managing and treating surgical conditions about the mouth, face and head. The subjects are set forth briefly but clearly, and the text is supplemented by numerous *x*-ray and other illustrations, making it a satisfactory text-book on oral surgery.

Methods of Organic Analysis. By Henry C. Sherman, Ph.D., Professor of Food Chemistry in Columbia University, Author of "Chemistry of Food and Nutrition." Second Edition. Cloth. Price, $2.40 net. Pp. 407, with 18 illustrations. New York: Macmillan Company, 1912.

After a period of six years this book now appears newly revised and enlarged. It contains considerable new subject-matter, and the references concluding the chapters have been increased and brought up to date. The book is written for both the student and the professional chemist: procedures generally used in laboratory instructions for beginners are described in greater detail, while methods of analysis intended for the practical or professional chemist are stated more briefly. The following new subjects have been added: solid and liquid fuels; industrial alcohol; drying oils; crude petroleum; new international methods of glycerin analysis, and quantitative methods for the testing of enzymes. The sections on aldehyds, sugars, proteins and food preservatives have been enlarged. These additions, together with the incorporation of recent advances in the original material, make this edition practically a new work, containing the latest information available in text-book form on the subject of organic analysis.

Practical Anatomy. The Student's Dissecting Manual. By F. G. Parsons, F.R.C.S., Lecturer on Anatomy at St. Thomas' Hospital and at the London School of Medicine for Women, and William Wright, M.B., D.Sc., F.R.C.S., Lecturer on Anatomy at the London Hospital. Two Volumes. Cloth. Price, $2.40 net. New York: Longmans, Green & Co., 1912.

The authors have prepared a two-volume work which will commend itself to students of anatomy. Probably the student will prefer to use it because the anatomic nomenclature most in vogue is used in preference to the B. N. A. When there is a marked difference between the terms now in use and the B. N. A., the latter are given in brackets. The text is concise but clear. The directions for work are given briefly, but nothing of value has been omitted. A large number of good illustrations serve further to elucidate the text. Volume I is devoted to the head and lower extremities, Volume II to the thorax, abdomen, pelvis and upper extremities. The type is large and the book is printed on a smooth dull paper which does not tire the eyes. One good feature to which attention should be called is the fact that every structure to be dissected out is printed in italics so that it is set off from the remainder of the text.

Preventable Cancer. A Statistical Research. By Rollo Russell. Cloth. Price, 4 shillings 6 pence. Pp. 167. New York: Longmans, Green & Co., 1912.

Russell attempts to arrive at the causes of cancer by the study of statistics from all parts of the world. He proceeds on the principle which has long been generally accepted that irritations have a determining effect in the etiology of cancer, and he studies the figures from this point of view, keeping in mind principally the irritations from too hot foods, alcohol, condiments and the toxins resulting from a high-protein diet. Russell believes that cancer occurs most frequently in the wealthiest countries among persons living on a rich, stimulating diet. Although he correctly asserts that the statistical method of studying diseases is a valuable auxiliary in medical research, the inadequacy of general statistics even in the most highly civilized countries must render any conclusions only tentative or problematic. Many interesting facts, figures and opinions on cancer are collected and set forth in this book.

Text-Book for Nurses. Anatomy, Physiology, Surgery and Medicine. By E. W. Hey Groves, M.S., F.R.C.S., Assistant Surgeon, Bristol General Hospital, and J. M. Fortescue-Brickdale, M.A., M.D., Assistant Physician, Bristol Royal Infirmary. Cloth. Price, $4.50. Pp. 407, with 205 illustrations. London: Henry Frowde, 1912.

This is a rather ambitious compend of anatomy, physiology, surgery and medicine for the use of nurses. The authors have presented the subjects in text-book style without making much attempt to apply them in a practical way to the nurse's art. The book is well illustrated, especially in the section on anatomy, many of the illustrations being in color. On account of the brevity of the text these illustrations are necessary in order to give any intelligent idea of the subject. An appendix contains illustrations and descriptions of diagnostic instruments and methods, urinalysis, and methods of collecting specimens for the laboratory.

A Practical Medical Dictionary. Words Used in Medicine, with Their Derivation and Pronunciation, Including Dental, Veterinary Chemical, Botanical, Electrical, Life Insurance and Other Special Terms; Anatomic Tables of the Titles in General Use and Those Sanctioned by the Basel Anatomic Convention; Pharmaceutical Preparations, Official in the U. S. and British Pharmacopeias and Contained in the National Formulary; Chemical and Therapeutic Information as to Mineral Springs of America and Europe and Comprehensive Lists of Synonyms. By Thomas Lathrop Stedman, A.M., M.D. Second Edition. Leather. Price, $5 net. Pp. 1025, with illustrations and thumb index. New York: William Wood & Co., 1912.

The arrangement of this dictionary is a good one; definitions of terms like "Graves' disease" are as a rule given directly under "Graves'" instead of as a subtitle under "disease"; when long lists of subtitles are necessary, they are paragraphed. Scientific terms for conditions associated with a disease or part are given in small type under the English title; for instance, under "dropsy" among the definitions are:

[dropsy of abdomen], ascites; [dropsy of chest], hydrothorax; [general dropsy], anasarca, hydroneus, hydrosarca. Under "specialist" are [eye specialist], oculist, ophthalmologist; refractionist (fitter of glasses); optometrist (non-medical fitter of glasses); optician (maker of glasses). Chemical symbols appear alphabetically and are defined. Stedman is trying to improve medical nomenclature by introducing new terms in place of some old ones of derivation which he does not approve; but his failure to make use of cross-references will probably render his efforts largely ineffective. In the preface he says. "For example, one who consults this dictionary for a definition of 'oophorectomy' will be referred to 'oothecotomy' and under that title will find the definition." Unless the seeker for information has previously read the preface, we fear that he will not be referred to "oothecotomy" by the entry under "oophorectomy"—"oothecotomy, ovariotomy"—which he will probably take for a niggardly or unskilful definition.

Chance or specialized interest appears to have guided the selection of illustrations, in which obstetric and surgical subjects—monstrosities, instruments, etc.—seem to predominate. As previously indicated, the work possesses many good features; greater experience and longer contact with the demands of the public will doubtless tend to remove such imperfections as exist.

Lungenchirurgie. Von C. Garré, Professor der Chirurgie an der Universität, und H. Quincke, em. Professor der inneren Medizin an der Universität Kiel. Second Edition. Paper. Price, 7.50 marks. Pp. 250. Jena: Gustav Fischer, 1912.

Since the first edition, in 1903, the advancements which have been made in surgery of the lungs and of the chest walls have been so numerous and so striking that the authors have worked over and rewritten practically the whole volume. Great changes have been made in the methods of overcoming the intrathoracic pressure during operations by means of negative and positive pressure apparatus, and all these various devices are clearly illustrated and described. In addition to the usual transthoracic operations on the lungs, considerable space is devoted to the removal of foreign bodies from the lungs by the tracheal route, operations for the removal of tumors of the mediastinum, the various thoracoplasties for tuberculosis, Freund's operation for emphysema, Trendelenburg's operation for the removal of emboli of the pulmonary artery, etc. Each chapter is followed by a short but well-selected bibliography. Illustrations are numerous and well executed. The volume, which is not large, brings this department of surgery well up to date.

Electric Injuries. Their Causation, Prevention and Treatment. Designed for the Use of Practical Electric Men. By Charles A. Lauffer, A.M., M.D., Medical Director, Relief Department, Westinghouse Electric and Manufacturing Company. First Edition. Cloth. Price, $0.50. Pp. 77. New York: John Wiley & Sons, 1912.

Flash and contact burns are briefly described and simple methods of treatment outlined. The chief point of value made is that many persons rendered apparently lifeless by electric shocks may be revived by the timely use of artifical respiration; a simple method of performing it, called the "prone pressure method," is described and illustrated. Following this are brief chapters on "Minor Surgery and First Aid," "Infections" and "Effects of Occupation on Health," in which is found little more than a few simple, every-day facts in physiology.

The Mosquito: Its Relation to Disease and Its Extermination. By Alvah H. Doty. Cloth. Price, $0.75. Pp. 79, with 10 illustrations. New York: D. Appleton & Co., 1912.

In this little book the author gives an interesting account of the life-history, characteristics and habits of the different varieties of the disease-carrying mosquitoes, together with illustrations of their various stages of existence. Methods of exterminating the inland and salt-water varieties of mosquitoes are pointed out, the only effective one, the author believes, being the eradication of all breeding-places by drainage and otherwise. The book is a good medium for the dissemination of knowledge concerning the disease-carrying mosquito.

Deutsche Heilstätten für Lungenkranke. Geschichtliche und statistische Mitteilungen. V. Tuberkulose-Arbeiten aus dem Kaiserlichen Gesundheitsamte. 13 Heft. Berichterstatter; Dr. Hamel, Regierungsrat im kaiserlichen Gesundheitsamte. Paper. Pp. 121. Berlin: Julius Springer, 1912.

This number of the series of tuberculosis monographs from the Imperial Health Office deals with the results of a statistical investigation of nearly 50,000 patients with pulmonary tuberculosis treated in the sanatoriums of Germany in the period from 1902 to 1904. The question of the permanent results of sanatorium treatment is thoroughly discussed from the point of view of the general and local condition, especially of the findings as to the condition of the lungs. Patients treated with tuberculin are considered separately. The results obtained in the period from 1902 to 1904 are compared with those of the period from 1896 to 1901.

Emergency Medical and Surgical Aid. What to Do and What Not to Do. By Ernest A. Wells, M.D. Paper. Pp. 48. Ætna Life-Insurance Company, Hartford, Conn., 1911.

This is a pamphlet for distribution among policy-holders and others with a view to furnishing instructions to the layman for use in emergencies. The paragraphs on different subjects are arranged alphabetically under the name, making it easy to find any desired subject. The pamphlet is also illustrated with three plates showing resuscitation after drowning; two plates showing the removal of foreign bodies from the eye; and three plates on the transportation of the injured. The publication of such a book by the insurance company is another gratifying indication of the increasing interest of commercial organizations in the conservation of human life.

Outlines of General and Surgical Nursing. By Winifrid Frederick Lindsay, Superintendent of the Training School for Nurses of the Paradise Valley Sanitarium, National City, Cal. Cloth. Price, $1. Pp. 114. Loma Linda, Cal.: College Press, 1912.

This work differs from the better-known text-books of nursing in manner of presentation of subjects—the style is so concise as to be practically tabular, at times almost diagrammatic. It is a pity that so many superintendents of small hospitals seem to consider it necessary to write text-books of nursing.

Medicolegal

Admissibility of Evidence in Malpractice Case—Skill and Care Required of Specialists and of Physicians Generally

(Johnson vs. Powell (Kan.), 123 Pac. R. 881)

The Supreme Court of Kansas reverses a judgment rendered for the plaintiff for alleged malpractice, remanding the case for a new trial, on account of error in the admission of evidence. The patient was a Mrs. Sly, for whom the administrator of her estate, Johnson, was substituted as plaintiff after the recovery of the judgment and her death. The court says that Mrs. Sly suffered an injury to her finger, and applied to the defendant, a physician and surgeon, for treatment. As he was attending another patient, he did not reach Mrs. Sly until about two hours after the injury, or until the hand was considerably swollen. After an examination, he decided that there was a partial dislocation and also a slight fracture of the bone, and undertook to reduce the dislocation, treating it in the usual way by placing splints and bandages on the finger. He visited her two or three times at her home, and each time examined and treated the injured finger, when she complained that it was causing her great pain. Subsequently she returned to her work as saleswoman in a store, but complained that she suffered much pain from the injury. She called at the defendant's office a number of times, and was given treatment, but frequently expressed dissatisfaction that greater progress toward recovery was not made. In about five weeks after the injury she discontinued her visits to the defendant, and one after another consulted, or was treated by, other physicians, finally having the finger amputated.

The defendant denied the plaintiff's allegations of a want of care and skill, and averred that if she had not recovered from the injury it was due to her impaired condition, and to the fact that she did not follow the directions and advice given to her by himself and other physicians, nor take ordinary care of herself. But, in view of the testimony that there was an admitted dislocation of the finger in the first instance, testimony that it was stiff and out of position when the splints and bandages were removed, and that it remained in that condition until it was examined by another physician and his assistant, nearly six months after the injury, and their testimony that the finger was partly out of joint when they operated on it, and that, after the adhesions had been broken and the dislocation reduced, the finger became movable, the circulation became better, the swelling went down, and the finger became more natural in appearance, it could not be said that there was no testimony tending to support the allegation that the defendant failed properly to reduce the dislocation, and to exercise the skill and care required in the subsequent treatment of the finger, although all the medical testimony as to the condition of the finger from the time of the injury until consultation with that other physician tended to show that the defendant had properly set the finger, and had treated it with ordinary care and skill.

Testimony as to expressions of a natural and spontaneous character, indicating present bodily pain, was competent as original evidence; but the declarations of an injured party as to his past feelings and suffering, or which are not voluntary exclamations of existing pain and suffering, are mere hearsay, and should be rejected. Non-expert witnesses could testify as to the external appearances and manifest conditions observable by any one; but whether a surgical operation has been performed with a reasonable degree of skill, learning, and care, such as is ordinarily possessed and exercised by surgeons and physicians in the treatment of their patients is a question of science, and is to be established by the testimony of surgeons and physicians having special skill and knowledge, and not by unskilled witnesses, who are without training or knowledge as to the injuries sustained, or the art of treating them. While some palpable conditions may be understood and stated by a layman, the questions whether there was a fracture of the bone, or whether the articular surfaces of the joint were normal, or whether a nerve had been pinched between the broken surfaces, and whether, in the condition of the finger, the defendant had given the patient skilful and proper treatment, should not be determined on the testimony of unskilled witnesses.

Nor should the plaintiff be permitted to try to repeat statements that another physician was said to have made to her when she consulted him. A physician cannot be convicted of malpractice on hearsay evidence, or on the testimony of what some one else has said about an injury and of his treatment of it. If this practice were permissible, it would only be necessary for a patient, in order to make out a case of malpractice, to procure an examination by several physicians, and then repeat the statements and declarations which they made to him. It is safer to call the experts themselves as witnesses, and thus obtain their opinions at first hand, under the sanction of an oath, and, at the same time, afford the adverse party an opportunity to cross-examine them.

There are those who specialize and give their time and thought to a limited field, and who become thoroughly educated and exceedingly expert in their specialty. It may be that they can be held to a higher degree of skill and care; that is, to have and exercise the degree of skill and knowledge possessed by physicians and surgeons who devote special attention and study to particular organs and parts of the body, and to the treatment of them; but there was no basis in this case for holding the defendant to a higher degree of skill and care than is ordinarily possessed and exercised by members of his profession.

The rules applicable to this case, and which correctly measured the degree of skill and care required of the defendant, were contained in instructions which told the jury that a physician is required to possess a reasonable degree of learning and skill only. He is required to exercise ordinary care and diligence in the treatment of a patient, and is not responsible for errors of judgment in matters of reasonable doubt. He does not insure a cure; and, in the case of a dislocated finger, the fact that the finger does not do well under his treatment does not of itself alone show negligence on the part of the physician. All he is required to do is to use ordinary care and diligence in the treatment of the patient. A physician or surgeon is required only to apply correctly in his practice methods which are well understood and settled in his profession; and, if there are different methods of treatment recognized by the profession, he is required only to use his best judgment, under all of the facts and circumstances, as to the method of treatment that should be used in any particular case.

Practice of Medicine as a Religious Matter

(State vs. Peters (Kan.), 123 Pac. R. 751)

The Supreme Court of Kansas affirms a judgment convicting the defendant of practicing medicine without a license. The court says that he professed to treat sick and diseased people, maintained an office for that purpose, and treated patients for the cure and relief of bodily infirmities or diseases by examination of the person and by rubbing the parts of the body supposed to be affected, doing this as a business for fees charged therefor. His principal contention was that the evidence showed that he was not practicing medicine, surgery or osteopathy, but was practicing a religious belief only. He explained his practice thus: "First had my attention called to healing people about twenty-five years ago from the study of the Bible. I supplemented that study by different branches. I have religious beliefs as to healing. I believe that the words of Jesus Christ in regard to healing can be carried out now just the same as they ever could. I believe from my study of the Bible and my supplemental study that I can carry out to some extent the healing as by Him practiced. My conviction is that I can do the work and ought to do it, and this has been my belief during the past three years; and it is my conviction that it is a duty I owe, and must perform it. My supplemental studies have been psychology and suggestive therapeutics. I have studied the Weltmer system of suggestive therapeutics." The president of the Weltmer Institute was also a witness, and he and another witness, who was a graduate of several regular medical schools, testified that the system of suggestive therapeutics does not involve the practice of medicine or surgery. But as the treatment given by the defendant consisted of manipulations and rubbing over parts of the body supposed to be affected, in short, he was regularly engaged in soliciting, receiving and treating patients for bodily infirmities, for fees charged and collected, he was subject to the provisions of the statute creating a board of medical registration and examination and regulating the practice of medicine, surgery and osteopathy. The opinions of witnesses, however learned in their profession, cannot prevail against the legislative enactment. The claim of the defendant that he only practiced a religious belief within the exception to the statute, which declares that nothing in the act shall be construed to interfere with any religious beliefs in the treatment of diseases, cannot be sustained. The place and value of suggestion in the treatment of diseases need not be discussed; for, apart from this, the defendant engaged in the practice requiring an examination under the statute. Nor need what particular services or practices are within the exception be discussed, as the evidence failed to show that the defendant was exempt from the operation of the statute. The exception does not exempt from the operation of the act one who practices in the manner and by the means the defendant did, although he believes that the words of Jesus in regard to healing can be carried out; that from Bible study and supplemental study of psychology and suggestive therapeutics he can to some extent carry out such healing practices; and that it is his duty to do so. The medical practitioner may entertain any belief his conscience approves; but this will not excuse him from a failure to observe the laws of the state regulating the calling in which he is engaged.

Society Proceedings

PHILADELPHIA COUNTY MEDICAL SOCIETY

Meeting held Dec. 11, 1912

The President, Dr. L. Jay Hammond, in the Chair

SYMPOSIUM ON BLOOD

Normal Blood, Constituents and Methods of Examination

Dr. Harry A. Duncan: The blood carries many extractives, as urea, uric acid, creatin, creatinin, xanthin, hypoxanthin, cholesterin, sugars, fats, soaps and enzymes. Besides these there are innumerable bodies for the protection of the body. The total amount of blood contains about 14 gm. of hemoglobin to 100 c.c. of blood. Of the methods of determining the hemoglobin the Fleischl-Miescher instrument is the best. Its disadvantages are the high cost and the need of a dark room. The Dare instrument is handy and fairly accurate. The Tallqvist scale is handy and cheap and should be used by every one who does not care to provide a more expensive instrument. The counting of cells requires long practice and most careful manipulation. In the differential count I would recommend to the general practitioner Leishman's stain as the simplest, with excellent results.

Pathology of the Red Blood-Corpuscle

Dr. A. G. Ellis: Changes in number are easily detected by a simple count. Decrease in number is a pathologic condition of the red cell present in every anemia. Recovery rarely occurs after reduction to 500,000. Noteworthy increase in size (the presence of megalocytes) occurs only in pernicious anemia. Of the three types of change in staining reaction, the first is increased paleness of the central portion due to diminution in hemoglobin; the second is abnormal coloration of the entire cell, polychromasia; the third is the presence of basic staining granules in an otherwise normally stained cell. Recent studies indicate that the second and third types are young, unripe cells entering the blood too early because of changed conditions in the bone-marrow. The third, basophilic granulation, reaches diagnostic importance only in chronic lead-poisoning and even here it may show daily fluctuation. Chlorosis is not to be diagnosed from the blood alone. The low color-index (or ratio between red cells and hemoglobin) is the most characteristic point in the blood-picture of chlorosis. Secondary anemias form a great group of cases in which the blood changes are dependent on, and secondary to, lesions other than in the blood-forming organs; they include cases in which the circulating red cells are acted on directly by some noxious agent, as in malaria and other hemolytic anemias. In these cases the anemia is a symptom, instead of a disease as in the primary form. With the exception of those cases due to parasites, therefore, examination of the blood does not furnish a diagnosis of the disease causing the anemia. This is true even in cases of suspected malignant tumors in which a diagnosis would be of the greatest possible value. The blood-picture does aid at times in differential diagnosis, but largely by the condition of the leukocytes. The examination of the blood is absolutely diagnostic of one primary anemia, progressive pernicious anemia. It is confirmatory and necessary in the diagnosis of a second, chlorosis. It is diagnostic of polycythemia. Except in parasitic affections it is not diagnostic of the disease causing a secondary anemia, but it is of decided value in determining the condition of the patient who has the anemia.

Purpuras, Hemophilia, Coagulation, Plasma Studies, Etc.

Dr. Joseph McFarland: Hemophilia is a disease. Its fundamental error seems to be found in inhibition of the coagulation of the blood, and a study of the blood made by Wright shows that the coagulation-time is greatly prolonged. A careful analysis of the factors concerned shows that the usual factors of coagulation are all present in the blood of the hemophiliac, but that the thromboplastin is deficient both in the cells of the blood and in the cells of the tissues. The problem of checking hemorrhage in hemophilia is one of supplying the thromboplastin. This is best accomplished: (1) by applying blood-serum to the bleeding area; (2) by applying tissue extracts to the bleeding area; (3) by crushing manipulations by which the injured cells will be found to yield thromboplastin. These measures and the success following their employment are exemplified by reports of various authors.

Purpura is a symptom. It is always secondary to infections and toxic conditions. In order that the hemorrhages occur, it is necessary that the bacteria produce some substance whose chief quality is to act as an endotheliolysin. The venom of the rattlesnake is particularly rich in endotheliolysin, as pointed out by Flexner. Any organic or inorganic substance capable of acting in a similar manner is capable of producing purpuric spots, and of the inorganic substances, mercury and the iodids are known to do so when given in excess, and lead when given experimentally. Of the organic substances known to do so, copaiba, quinin, belladonna and ergot may be mentioned. There are probably numerous bacteria that have endotheliolytic powers under certain circumstances not perfectly known. Of these streptococci, staphylococci and pneumococci, the hog-cholera and other hemorrhagic septicemia organisms must be mentioned. In cases of infection a different mechanism may also require mention, namely, the occurrence of minute thrombi and of infarctions. From these lesions, the hemoglobin rapidly liberated from the corpuscles may stain the tissues.

The most recent experimental research on purpura seems to be that of E. Marshall Cowell. It would seem as though Cowell had been unfortunate in the selection of his microorganisms, which are not those known to be most frequently associated with purpura, and equally unfortunate in repeating the conditions under which purpura is known to occur. Exactly what the necessary conditions are it is difficult to say, but it is not unlikely that they have to do with the agglutination or aggregation and local colonization of the bacteria in greater numbers than occur in the introduction of killed cultures or in ordinary fatal septicemia. In regard to the production of experimental purpura, Cowell's results have been negative. It appears that the oft-quoted positive experiments must, at any rate, not be accepted at present.

Blood-Serum, Pathology and Reactions

Dr. E. P. Corson White: Serum reactions have developed along with the experimental studies in immunity. Many are of tremendous scientific importance, others of suggestive clinical value but still in an experimental stage, while some have undoubted diagnostic importance. These are: the agglutinin reaction, used especially in diagnosis of typhoid and *a* and *b* paratyphoid, and of practical use in differentiating many species of bacteria; precipitin reaction, primarily useful in identification of proteins and in the forensic test to determine specificity of blood spots; opsonic index, a method of measuring the resistance of a patient, and the complement-fixation test; of tremendous value in diagnosis of lues and as a guide to its treatment. Aside from these tests of proved value, there were described the most promising test for cancer, the complement-fixation test similar to the Wassermann reaction, the Freud Kaminar reaction, the epiphanin and miostagmin reactions, none of which seems specific enough to be of much aid, and lastly, the antitryptic reaction, which, suggested for diagnosis of cancer, is probably only a cachetic reaction.

Treatment of Leukemia

Dr. H. K. Pancoast: It may conservatively be stated that no absolute proof exists that a case of leukemia has ever been permanently cured by radiation or any other form of treatment. In the light of our present knowledge on the subject the best we can do is to give the patient the greatest possible prolongation of life in comparatively good general health. Radiation has accomplished more than other methods of treatment, but the *x*-ray is not indicated in every case. It is contraindicated in acute lymphatic leukemia. Based on the belief that the primary seat of the disease is in the bone-marrow and that the process of cell proliferation therein is akin to the growth of certain of the neoplasms, we have treated all of our cases for several years along such lines that the exposures have been directed primarily to the bones, leaving the radiation of the secondary enlargements to a later period. We have found the following among the essential factors in successful treatment: systematic radiation of all the bones except the skull; exactness in dosage; daily applications if possible; persistence in treatment until every manifestation disappears if this be possible; the observance of every possible precaution against a dermatitis (the length of the patient's life may depend on the condition of the skin); the avoidance of toxic manifestations; exposure of the spleen and other enlargements at a safe period; a close watch over the patient, if treatment is stopped because of a disappearance of all manifestations of the disease, and an immediate resumption of treatment on the reappearance of the first manifestation in the differential count; the judicious use of arsenic, which should never be used in large doses during radiation.

The special advantages of this method over the older one are: 1. The expectation of life is greater. 2. Strength and capacity for work are regained at a comparatively early period and maintained with a fair degree of comfort to within a short time of death. 3. There is less danger from toxemia and less risk of dermatitis.

Treatment of Anemias

Dr. Thomas McCrae: Early diagnosis and the institution of prompt treatment are important factors in the management of pernicious anemia. Absolute rest is the first essential in treatment. Almost to a man, however, these patients object to being at rest. As much good food as possible should be taken with the proper regard for the condition of the digestion. Of drugs, only one is of value: arsenic in some form. There are some encouraging results reported of salvarsan. Of a number of comparatively new methods of treatment; one is the use of blood-serum. The results are most disappointing. The method is adapted not to the general practitioner but to the men working especially on the blood problems. I think we cannot yet pass final judgment on blood transfusion in pernicious anemia. My own feeling, however, is that its employment is not justified. I am confident that there are unfortunate results which have never been reported. There are odd instances of good results, but more of unfortunate results. In the after-care it is well to see the patients as a rule once a month.

In the treatment of acute severe secondary anemia which follows hemorrhage particularly, the surgeons have rendered valuable assistance. Here transfusion is of much aid. Many of the other measures are apt to be harmful because the patient has a low blood-pressure. Up to a certain point the low blood-pressure is a saving factor. Drugs that raise the blood-pressure are better left out. Unless the patient is in collapse it is better to leave things more to Nature than often we are inclined to do. In the treatment of the chlorosis in the secondary anemias, rest in bed is of first importance. Great attention should be paid to the bowels. Iron is the drug indicated. I have a strong belief in the value of the inorganic preparations, giving from 20 to 30 grains a day of the Blaud mass. Arsenic is of advantage, but especially valuable is the iron. Then too, after the blood has become normal the patient should be kept on iron. In splenic anemia the surgeons have shown us that extirpation of the spleen is the only treatment of value if the diagnosis is made sufficiently early and the patient's condition warrants removal. The one thing I would emphasize in the whole question of the treatment is the value of rest in bed, out of doors if possible, and lots of good food, with the indicated drug. Whatever else you do, bear in mind the importance of absolute rest.

A Case of Heredity.—"Procrastination is the thief of time" but Inconvenience is the mother of Procrastination, and Indifference and Laziness are the parents of Inconvenience. With such heritage you could not expect much better of poor Procrastination.—*Nature and Culture.*

Current Medical Literature

AMERICAN

Titles marked with an asterisk (*) are abstracted below.

Albany (N. Y.) Medical Annals

January, XXXIV, No. 1, pp. 1-62

1 Fracture of Femoral Neck; Its Anatomic Treatment. C. E. Ruth, Des Moines, Iowa.
2 Symptomatology of Cerebral Abscess; Diagnosis and Indications for Surgical Intervention. L. Archambault, Albany, N. Y.
3 Inflammation of Macule. J. J. O'Brien, Schenectady, N. Y.

American Journal of Anatomy, Philadelphia

January 15, XIV, No. 2, pp. 119-282

4 Development of Prootic Head Somites and Eye Muscles in Chelydra Serpentina. C. E. Johnson, Minneapolis.
5 *Development of Mucous Membrane of Large Intestine and Vermiform Process in Human Embryo. F. P. Johnson, Boston.
6 Effects of Distention of Intestine on Shape of Villi and Glands. F. P. Johnson, Boston.
7 Histology of Sensory Ganglia of Birds. E. V. Smith, Evanston, Ill.

5. **Development of Large Intestine.**—The large intestine, like the esophagus, stomach and small intestine, Johnson says, is at first a simple tube of epithelium and is the last portion of the digestive tube to show distinctive changes in the form of its mucosa. The first change which occurs is the formation of longitudinal folds and ridges. The ridges and folds first appear in the rectum and then extend upward (orally). A second point of growth is found in the ascending colon at the colic valve. The direction of growth here is in the opposite direction (aborally). The transverse colon is the last portion of the large intestine to develop ridges and folds. A few vacuoles similar to those found in the esophagus, stomach and small intestine are found in the epithelial wall of the large intestine in its early stages. The longitudinal folds are replaced by villi in a manner which suggests a segmenting of folds. However, it is not improbable that the villi of the large intestine arise after the manner of those of the small intestine, as separate growths along the tops of the folds. Additional villi arise as separate growths between those villi already formed, not being preceded by folds.

The first glands appear as knob-like protuberances of the epithelium into the underlying mesenchyma. Additional glands develop by a splitting, from below upward, of those already formed. Villi reach their maximum height in embryos between 110 mm. and 140 mm. in length. From this time on they gradually become smaller in size. Remnants of them persist as folds which form an irregular network in between the gland openings. They are entirely gone at birth. In the vermiform process villi and glands develop, and the villi disappear at the same time and in the same manner as those of the ascending colon. Enlarged and cystic glands are found in the vermiform process and cecum. Many of them become detached from the surface epithelium and are then entirely surrounded by connective tissue. They later disappear by degeneration and absorption. Lymphoid nodules are found in the mucosa of the rectum. They are in many ways similar to those found in the vermiform process, but differ from them in that they are not so deeply seated in the tunica propria, are seldom entirely detached from the surface epithelium and disappear not by degeneration and absorption, but by breaking through into the intestinal lumen. Distention of the large intestine, due to the accumulation of meconium, brings about marked changes in the form of the mucosa. It reduces its thickness, broadens and shortens both villi and glands and causes them to become spread apart.

American Journal of Urology, New York

January, IX, No. 1, pp. 1-56

8 Clinical Significance of Urethroscopy. F. M. Oberlander, Dresden, Germany.
9 *Diagnosis of Hemorrhage in Hydronephrosis. P. Marchais, Nevers, France.
10 *Neoplasms of the Renal Pelvis and Ureter; Report of a Case. C. G. Cumston, Boston.

11 Double Congenital Stricture of Left Ureter with Movable Calculus Between Points of Constriction. W. E. Lower, Cleveland.
12 Sexual Impotency in Male. V. Blum, Vienna.

9. **Hemorrhage in Hydronephrosis.**—Machais points out that besides the already-known complications of hydronephrosis, there exists another, namely, hemorrhage occurring into the sac. This complication is not common and usually is the result of a trauma, a fact which does not exclude the occurrence of a urohematonephrosis of a malignant source. The symptomatology is not clear, and other than those instances in which a renal tumor decreases in volume after hematuria has taken place, it is hardly possible to recognize the nature of the contents. The diagnosis is difficult, and often is only made when the sac is incised, while the prognosis is serious and demands immediate operation, which should be nephrectomy when the functional condition of the fellow kidney is known.

10. **Neoplasms of Renal Pelvis.**—A male, aged 34 years, consulted Cumston for blood in his urine. About six months previously, and without any cause, he was seized in the middle of the forenoon with an imperative desire to micturate. To his surprise he found that he voided pure blood. After this the urine became less bloody and after a few days was quite clear again. About six weeks later the same phenomenon occurred, the urine clearing up in a few days. There was no pain at any time, but finally the hematuria became continuous, the urine being always tinted with blood. The right kidney was exposed. The organ presented at its power pole considerable enlargement, and the kidney was then split open so as to explore the pelvis and ascertain the nature of the enlargement. The pelvis was somewhat distended by a papillomatous growth, which to a certain extent occluded the ureteral orifice. During manipulation there was pretty free hemorrhage from the neoplasm. The renal enlargement proved to be a retention cyst occupying about two-thirds of the organ. Nephrectomy was easily done. Drainage of the renal space. Patient returned to bed in good condition. Recovery uneventful. Microscopically the neoplasm proved to be a papilloma, but in none of the sections could any trace of malignant transformation be detected. Three months after the operation the patient was in excellent health.

Boston Medical and Surgical Journal

January 23, CLXVIII, No. 4, pp. 109-148

13 Work of Massachusetts State Board of Health in Investigation of Infantile Paralysis. R. W. Lovett, Boston.
14 *Shock: Theories and Experimental Data to Date. E. H. Risley, Boston.
15 *Control of Ophthalmia Neonatorum in Massachusetts and Improvement of Existing Conditions. F. E. Cheney, Boston.
16 *Typhus Fever (Brill's Disease) at Massachusetts General Hospital in Ten Years (Oct. 1, 1902, to Oct. 1, 1912). R. I. Lee, Boston.
17 Anatomic Explanation of Many Cases of Weak or Painful Backs, as Well as of Many of the Leg Paralyses. J. E. Goldthwait, Boston.

14. **Shock.**—The summary of the evidence in regard to the causative factors in the complex condition of shock are stated by Risley as follows: "Shock is a condition of lowered vital resistance produced by varying factors, such as fear, injury or infection, of varying degrees. It is not possible to determine in a given case what physiologic function is first disturbed or what the exact sequence of pathologic changes are, but it does involve in its progress disturbance of the respiratory center followed by disturbance of the oxygen-carbon dioxid equilibrium, lowering of body heat and depression of vasomotor tone resulting in a final paralysis or exhaustion of vasomotor activity, failure of respiration, cardiac failure and death."

15. **Control of Ophthalmia Neonatorum.**—The following suggestions are made by Cheney: 1. The sending of a "special notice to parents to prevent blindness in children,"—similar to the notice sent out by the Boston Board of Health—by every board of health in the state on the receipt of birth notices. A law requiring the sending out of such a notice would be an extremely valuable measure. 2. A law requiring all cases of ophthalmia neonatorum to be placed under the care of an oculist or at least the supervision of an oculist within a certain time after the symptoms of the disease are first noticed. 3. Printed matter, as to the recognition of the disease, immediate care and protection of the eyes, laws relating to the disease, etc. (the information now furnished by the state organizations with some addition) sent to all doctors, nurses, and midwives, at regular and frequent intervals, and over a long period of time. And, 4, while the use of a 1 per cent. solution of nitrate of silver cannot be regarded as objectionable, a more universal prophylaxis against this disease would probably result if the use of a less irritating remedy were more generally recommended and encouraged.

16. **Typhus Fever.**—In the past ten years typhus fever in a mild and sporadic form has constantly been present in Boston and its vicinity as seen by the records of the Massachusetts General Hospital. It occurs, according to the Massachusetts General Hospital statistics, in about the ratio of one case of typhus fever to forty-seven cases of typhoid. As the diagnosis has to be made on clinical signs only, Lee suggests that it is possible that there are other cases in this series which cannot now be definitely diagnosticated. There occurred in the hospital series another group of cases which roughly simulated typhus in everything but the presence of the rash, which cannot now be classified. The clinical course and laboratory findings in typhus are so distinctive that there is little trouble in making the diagnosis in typical cases. Lee's study throws no light on the epidemiology of typhus, except that the occurrence of the disease in persons of Russian nativity strongly suggests that the disease was originally imported from Russia. This study also emphasizes the importance of blood cultures, inasmuch as there were cases of typhoid with a negative Widal in which the positive diagnosis was only made by blood cultures. Moreover, the diagnosis of paratyphoid fever in this series was made possible by blood cultures alone in the majority of instances.

Colorado Medicine, Denver

January, X, No. 1, pp. 1-32

18 Constipation; Medical Standpoint. J. E. Peairs, Pueblo.
19 Surgical Treatment of Constipation. C. B. Lyman, Denver.
20 Eyestrain in the Tuberculous. O. Orendorff, Canon City.
21 Ureteral Obstruction or Beginning of Intermittent Hydronephrosis. O. S. Fowler, Denver.

Georgia Medical Association Journal, Augusta

January, II, No. 9, pp. 281-312

22 Cholecystitis as Complication of Pellagra. H. F. Harris, Atlanta.
23 Clinical Manifestations of Uremia. R. Lattimore, Savannah.
24 Intestinal Obstruction, with Report of Experimental Work. J. L. Campbell, Atlanta.
25 So-Called Neurasthenia; Some Factors Causative and Curative. H. Crenshaw, Atlanta.

Journal of Infectious Diseases, Chicago

January, XII, No. 1, pp. 1-126

26 *Occurrence of an Isolated Antibody in Cerebrospinal Fluid. L. Hektoen, Chicago.
27 *Laboratory Diagnosis of Glanders. E. M. Wade, Boston.
28 Two Lincoln (Nebraska) Typhoid Epidemics of 1911 and 1912. H. H. Waite, Lincoln, Neb.
29 Studies on Virus of Hog Cholera. W. E. King and F. W. Baeslack, Detroit.
30 *Bacillus from Spontaneous Abscesses in Rabbits and Its Relation to Influenza Bacillus. D. J. Davis, Chicago.
31 General Gonococcus Infection in Male Child Without Evidence of Urethritis. M. Nicoll, Jr., and M. A. Wilson, New York.
32 *Cultivation of Treponema Pallidum (Spirochaeta Pallida). F. W. Baeslack, Detroit.
33 *Experiments in Vital Staining of Tubercles. L. M. DeWitt, Chicago.
34 Gonococcus. C. C. Warden, Detroit.
35 Fixed Hog Cholera Virus. J. Reichel, Glenolden, Pa.
36 *Origin and Action of Hemolytic Complement. G. F. Dick, Chicago

26. **Isolated Antibody in Cerebrospinal Fluid.** The cerebrospinal fluids used in Hektoen's experiments were obtained without any admixture whatsoever of blood and they appeared absolutely clear. In no case were there any inflammatory or other changes in the membranes and other structures of the central nervous system. He found that in mixtures of normal and immune dog-serum and rat corpuscles, the replacement of the salt solution with cerebrospinal fluid of normal dogs in no way diminishes the agglutinative action of the serum. He con-

cludes, therefore, that the cerebrospinal fluid of dogs, whether normal or immunized with rat blood, does not inhibit the agglutinative action of dog-serum on rat corpuscles; that the opsonic effect of cerebrospinal fluid of dogs injected with rat blood is due to a specific, thermostable opsonic substance, seemingly identical with that in the blood and lymph, this being the only antibody demonstrable in the cerebrospinal fluid of dogs so immunized; and finally that this opsonin makes its way into the fluid after passive immunization. These results, in his opinion, indicate that opsonin can occur as a distinct substance and that its presence in the cerebrospinal fluid is the outcome of some form of selective process.

27. **Laboratory Diagnosis of Glanders.**—The diagnosis of glanders by the complement-fixation test supplemented by the agglutination test on all negative serums, Wade believes, is the quickest and most reliable test at the present time. Glanders antigen prepared without shaking but filtered through a Berkefeld candle gives reliable results and yields a more stable product. Normal horse-serum varies widely in its agglutinating power, therefore a weak positive should be considered in conjunction with the complement-fixation test or with clinical symptoms. Antigens and agglutination fluids should be prepared from several strains of *B. mallei.* While a positive result from guinea-pig inoculation is conclusive evidence of the presence of glanders, failure of the pigs to develop lesions is not proof of its absence.

30. **Spontaneous Abscesses in Rabbits.**—For several years past, and especially during the last year, there have come under Davis' observation many rabbits with abscesses with certain rather characteristic features. Interest in these abscesses was aroused because a pleomorphic bacillus having some features in common with organisms of the influenza group was found in the pus, usually pure in all cases. Inasmuch as pathogenic hemophilic bacilli have never been found in animals other than man, Davis studied this bacillus somewhat minutely. The results of his findings may be summarized as follows: Spontaneous subcutaneous abscesses in rabbits are caused by a definite bacillus for which all of Koch's postulates have been fulfilled. At times the bacillus produces acute fatal infections in animals following bites. Bites or scratches are probably the common mode of infection. The bacillus is pleomorphic, tends to form threads and non-branching filaments, but is not strictly hemophilic, nor does it manifest the phenomenon of symbiosis in cultures. Davis says it should not be classed in the influenza group. This bacillus is identical culturally and in many respects morphologically with a bacillus which caused an epidemic of pleuropneumonia in rabbits. In small doses the latter produces subcutaneous abscesses similar in every respect to those caused by the abscess bacillus. The abscess bacillus by intratracheal injection may cause pneumonia. Agglutinins have not been noted in the serums of infected animals.

32. **Cultivation of Treponema Pallidum.**—Although Noguchi found it necessary to begin the cultivation of the *Treponema pallidum* in heated horse-serum plus tissue, Baeslack says the organism can be grown in coagulated horse-serum, either by inserting a small piece of tissue containing the organisms, or by grinding up the tissue, diluting it with broth and making inoculations into this medium by means of a capillary pipet. To inoculate with tissue it is best to use it in as fresh condition as possible. The tissue is divided into small pieces, the size of a split pea. With a sterile platinum wire the tissue is placed deep in the medium between the wall of the tube and the medium. The introduction of air bubbles must be avoided. The consistency of the mediums permits this method of inoculation without tearing. It has not been found necessary to place neutral oil on the surface of the mediums. The inoculated tubes are placed in a desiccator containing pyrogallic acid, and the desiccator is then exhausted and hydrogen passed through it until a test-tube held to the outlet tube contains hydrogen. Suction is again applied to produce a vacuum in the desiccator and a strong solution of potassium hydroxid is run in through the outlet tube.

The growing *Treponema pallidum* may be observed to radiate from the tissue implanted in the coagulated horse-serum in the form of a very faint cloud. The colonies are not sharply defined, nor distinct in their outline. The object of implanting the tissue near the wall of the test-tube is to permit the growing treponema to penetrate into the medium. Thus one is enabled to obtain pure cultures. The cultures growing in the ascitic-agar plus tissue grow deeply at first and gradually the growth extends in a fine haze to within an inch of the surface of the medium. Baeslack has succeeded in growing one strain pure for four generations and this strain was grown both in serum-water plus tissue and oil; ascitic-agar plus tissue and oil in a hydrogen atmosphere as well as in horse-serum mediums. He has also succeeded in obtaining a typical syphilitic lesion in the testis of one of two rabbits inoculated. The lesion was a circumscribed orchitis, not broken through the skin. This lesion, which was noticed five weeks after inoculation, was about the size of a cherry-stone, and showed numerous actively motile spirochetes in the dark field. This culture was devoid of any unpleasant odor, whether grown in coagulated horse-serum, serum-agar, serum-water plus tissue, or ascitic-agar plus tissue. Cultivation experiments with the other strains are in progress.

33. **Experiments in Vital Staining of Tubercles.**—Among the dyes so far tested by De Witt, trypan blue, trypan red, isamine blue, pyrrol blue, Ehrlich's rectified methylene-blue, medicinally pure methylene-blue, methylene-blue of the U. S. Pharmacopeia, new methylene-blue N, new methylene-blue GG, and to some extent neutral red and pyronin have been found to penetrate tubercles in guinea-pigs. Basic fuchsin, crystal violet and the other new methylene-blues are now being tested and a report will follow later. The dyes above mentioned are well borne for a long period, if the dose of the methylene-blues, basic fuchsin and crystal violet is not too large. Almost any dose of the first four dyes mentioned is well borne. The individual bacillus itself is penetrated and well stained by all the methylene-blues, by basic fuchsin, and crystal violet, by erythrosin and the eosins; not so well by trypan blue, trypan red, isamine blue, pyrrol blue, pyronin and neutral red. Methylene-blue, bismarck brown and brilliant cresyl blue are the only dyes which have a possible bactericidal power over the organism, though many of the others seem to inhibit its growth in the test-tube. In the animal experiments, 1 per cent. water solutions of the dyes have been used in most of the experiments, although with the dyes which have been shown to be irritating in that concentration one-fourth of 1 per cent. and even one-tenth of 1 per cent. solutions have been employed. Most of the injections have been subcutaneous, but in some cases the dyes have been injected intraperitoneally.

In all cases guinea-pigs which had been inoculated subcutaneously with human tuberculosis were used. Sixteen tuberculous guinea-pigs were injected for longer or shorter periods with 1 per cent. aqueous solution of trypan blue, from 6 to 10 c.c. being given at each dose. This was always well borne and no local or general toxic or irritative effects were noticed in any of the animals, except that the pregnant pigs always aborted, and most of them died shortly after the abortion. In nearly every case, the smaller tubercles of lungs, liver and spleen have taken the stain and are usually sharply contrasted with the surrounding tissue, which is either unstained or less deeply stained than the tubercles. The larger necrotic areas so frequently present in the liver and spleen of the tuberculous guinea-pig take the stain with especial avidity. The large caseous and softened lymph-nodes always show a blue periphery and if the injections have been repeated a number of times the caseous and softened centers are also deep blue and often deep blue pus exudes from the tubercle for some weeks before death. Distinctly blue-stained tubercle bacilli have never been noted, either in this blue pus or in the smaller tubercles, although at times deeply blue stained granules are seen which appear to be in bacilli, and these may retain a blue stain to some extent even after the bacilli have been stained with carbol fuchsin. The staining of tubercle bacilli in the body with trypan blue has not, however, been satisfactorily proved.

36. **Origin and Action of Hemolytic Complement.**—The results of Dick's investigation indicate that hemolytic complement is a proteolytic ferment which is either formed in the liver or is dependent on liver activity for its presence in the blood.

Journal-Lancet, Minneapolis, Minn.

January 15, XXXIII, No. 2, pp. 33-63

37 Cholelithiasis. W. D. Farrell, Aberdeen, S. Dak.
38 *Surgery of Biliary Tract. R. C. Dugan, Eyota, Minn.
39 *Vaccines and Vaccine Therapy. H. L. Ulrich, Minneapolis.
40 Tonsillitis and Adenoids in Their Relation to Other Diseases: Review of Two Hundred Cases. C. F. Lewis, Austin, Minn.
41 Tests for Examination of Milk. E. Klaveness, Sioux Falls, S. Dak.
42 Prophylaxis and Treatment of Eclampsia. R. T. La Vake, Minneapolis.

38 and 39. Abstracted in THE JOURNAL, Aug. 31, 1912, pp. 743 and 744.

Kansas Medical Society Journal, Kansas City

January, XIII, No. 1, pp. 1-42

43 Flat-Foot and Manner of Correction. S. A. Hammel, Kansas City.
44 Appendicitis. J. C. Shaw, Holton.
45 Psychotherapeutics. W. H. Young, Fredonia.
46 Physiology and Pathology of Puerperium. E. A. Reeves, Kansas City.
47 Differentiation of Symptoms Located in Epigastrium. E. E. Hubbard, Kansas City.

Kentucky Medical Journal, Bowling Green

January 15, XI, No. 2, pp. 55-88

48 Biliary Drainage. C. B. Spalding, Louisville.
49 Some Points in Diagnosis and Removal of Malignant Conditions of Breast. A. D. Willmoth, Louisville.
50 Acute Abscess of Middle Ear. W. C. White, Louisville.
51 Four Cases of Appendicitis Associated with Foreign Bodies (Coal, Grape-Seed, Oxyuris, Bismuth). J. W. Price, Louisville.
52 Uterine Myoma (18½ pounds) and Gall-Stones (1,150). J. R. Wathen, Louisville.
53 *Unusual Gestation. J. K. Freeman, Louisville.
54 Typhoid Carriers. A. Dixon, Henderson.
55 Nephritis. W. A. McKenney, Falmouth.
56 Treatment of Typhoid. A. E. Ferguson, Austin.
57 Conservation of Health. W. L. Mosby, Bardwell.
58 *Case of Laryngeal Diphtheria. J. S. Greenwell, New Haven.

53. **Unusual Gestation.**—About 400 days after both tubes, one entire ovary and the greater part of the other had been removed by Freeman from a woman, 20 years of age, she gave birth to a normal child. He believes that this case should be classed among the anomalies and curiosities of medicine.

58. **Laryngeal Diphtheria.**—In this case 48,000 units of diphtheria antitoxin were given inside of seven days, 8,000 units being given on the first day and 5,000 units in each of the next six days. The patient recovered.

Lancet-Clinic, Cincinnati

January 4, CIX, No. 1, pp. 1-26

59 Fat Hernia. J. Ransohoff, Cincinnati.
60 Elements of Abnormality and Perversion of Sexual Function. D. C. McMurtrie, New York.
61 Membranes and Membrane Formation in Nose and Throat. O. M. Rott, Piqua, Ohio.
62 Gangrene of Bowel from Non-Penetrating Bullet Wound. J. F. Baldwin, Columbus, Ohio.

January 11, CIX, No. 2, pp. 27-52

63 Address to First Councillor District of Ohio (To be continued). W. A. Lane, London.
64 Gymnasium. I. O. Allen, Metamora, Ind.

January 18, CIX, No. 3, pp. 53-86

65 Address to First Councillor District of Ohio (Concluded). W. A. Lane, London, England.
66 Value of Blood-Clot in Operations for Acute and Chronic Mastoiditis. C. R. Holmes, Cincinnati.
67 Research Society and Medical School. H. M. Knower, Cincinnati.

Missouri State Medical Association Journal, St. Louis

January, IX, No. 7, pp. 205-252

68 The Deaf Child. M. A. Goldstein, St. Louis.
69 Case of Deafness. J. T. Moss, St. Louis.
70 *Defects Caused by Nasal Obstruction. W. E. Sauer, St. Louis.
71 Adenoids. E. T. Senseney, St. Louis.
72 Speech Defects. C. A. Gundelach, St. Louis.
73 General Consideration and Classification of Mentally Defective Child. S. I. Schwab, St. Louis.
74 Relation of Crippled Child to Community from Orthopedic Standpoint. N. Allison, St. Louis.
75 Special Schools for Crippled Children. J. C. Stimson, St. Louis.
76 Prevention of Blindness. M. H. Post, St. Louis.
77 Heredity of Blindness. C. Loeb, St. Louis.
78 Training of Blind Child. S. M. Green, St. Louis.
79 Relation of Defective Eyesight to Backwardness in Children. J. Green, St. Louis.

70. Abstracted in THE JOURNAL, July 6, 1912, p. 58.

Medical Record, New York

January 18, LXXXIII, No. 3, pp. 93-138

80 Some Problems of Nursing: Plea for Grading. H. D. Chapin, New York.
81 Radium and Thorium-X Therapy. C. Von Noorden, Vienna.
82 Prognostic Value of Rinné, Weber and Schwaback Tests. A. B. Bennett, Washington, D. C.
83 Atypical Children in Dr. Groszmann's School from Standpoint of Neurologist. M. Neustaedter, New York.
84 Beauty Doctoring. H. Greeley, Brooklyn.
85 Three Important "Don'ts" in Bone Plating. G. P. Coopernail, Bedford, N. Y.

January 25, LXXXIII, No. 4, pp. 139-184

86 Work and Needs of Academy of Medicine. W. M. Polk, New York.
87 *Action of Lactic Acid Bacilli on Percentage of Glucose in Urine in Diabetics. P. Horowitz, New York.
88 Gonorrheal Arthritis in Arthritic Subjects. J. Dardel, Savoie, France.
89 Sanatorium or Home? L. Rosenberg, Bedford Hills, N. Y.
90 *Influence of Sodium Chlorid on Hydrochloric Acid Secretion by Stomach. A. L. Benedict, Buffalo.
91 Bibliographic Style in Medical Literature. F. Place, New York.

87. **Action of Lactic Acid Bacilli on Percentage of Glucose in Urine in Diabetics.**—By correcting and curing the auto-intoxication, Horowitz says, one can remove the irritating influences on the sugar-regulating apparatus. *B. bulgaricus* destroys putrefaction and so overcomes the auto-intoxication; the bacillus changes the reaction of the intestinal tract from an alkaline to an acid condition; carbohydrate digestion is inhibited or is rather very much slower in the presence of this lactic acid; by thus lengthening the time of carbohydrate digestion only small amounts of sugar are formed and absorbed; permitting only small amounts to be formed and absorbed increased gradually the tolerance for carbohydrates until a normal tolerance is established. While it is agreed that in cases that have come to autopsy, there are changes in the pancreas especially in the islands of Langerhans, and that these changes are probably present in all cases of diabetes, with perhaps irritation and changes in the suprarenals, thyroid, nervous system, and hypophysis, still these changes are also caused by auto-intoxication. In cases in which there is no indican in the urine and no auto-intoxication definite causative factors usually produce the glycosuria as in thyroidectomy, ether narcosis with a probable parenchymatous degeneration of the liver, etc. In the majority of cases the indican output is in close relation to that of the sugar. In a series of tests made by Horowitz on starch digestion by pancreatic juice, both that of the dog and man, and carried out for a period of several weeks, he found that the digestion of the starch goes on very much slower in the presence of the *B. bulgaricus* than when pancreatic juice alone was used. The bacillus generates free lactic acid, and in order to see whether this bacillus alone or the acid it generates interferes with the digestion, a solution of lactic acid of similar strength to that present in the culture was used with the same result as to the starch digestion. In other words, the Bulgarian bacillus generates the free lactic acid, and it is this acid condition of the bowels that interferes with the rapidity of the starch digestion.

90. **Influence of Sodium Chlorid on Hydrochloric Acid Secretion by Stomach.**—Benedict states that there is no more reason to expect a cure of hypochlorhydria from administering salt than of Addison's disease from administering adrenalin, or of leanness from administering fat. In many cases of hypochlorhydria, a definite atrophy of the gastric tubules exists. In others, there is a general failure of glandular functional capacity or a failure of innervation. The presence of an abundance of available raw material cannot, of course, insure its utilization. But just as there are cases of anemia in which the blood will recuperate its hemoglobin if iron is furnished, and cases of leanness in which the mere increase of fat or of food in general will afford relief, so there are occasional cases of hypochlorhydria in which the moderate, rational increase of salt, along with other appropriate dietetic and hygienic measures, will facilitate the reestablishment of an adequate HCl secretion.

Military Surgeon, Washington, D. C.

January, XXXII, No. 1, pp. 1-134

92 Medical Department of U. S. Army in Civil War: Pope's Virginia Campaign. L. C. Duncan, U. S. Army.
93 Immunity Through Tuberculosis Infection. G. E. Bushnell, U. S. Army.
94 Preparedness of Medical Department of Army in Matter of Field Medical Supplies. F. A. Winter, U. S. Army.
95 Advantages Accruing to National Guard from Tours of Duty with Regular Establishment Like That at Sparta, Wis., in 1912. C. S. Young, U. S. Army.
96 Problems of National Guard Regimental Surgeon on Maneuver Campaign. C. Phillips, U. S. Army.
97 Tour of Duty at Fort Riley and Its Lessons. B. M. Linnell, U. S. Army.
98 Plea for More Camps of Instruction, Under Government Supervision, for Officers of Organized Militia. H. H. Doan, U. S. Army.
99 Case of Post-Traumatic "Insanity." H. Butts, U. S. Navy.
100 Modern Treatment of Acute Appendicitis. A. W. Williams, U. S. Army.
101 Prophylaxis of Syphilis and Practical Points on Its Treatment Navy.
103 Simple Apparatus and Technic for Intravenous Injection of Salvarsan. A. Mueller, U. S. Army.
104 Socks for Soldiers. H. W. Yemans, U. S. Army.

New York Medical Journal

January 25, XCVII, No. 4, pp. 165-216

105 Tuberculosis and Other Diseases in Schools and Colleges. S. A. Knopf, New York.
106 Sex Ethics; A Medical Orientation. W. B. Konkle, Montoursville, Pa.
107 Value of Pertussis Vaccine G. D. Scott, New York.
108 Malignant Growths. R. H. Boggs, Pittsburgh.
109 Education of Public in Personal Hygiene. R. S. Morton, New York.
110 Abdominal Rigidity. L. M. Kahn, New York.
111 Concomitant Convergent Squint. D. F. Harbridge, Philadelphia.
112 Crippled Children in English Public Schools. D. C. McMurtrie, New York.
113 Incipient Pulmonary Tuberculosis. S. G. Ehrenreich, New York.
114 Alkalies and Hyperchlorhydria. P. C. Tupper, New York.

Northwest Medicine, Seattle, Wash.

January, V, No. 1, pp. 1-28

115 *Relationship of Clinical and Pathologic Aspects of Exophthalmic Goiter. L. B. Wilson, Rochester, Minn.
116 Operative Treatment of Exophthalmic Goiter. E. O. Jones, Seattle, Wash.
117 Goiter as It Exists in Weber County. J. W. Pidcock, Ogden, Utah.
118 Surgical Treatment of Carcinoma of Lower Lip. T. W. Huntington, San Francisco.
119 Plea for Early Recognition of Acute Intestinal Obstruction. C. G. Fletcher, North Yakima, Wash.
120 Case of Absence of Vagina and Its Reconstruction. E. F. Tucker, Portland, Ore.

115. **Clinical and Pathologic Aspects of Goiter.**—The histologic conditions met with in thyroid glands are classified by Wilson as follows:

I. Embryonic (undeveloped) thyroid.
II. Normal (resting) thyroid.
III. Vascular changes.
  1. Hyperemia.
  2. Hemorrhage (including resulting cyst formation).
IV. Inflammations.
V. Progressive changes.
  1. Hypertrophy (functional, with hyperemia).
  2. Hyperplasia ("exophthalmic" goiter).
  3. Adenomatosis (multiplication of acini without encapsulation).
VI. Retrogressive changes.
  1. Retention of secretion (colloid goiter).
  2. Atrophy (of parenchyma).
  3. Degenerations.
    (a) Colloid (of parenchyma and stroma).
    (b) Hyalin.
    (c) Amyloid.
    (d) Calcareous.
    (e) Cystic.
VII. Tumors.
  1. Benign.
    (a) Fetal adenomata (encapsulated).
    (b) Adult adenomata (encapsulated).
  2. Malignant.
    (a) Mesotheliomata.
    (b) Carcinomata.
    (c) Sarcomata.

The relationships of the above pathologic classification to clinical conditions in certain respects are indicated more clearly by the following broad general statements: The thyroid gland removed from a young patient in the early months of acute thyrotoxicosis (exophthalmic goiter) shows hypertrophy and hyperplasia of the parenchyma with a small amount of a thin and but slightly stainable secretion within the acini. The size of the gland and the distribution and degree of hyperplasia are proportionate to the intensity of the symptoms. The thyroid gland from a young patient, who has had acute thyrotoxicosis eight months to a year, shows a much less active hyperplasia and a much larger amount of a more dense and more stainable secretion in the acini throughout the gland. This pathologic picture corresponds to a period of reduction of the intensity of the toxic symptoms which Plummer has pointed out usually occurs in the latter half of the first year of acute Graves' disease.

The thyroid gland in a young patient, who has had acute Graves' disease for a year and one-half or more, usually shows at least three phases of pathologic change scattered irregularly throughout the gland as follows: (a) An active parenchymatous hyperplasia like that described in No. 1; (b) a reduced parenchymatous hyperplasia with a dense stainable secretion in the acini like that described in No. 2; and (c) areas in which the parenchyma cells are atrophied or desquamated from the walls of the acini, which are distended with intensely staining colloid. The older the patient at the time of onset of acute thyrotoxicosis, the more quickly do colloid changes appear in the thyroid. The thyroid from a patient who has somewhat rapidly developed a typical picture of exophthalmic goiter with exophthalmos after years of simple goiter, presents a picture of advanced colloid change throughout most of the gland, but usually with thinned rather than with desquamated parenchyma and with scattered areas of somewhat actively functionating parenchyma which may be markedly hyperplastic. It is sometimes impossible to distinguish this pathologic condition from that described in No. 3. The thyroid gland from a patient who has had symptoms of thyrotoxicosis very slowly developing throughout a period of years with a predominance of cardiac symptoms and with little if any exophthalmos is usually found to present a histologic picture of (a) diffuse adenomatosis or (b) more usually, of encapsulated multiple adenomata, almost invariably of the fetal type. These cases, however, are not true exophthalmic goiter.

Ohio State Medical Journal, Columbus

January 15, IX, No. 1, pp. 1-52

121 Some Questions Concerning Medical Education. W. S. Thayer, Baltimore.
122 Our Last Views on Salvarsan. A. Ravogli, Cincinnati.
123 Relation of Teeth to Eyes. W. E. Bruner, Cleveland.
124 Chronic Bone Abscesses. J. Dickenson, Cleveland.
125 Water Purification. R. W. Pratt, Cleveland.

Oklahoma State Medical Association Journal, Muskogee

January, V, No. 8, pp. 339-391

126 Acute Lobar Pneumonia. E. F. Hayden, Tulsa.
127 Hemorrhoids. L. Watson, Oklahoma City.
128 Epidemic Cerebrospinal Meningitis. H. M. Williams, Wellston.
129 Intestinal Diseases of Children. C. Puckett, Pryor.
130 Copiopia. C. J. Lukens, Enid.
131 Ear Complications from Adenoids. H. C. Todd, Oklahoma City.
132 Intussusception in Eleven-Months-Old Child. W. E. Dicken, Oklahoma City.
133 Gangrene in Status Epilepticus; Death from Sapremia. E. A. Thurlow, Norman.
134 Unilateral Surgical Kidney with Pressure on Common Duct, Causing Jaundice. C. von Wedel, Oklahoma City.

Pennsylvania Medical Journal, Athens

January, XVI, No. 4, pp. 253-336

135 Teaching of Ophthalmology in America. W. Reber, Philadelphia.
136 Sight Saving as National Movement. F. P. Lewis, Buffalo.
137 Trachoma in Its Relation to Blindness. C. P. Franklin, Philadelphia.
138 Effect of Artificial Light on Eyes and Some Means of Determining the Same. W. C. Posey, Philadelphia.
139 Prevention of Industrial Plant Injuries to Eye. W. W. Blair, Pittsburgh.
140 Sociologic Aspects of Errors of Refraction. W. Zentmayer, Philadelphia.
141 Ophthalmia Neonatorum and Its Relation to Blindness. E. B. Heckel, Pittsburgh.
142 Dynamite-Cap Injuries to Eyes. J. B. Corser, Scranton.

143 Midwives in Pennsylvania. B. F. Royer, Harrisburg.
144 Restoring Mobility After Bony Ankylosis of Joints. R. Tunstall Taylor, Baltimore.
145 Surgical Treatment of Complete Prolapse of Uterus. R. C. Norris, Philadelphia.
146 Massage and Massage Operators in City of Pittsburgh. T. Diller, Pittsburgh.

United States Naval Medical Bulletin, Washington, D. C.

January, VII, No. 1, pp. 1-164

147 Rotch Method of Roentgenographic Age Determination. H. W. Smith, U. S. Navy.
148 Physical Training in United States Naval Service. J. A. Murphy, U. S. Navy.
149 Present Status of Color Blindness. G. B. Trimble, U. S. Navy.
150 Organization and Finances of Bureau of Medicine and Surgery. W. S. Gibson, U. S. Navy.
151 Naval Hospital for Tuberculosis, Las Animas, Colo. P. Leach, U. S. Navy.
152 Hospital Ships for Fishing Fleets. I. L. Neilson, U. S. Navy.
153 Prevention of Spread of Infectious Diseases on Shipboard. E. R. Stitt, U. S. Navy.
154 Treatment of Insane in Navy. G. A. Riker, U. S. Navy.
155 Intestinal Parasites and Diseases Found in Guam. C. P. Kindleberger, U. S. Navy.
156 *Easy Method for Cultivation of Gonococcus. G. F. Clark, U. S. Navy.
157 Some Statistical Observations Concerning Tattooing as Seen by Recruiting Surgeon. A. Farenholt, U. S. Navy.
158 Height and Weight, at Different Ages, of Applicants at Recruiting Station, Cleveland, Ohio. J. E. Gill, U. S. Navy.
159 Apparatus for Obtaining Blood from Vein or from Heart of an Animal. G. F. Clark, U. S. Navy.
160 Diet List for Use on Board Ship. B. F. Jenness, U. S. Navy.
161 Clinical Manifestations of Pityriasis Rosea. W. D. Owens, U. S. Navy.
162 Flat-Foot. B. Elmore, U. S. Navy.

156. **Cultivation of Gonococcus.**—Thalmann's medium, to which fresh human blood-serum has been added, is used by Clark. Thalmann's medium is prepared as follows: Five hundred grams of lean, finely minced beef are placed in 1,000 c.c. of distilled water and allowed to stand over night in an ice box. It is then filtered and the filtrate made up to 1,000 c.c. with distilled water. To 100 c.c. of the beef juice add 1½ grams of agar and boil for fifteen minutes. Then add 2 grams of glucose and bring the reaction to plus 0.6 by addition of NaOH. Tube, sterilize, slant and incubate over night. No peptone or salt is required. To each tube of the medium add 4 to 5 drops of fresh, sterile human blood-serum. After washing the glans penis with alcohol and wiping off any secretion at the meatus, a drop or two of the pus is expressed from the meatus and inoculated on the medium. It is best to incline the test-tube prior to inoculation, so that the serum will flow over the entire surface. The pus should be evenly spread. In sixteen hours the colonies of gonococci can be readily seen as small white points. Toward the bottom of the tube the colonies are larger, sometimes almost as large as staphylococci when grown on ordinary mediums. By fishing a small colony a pure culture can be obtained. In order to prove the presence of the gonococcus, make a Gram's stain, and transfer from the subculture to ordinary agar and Loeffler's serum. No growth should be obtained from either.

FOREIGN

Titles marked with an asterisk (*) are abstracted below. Single case reports and trials of new drugs are usually omitted.

British Journal of Children's Diseases, London

January, X, No. 109, pp. 1-48

1 Epidemic Catarrhal Jaundice. L. Guthrie.
2 *Inclusion Bodies in Scarlet Fever. J. Granger and C. K. Pole.
3 Hedonal Anesthesia: Its Use in Children. L. E. Barrington-Ward.

2. **Inclusion Bodies in Scarlet Fever.**—A very extensive study of this subject was made by the authors. Their conclusions are summarized as follows: Except in the extremely fatal toxic type of scarlet fever, Döhle's inclusion bodies will probably be found in every true case of scarlet fever during the first four days of illness. The absence of the bodies practically excludes scarlet fever. The bodies are present in almost every case up to the fourth day, after which they appear with lessening frequency and are absent in most cases after the eighth day, though in some few cases they may be found as late as the third or fourth week. The bodies are present in quite a large proportion of cases of diphtheria, measles and tonsillitis. Therefore the presence or absence of the bodies is of no use in making a differential diagnosis between these diseases and scarlet fever. The bodies are found in most diseases caused by ordinary pyogenic organisms especially if streptococci are present. The bodies are absent in toxic rashes. It is impossible to diagnose scarlet fever from film examination alone.

British Medical Journal, London

January 11, I, No. 2715, pp. 53-100

4 History and Nature of Certain Specimens Alleged to Have Been Obtained at Post-Mortem Examination of Napoleon the Great. A Keith.
5 Insect Porters of Bacterial Infections. C. J. Martin.
6 Medicine and Liberty. W. Gordon.
7 Salvarsan in Pernicious Anemia. E. F. Maynard.

Journal of Laryngology, Rhinology and Otology, London

January, XXVIII, No. 1, pp. 1-56

8 Serous Otitic Meningitis, with Septic Thrombosis of Left Lateral Sinus and Internal Jugular Vein, Successfully Treated by Operation. E. M. Stockdale.
9 Diffuse Osteomyelitis from Nasal Sinus Suppuration. D. McKenzie.
10 Electrodiagnosis in Diseases of Labyrinth. E. Junca.
11 Diagnosis, Prognosis and Treatment of Cervical Abscesses of Aural Origin. D. de Carli.

Journal of Obstetrics and Gynecology of British Empire, London

November, XXII, No. 5, pp. 245-316

12 Pernicious Vomiting of Pregnancy. J. W. Williams, Baltimore.
13 Le Fort's Operation for Prolapse, with Account of Eight Cases. J. Wyatt.
14 Elephantiasis of Vulva; Cesarean Section and Panhysterectomy, with Recovery of Mother and Child. V. B. Green-Armytage.
15 Pre-Eclamptic Coma; Death; Post-Mortem Cesarean Section; Living Child. V. B. Green-Armytage.

Journal of Tropical Medicine and Hygiene, London

January 1, XVI, No. 1, pp. 1-16

16 Some Experimental Facts Re Kala-Azar (Indian). R. Row.

Lancet, London

January 11, I, No. 4663, pp. 81-146

17 Insect Porters of Bacterial Infection. C. J. Martin.
18 *Two Cases of Colloid Tumor of Third Ventricle, Causing Death. A. J. Hall.
19 Case of Pneumonotomy for Foreign Body. T. H. Kellock.
20 Cecotomy for Removal of Hairpin Impacted in Ascending Colon. L. McGavin.
21 Myeloid Leukemia in Child with Blood-Picture of So-Called Megaloblastic Degeneration. C. H. Treadgold.
22 *Alleged Diagnostic Value of Provocative Injection of Old Tuberculin in Suspected "Closed" Pulmonary Tuberculosis. E. E. A. T. Rigg.

18. **Colloid Tumor of Third Ventricle.** Hall reports on two specimens examined by him, and reviews seven other cases, two of which have never been reported, the remaining five having comprised a part of Weisenburg's report. Hall's first specimen was obtained from a man about middle age, who was found lying unconscious in the street. On admission to the hospital the patient was comatose. Left pupil larger than right; knee-jerks absent; temperature 98.7 F., rising to 105.4 F. before death. Divergent squint developed and shortly before death a considerable amount of clear fluid was discharged from the nose. Death took place a few hours after admission. On cutting through the corpus callosum and fornix a globular semi-translucent tumor was seen lying in the anterior part of the third ventricle. It was about the size of a small toy marble, smooth, soft and gelatinous, becoming after fixing in formaldehyd solution quite firm and hard. The tumor lay free in the cavity of the third ventricle, except where it was attached to the anterior part of the right choroid plexus by a narrow band of fibrous tissue. It had apparently pushed down the front part of the velum interpositum, so that the right vena galeni ran under the pedicle of the tumor and reappeared about half-way down the right side of the tumor. The two lateral walls of the third ventricle—that is, the anterior ends of the optic thalami—could be seen to be hollowed out by the convex surface of the tumor, as was well shown when the tumor was lifted from its bed. The pedicle spread out into a fibrous capsule covering the tumor, and outside this some villi of the choroid plexus were seen in front. The lateral ventricles were somewhat dilated, the right rather more than the left.

The second patient was a woman, aged 18 years. She had suffered from nocturnal enuresis since childhood. There had been no other illness until six months previously, when recurring attacks of headache began. These did not prevent her from doing her work until the day before her death, when the headache was so severe that she had to leave work and go home to bed. The headache improved and she slept well. Next morning, when seen by her friends she still complained of headache and stayed in bed. At midday when they went to her room they found her lying dead in bed. On removing the brain about 2 ounces of clear fluid escaped from the cut infundibulum and excess of fluid was found in the lateral ventricles. A tumor corresponding closely in size, shape, position and general appearance to that described in the previous case was found. In the fresh state it was semi-diffluent and like a bag of soft jelly, but after being preserved in formaldehyd solution it became firm and hard. It was attached, like the previous specimen, to the right choroid plexus at its anterior end and rested on the velum interpositum. When cut into after hardening both tumors had a firm, semi-translucent, almost cartilaginous consistence and a homogeneous structure.

Microscopic sections were difficult to prepare on account of the brittleness produced by the reagents used. The bulk of the tumor consisted of a structureless hyalin matrix containing at wide intervals epithelial cells in various stages of degeneration. These might be single or in groups of two or three, or, especially near the surface, in clusters of larger numbers. In the last case the cells were less degenerated and showed a more typical epithelial character; this was also true of the solitary cells nearer the surface. The similarity of the more central parts to degenerating hyalin cartilage was striking. In sections of the first case the surface of the tumor with its enclosing capsule was intact. Externally, several layers of well-formed fibrous tissue were seen. Immediately inside this and lying outside the hyalin central mass was a single layer of cubical epithelium, well defined and showing no marked degeneration.

22. **Old Tuberculin in Closed Pulmonary Tuberculosis.**—Sixty-one patients in whom no tubercle bacilli had ever been found were injected with old tuberculin by Rigg. He found, as so often happens, that injection of old tuberculin in established cases of pulmonary tuberculosis failed entirely to produce any one of the five elements of a tuberculin reaction; presumably the amboceptors usually referred to as "free" fixed the tuberculin; but by reason of their detachment from cells were unable to lead to the dissolution of the latter. It seems to Rigg that nothing can be hoped for from the provocative use of old tuberculin in the way of helping to detect cases of so-called "closed pulmonary tuberculosis."

of generalizations as to results. It seems clear that appropriate cases of tuberculosis are much assisted in their process of cure by the administration of tuberculin. But careful selection must be made of suitable cases and equally careful consideration must be given to questions of dosage and intervals of administration. The secret of success, both in the induction of auto-inoculation and in vaccine therapy is probably careful graduation of the dose. Both in the matter of physical exercise and in the use of tuberculin it is a question of dosage throughout, and "the little more, how much it is" may often be responsible for disastrous results where brilliant ones were hoped for.

Practitioner, London

January, XC, No. 1, pp. 1-380

23 *Bacteriology, Pathology and Research in Tuberculosis. T. J. Horder.
24 Ways in Which Tubercle Bacilli Enter and Spread in Body. J. W. Carr.
25 Diagnosis of Pulmonary Tuberculosis and Principles of Its Treatment in Early Stages. A. Latham.
26 *Roentgen Rays in Diagnosis of Lung Disease. D. Lawson.
27 General Treatment of Pulmonary Tuberculosis. R. D. Powell.
28 Sanatorium Treatment and After-Care of Cases of Pulmonary Tuberculosis. F. R. Walters.
29 *Home Treatment of Tuberculosis and Rules for Living. N. D. Bardswell.
30 Treatment of Pulmonary Tuberculosis by Graduated Rest and Exercise. M. Paterson.
31 Climatic Treatment of Tuberculosis. N. Wood.
32 Dietetic Treatment of Tuberculosis. C. Watson.
33 *Use and Abuse of Drugs in Tuberculosis. W. E. Dixon.
34 *Tuberculosis and Phosphorus Metabolism. J. Alcindor.
35 Pneumothorax Treatment of Pulmonary Tuberculosis. C. Lillingston.
36 Continuous Antiseptic Inhalation in Treatment of Pulmonary Tuberculosis. C. Muthu.
37 *Opsonic Method in Relation to Tuberculosis. L. Colebrook.
38 *Tuberculin and Tuberculosis. W. C. Wilkinson.
39 *Treatment of Tuberculosis at Torquay Tuberculin Dispensary. R. A. Bennett.
40 Surgical Treatment of Tuberculosis. A. P. Gould.
41 Tuberculous Diseases of Bones and Joints. R. Jones.
42 Use of Plaster-of-Paris in Mechanical Treatment of Tuberculous Disease of Spine. H. J. Gauvain.
43 *Trypsin Treatment of Surgical Tuberculosis. W. Baetzner.
44 Surgical Tuberculosis of Colon, Rectum and Anal Canal. C. G. Watson.
45 Tuberculosis of Stomach and Intestines. T. Thompson.
46 Urinary and Genito-Urinary Tuberculosis. E. H. Fenwick.
47 Tuberculosis of Larynx. St. C. Thomson.
48 Tuberculous Disease of Ear. W. Milligan.
49 Eye in Relation to Tuberculosis. A. W. Ormond.
50 Associations of Tuberculosis with Disorders of Nervous System. A. J. Whiting.
51 *Tuberculosis in Children. E. Pritchard.
52 Treatment of Localized Tuberculous Infections. N. Raw.
53 Rain-Bearing Winds and Prevalence of Tuberculosis. W. Gordon.
54 Tuberculosis in Ireland. J. Moore.
55 Education of Public in Relation to Prevention of Tuberculosis. T. D. Acland.
56 Public Health and Housing Problem. J. Glaister.
57 Public Health and Tuberculosis. J. Priestley.
58 Tuberculosis and Life Assurance. T. D. Lister.

23. **Bacteriology, Pathology and Research in Tuberculosis.**—In specific treatment, Horder says, the tissues may be educated to form useful antibodies by inducing auto-inoculation, or by the artificial introduction of one or other of the varieties of intracellular tuberculous toxin termed "tuberculin." Useful auto-inoculation, of an educative character, should enter into the régime of all treatment, whether carried out in sanatoriums or at home. Inoculation by tuberculin injections, or vaccine treatment, is at present in too early a stage of trial to admit

26. **Roentgen Rays in Diagnosis of Lung Disease.**—That consultant, says Lawson, who, in the diagnosis of a difficult and obscure lung condition, has not brought to his aid the service of the Roentgen rays, has failed alike in his duty to himself and to his patient. But, he continues, he who aims at employing Roentgen rays as a diagnostic agent in chest work must, as a preliminary measure, familiarize himself with the various shadows presented by a normal chest, in particular with those of the ribs, heart, aorta, scapula, spine, larger bronchi and those more or less vertical lines which, for want of a less controversial term, may here be referred to as the pleuropericardial lines. With these facts clearly before his mind, the physician possesses in Roentgen rays an instrument of the greatest value in assisting him confidently and accurately to determine those various pathologic conditions of the lungs and pleura, which are to be met with in medical practice.

29. **Home Treatment and Rules for Living.**—The patient with arrested or quiescent disease, Bardswell says, should have an intelligent appreciation of his condition and its attendant risks. There is nothing to be gained by allowing him to deceive himself on this point. This knowledge, however, should be only at the back of his mind, so to speak. Nothing is worse for all concerned than constant self-analysis and thinking about the disease. So long as a patient feels well, looks well and maintains his weight and general condition, he may safely assume that his progress is satisfactory.

33. **Use and Abuse of Drugs.**—It is a matter of common knowledge, Dixon says, that a patient suffering from phthisis who, for the first time, is placed under the charge of a medical practitioner, will, for a time at least, improve in health, no matter what drugs, vaccines or specialty of treatment may be employed. The beneficial result is due in this, as in many other diseases, to efficient nursing, to the regulation of food, exercise and sleep, and possibly to a more open-air life. If only this effect were clearly recognized, the number of "treatments" in vogue for this common disease might be diminished. For we are all more inclined to regard an improvement, in the patients under our control, as being the result of our interference with their physiologic functions through the agency of drugs, serums, vaccines, or other active treatment adopted, than of the improved conditions under which they are placed. General hygienic measures are of pri-

mary importance in treatment, and it is not until all the beneficial effects, which we know will ensue from these alone, have been exhausted, that we have any right to ascribe an effect, beneficent or otherwise, to a special treatment.

34. **Phosphorus Metabolism.** The treatment of tuberculosis by means of large doses of the hypophosphites, Alcindor believes, constitutes a distinct accession to modern methods. The experience gained by him in practice among the poorer classes, despite inherent difficulties and drawbacks, indicated that its general application under better auspices would be attended with brilliant results; cases, which in the ordinary way would be treated at a sanatorium, yielded to a four or five months' treatment, without recourse in many instances to a radical change in the patient's life, which is a feature of sanatorium régime. With such a useful weapon in medical armamentarium, it is Alcindor's opinion that the hypophosphites constitute a reliable and efficient adjunct or alternative to sanatorium and tuberculin treatment.

37. **Opsonic Method in Tuberculosis.**—The opsonic control, Colebrook says, is first applied, in the case of phthisis, to determine whether or not such auto-inoculations from the seat of disease are habitually occurring, and whether, in consequence, the patient is requiring rest in bed, or may wisely be treated as an out-patient. It is further employed throughout the course of treatment to ascertain the optimum dose of tuberculin, and at intervals to regulate this afresh; and finally, as in the case of surgical tuberculosis, to determine at what point specific treatment may safely be abandoned. To this latter end, one may apply the procedure of purposive auto-inoculation by exercise or may simply watch, with the passage of time, the opsonic level which the patient maintains. No other method, having as its objective the investigation of the patient's immunity to tuberculosis, has yet shown itself capable of making valuable contributions to practice, and that such claims, as have already been advanced in connection with the opsonic method, may well endow it with a degree of utility proportional to the importance of the disease in question.

38. **Tuberculin and Tuberculosis.**—The extraordinary effect of tuberculin in arresting and preventing hemorrhage and the rarity of tuberculous meningitis in patients who have been treated completely with tuberculin, have impressed on Wilkinson the view that, properly used, tuberculin causes the lung to heal, and tends to prevent extension of the disease to near and distant parts. Accordingly, if there is evidence, such as a tuberculin reaction alone can give, that a tuberculous lesion exists somewhere, it is prudent and wise to render the lesion inert and harmless. By adopting this principle of action we may sometimes assist those who need no help, but at the same time we are offering assistance to all who need it. It is impossible to determine beforehand what may or may not happen, when there is a living enemy lying in ambush in the tissues. It is better to try and kill the enemy, even though we may wake him, rather than give him the opportunity of choosing his own method and hour of attack. There are many ways of using tuberculin, right ways and wrong ways. The chief virtue of small doses is that they can hardly do any harm. It is otherwise with the system of large doses. Undoubtedly, it is possible to do great harm with large doses, if they are not given in proper sequence and at proper intervals. In the specific treatment of pulmonary tuberculosis, the medical man must be able to distinguish the different stages of the disease by physical signs and symptoms. He must also have been trained to read correctly the temperature charts in their varieties and vicissitudes and he must master the methods of measuring and recording doses. The very progress of the doses, which vary in every case, can only be appreciated by a close and frequent study of a number of charts and records which may extend over eight months to a year. If tuberculin is to be used as the essential remedy for treating tuberculosis, and Wilkinson believes there is no better, more economical, and more effective method, tuberculin dispensaries must be established for this specific purpose. The system of tuberculin dispensaries is quite new, and is the evolved product of Wilkinson's experience with tuberculin in Australia. He places tuberculin dispensaries in the forefront as the best, cheapest and most effective means of dealing with tuberculosis among the poor, and the success of his tuberculin dispensary depends on the skilful use of tuberculin in diagnosis and in treatment.

39. **Dispensary Treatment by Tuberculin.**—For the last few years Bennett has used tuberculin, but always tentatively and always with a lively fear of its possible effects before him. He is convinced, however, that tuberculin is of the very highest value in the treatment of the disease—that every doctor who is engaged in the anticonsumption crusade should use it and that it should take its place with sanatoriums and isolation hospitals and the rest. It is of course impossible to expect that every patient with tuberculosis will obtain benefit from tuberculin. The individual comes into consideration here, just as he does in all other forms of medical treatment, but in the vast majority of cases, tuberculin will not disappoint, and if it does, the fault must be looked for in the manner of using it.

43. **Trypsin Treatment of Surgical Cases.**—The general conclusions drawn by Baetzner from his own abundant material, and from the experiences of others, which have been sufficiently extensive to permit of an opinion on a subject so comparatively new and difficult, are as follows: 1. There can be no doubt that injections of trypsin have a definite curative action on the processes of surgical, i. e., localized tuberculosis. 2. The action is directed selectively against the fungoid purulent masses, and at the same time it is instrumental in producing healthy granulations. 3. Although with the material used, the growth of the tubercle bacillus remained unimpaired, it is an indubitable fact that, in the course of the trypsin treatment, the tubercle bacilli disappeared entirely from local affections. 4. The treatment is simple and devoid of any danger. Even out-patient treatment has given full satisfaction. 5. A point of greatest importance is the selection of the proper preparations for injection. 6. Even previous to the local changes, a general improvement is observed to follow trypsin injections; lessening and even complete cessation of pain, discharge and night sweats, and, chiefly, a very marked improvement of appetite.

51. **Tuberculosis in Children.**—The most important essentials in the prophylactic treatment of tuberculosis in children, according to Pritchard are: As far as infancy is concerned, the only satisfactory measure when the environment is known to be one of open infection is to remove the infant from the source of danger. As supplementary prophylactic measures, fresh air, the graduated cold bath and an ample and varied proteid diet are useful. For older children the one important measure, apart from the above, is to maintain their strength during the period of debility following measles, whooping-cough and chicken-pox, and to remove them to convalescent homes in the country. The treatment of established cases of tuberculosis in children is discussed from two points of view: first, from that of specific inoculation, and second, from that of medicinal and hygienic therapeusis. The tuberculin treatment, he says, has a definite though limited place in the curative treatment of tuberculosis in children; the most valuable expedients, however, are climatic, dietetic and general hygienic treatment. The prevention of intestinal intoxication is a factor of great importance, while of drugs, calx sulphurata, iodid of iron and creosote are the most valuable. In all cases of intestinal intoxication in children, Pritchard says, there is nothing which promotes the healthy function of the bowel so well as petroleum, given in the form of an emulsion and at comparatively short intervals. He gives it, as a rule, in combination with liquor pancreatis as a digestive, and calcium hypophosphite as a tonic, and orders it to be taken after each meal. For a child of 5 years of age, the prescription runs as follows:

	gm. or c.c.	
R Liquoris pancreatis	66	♏ x
Calcii hypophosphitis . .	06	gr. i
Emulsionis Petrolei	4	ʒ i

After each meal.

Archives Genérales de Médecine, Paris

December, XCI, No. 12, pp. 1061-1126

59 The Larynx in the Tuberculous. Collet.

Presse Médicale, Paris

December 28, XX, No. 107, pp. 1081-1088

60 Adrenal Origin of Excess of Cholesterin in the Blood. (L'hypercholestérinémie d'origine surrénale.) J. Troisier and A. Grigaut.
61 Ecchymosis on Sole After Fracture of the Heel Bone. (L'ecchymose plantaire dans les fractures du calcaneum.) H. Mondor.
62 *Application of Electricity to the Neck in Treatment of Epilepsy. P. Hartenberg.

January 1, XXI, No. 1, pp. 1-8

63 Maintenance of Life of Tissues Outside of Organism. (Les étapes des recherches physiologiques sur la vie des cellules et des tissus en dehors de l'organisme.) E. Hédon.

62. **Application of Electricity to the Neck in Treatment of Epilepsy.**—Hartenberg relates the details of several cases out of quite an extensive experience in which remarkable improvement of the epilepsy followed the application of a continuous current of 50 or 60 milliamperes, the electrode fitting like a collar around the neck while the patient sits on the negative plate, each seance lasting half an hour and repeated daily or on alternate days. He emphasizes that the epileptic seizure is nothing but the special way in which the nervous system in these patients reacts to various causes, some of which may be amenable to electric treatment, while others may not. The treatment, therefore, will fail in a certain proportion of cases, but its invariable harmlessness has been fully established, he says. Disturbances in digestion, circulation and nutrition require treatment also at the same time, with hygiene. None of the epileptics whose seizures were arrested apparently by this treatment two and three years ago has had any relapse to date, and this neck electric treatment should at least be given a trial in otherwise rebellious cases. The patients mentioned were women between 22 and 40 and a boy of 16.

Revue de Gynécologie, Paris

XIX, No. 4, pp. 289-400

64 Importance of Developing the Chest in Prophylaxis of Gynecologic Disease. (Etude de menstruations chez des femmes atteintes d'affections gynécologiques.) F. Jayle.
65 Torsion of Cecum and Operative Treatment. I. E. Duroux.

Revue Pratique d'Obstétrique et de Gynécologie, Paris

December, XX, No. 12, pp. 353-376

66 The Mechanism of Abdominal Tubal Abortion. E. Rouffart.
67 *Management of Prolapse of the Umbilical Cord. (Conduite à tenir dans la procidence du cordon ombilical.) A. Guldjoglou.
68 *Uterine Hemorrhages After the Menopause. P. Dalché.

67. **Prolapse of the Umbilical Cord.**—When the umbilical cord presents or there is actual prolapse, the first thing to be done is to relieve the cord from pressure and the next is to deliver the child as soon as possible. The measures necessary vary according as the pelvis is normal or contracted, and with the size of the fetus, the state of the membranes, etc. Twelve typical examples are related to show the various conditions that may be encountered and the best way of remedying them. In two women with deformed pelves and prolapse of the cord Guldjoglou proceeded at once to do cesarean section, with excellent outcome both for mother and child.

68. **Uterine Hemorrhages After the Menopause.**—Dalché remarks that in a few rare cases uterine hemorrhages after the menopause do not mean cancer. Syphilis may be responsible for the hemorrhages and the success of specific treatment may soon clear up the diagnosis, but the physician seldom thinks of the possibility of syphilis. Senile metritis may be benefited by curetting or by dilatation and lavage. Arteriosclerosis and abnormally high blood-pressure contra-indicate ergot in these cases. Opium, calcium chlorid and gelatin, possibly amyl nitrite, may prove useful, as also gelatinized vaginal tampons, tepid irrigation of the vagina and possibly radiotherapy. The general condition should be supervised with special care, with treatment for the heart, liver or kidney affections or gout that may be discovered.

Semaine Médicale, Paris

January 1, XXXIII, No. 1, pp. 1-12

69 Modern Treatment of Bone and Joint Tuberculosis F. de Quervain.

Archiv für Gynaekologie, Berlin

XCVIII, No. 3, pp. 415-616. Last indexed Dec. 14, p. 2191

70 *Expectant Treatment of Eclampsia. F. Lichtenstein.
71 Elimination of Creatinin and Creatin in the Urine of Parturients. J. Wakulenko.
72 Cause of Certain Anomalies in the Placenta. (Die placentargefässe als Kennzeichen für die Entstehung der Placenta marginata s. extrachorialis.) R. Meyer.
73 The Pituitary Gland During Pregnancy and After Castration in Women and Animals. (Untersuchungen von Hypophysen bei Schwangerschaft und nach Kastration.) W. Kolde.
74 Ovarian Pregnancy. (Fall von Eierstocksschwangerschaft.) O. Serebrenikowa.
75 Tumors in the Abdominal Wall. (Zur Kenntnis der Bauchwandtumoren.) J. Schiffmann.
76 Febrile Abortion. E. A. Björkenheim and Warnekros.

70. **Expectant Treatment of Eclampsia.**—Lichtenstein writes from Zweifel's clinic at Leipsic to extoll the advantages of expectant treatment. In eighty cases there was only 6.25 per cent. mortality, while the statistics from other clinics where more active treatment is given show a mortality of twelve (16 per cent.) in 329 cases. The principle he advocates is the combination of venesection and Stroganoff's prophylactic method. Blood to the amount of 500 c.c. is withdrawn at the onset of the eclampsia, even if the woman has just been delivered. No harm was ever observed from it while it has a twofold beneficial action, reducing the poisons circulating in the body and lowering the blood-pressure. From 41 to 55 per cent. of the total cases showed no influence from delivery on the course of the affection. He insists that the urine should be examined in eclampsia several times a day; it is as important in eclampsia as taking the temperature in other diseases. The mortality of the children is less with this than with other methods of treatment.

Archiv für Kinderheilkunde, Stuttgart

LIX, Nos. 3-4, pp. 161-320. Last indexed Dec. 7, p. 2099

77 The Leukocytes in Healthy Children and at Different Ages. (Die Leukocyten verschiedener Altersstufen. Untersuchungen über die Leukocyten gesunder Kinder.) D. Rabinowitsch.
78 *Operative Treatment of Internal Hydrocephalus in Children. L. M. Pussep.
79 Typhus in Children. (Das Fleckfieber bei Kindern nach dem Material des Morosoffschen Kinderkrankenhauses in Moskau während der Epidemie des Jahres 1911.) A. Molodenkoff.
80 Unusual Combination of Malformations. (Urachusfistel, Nabelstrangbruch und Cryptorchismus bei einem Kind.) D. Lebedev.

78. **Operative Treatment of Internal Hydrocephalus.**—Pussep describes the details of the technic which he has applied in twenty operations on eighteen children and two adults. He calls his method trephinodrainage. It aims to restore the communication between the internal cavities of the brain and the surface. After trephining, the brain is punctured in the occipitoparietal region. The puncture is done with a silver needle 3 mm. in diameter, so constructed that it takes apart into three small tubes. It is introduced until the cerebral fluid begins to flow. Then the superfluous parts of the needle are unscrewed and the end of the needle tube is bent at an angle, after which both flaps of the dura are brought down under the little tube and sutured. The tube thus lies on the free flaps of the dura and can freely rise and fall as it is lifted by the movements of the brain in respiration. The scalp is sutured tight above the tube and the latter is left in the brain for two to four weeks or months, by which time a natural passage has formed around the tube. The effects were favorable in his experience and he commends this technic for almost all cases of hydrocephalus, supplemented by the usual measures which should be energetically applied.

Archiv für klinische Chirurgie, Berlin

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81 *Removal of Tumors in the Pituitary Gland. (Zur Operation der Hypophysisgeschwülste.) A. v. Eiselsberg.
82 *Regeneration of Bone. (Beobachtungen über Knochenregeneration.) A. Bier. (Neubildungsvorgänge am Hüftgelenk im Anschluss an die Resection.) V. Schmieden and F. Erkes.
83 Exclusion of Pylorus. (Unilaterale Pylorusausschaltung.) H. v. Haberer.
84 *Anesthesia by Blocking the Gasserian Ganglion. (Die Leitungsanästhesie und Injectionsbehandlung des Ganglion Gasseri und der Trigeminusstämme.) F. Härtel.

81. **Removal of Tumors in the Pituitary Gland.**—Eiselsberg's monograph gives a comprehensive review of his experience in sixteen cases, including only three men, forty-seven illustra-

tions showing the preferred technic and the fine ultimate outcome.

82. **Regeneration of Bone.**—Fifteen years ago, in a case of sarcoma, Bier removed the entire shaft of the right humerus and implanted in its place a strip from the tibia, including its anterior margin, the periosteum and the marrow. Roentgenoscopy now shows that the implanted bone has grown to be nearly a normal humerus. The arm is only 1.5 cm. shorter than its mate, and the operation can be considered a brilliant success, as the functioning of the arm is normal. Still more interesting are the findings in the leg, the defect in the tibia having become obliterated by formation of new bone which seems to be analogous in every respect with a normal tibia, even to the sharp edge of the bone in front. Bier theorizes to explain the success in this case, ascribing it mainly to the care that was taken to avoid any compression of the limb by a tight bandage. Blood had accumulated in the cavity left by excision of the front of the tibia, and this blood set up an aseptic inflammation which prevented infection while the blood served as a nutrient medium in regeneration of the bone. When blood is allowed to circulate freely through the tissues, the new-formed bone assumes the shape and structure of the old; when the skin is pressed down into the gap by a compressing bandage there is no chance for natural regeneration of the bone, and there is merely more or less callus production. Bier emphasizes in conclusion that the bone marrow is of greater importance for regeneration of bone tissue than is generally recognized.

84. **Blocking the Gasserian Ganglion.**—Härtel here presents evidence to show the feasibility and advantages of direct injection of the anesthetic or of alcohol into the gasserian ganglion, tabulating the details of a number of major operations in the region and giving forty-five illustrations to explain the simple technic. It permits the gasserian ganglion to be blocked by injection at one point of a small amount of the anesthetic. If done on both sides, the entire domain of the trigeminus is rendered insensible at once and for about ninety minutes. By-effects were noticed in a very few instances, but only during the tentative stage of the technic. Injection of alcohol into the ganglion seems to be physiologically the equivalent of gasserectomy, but as there is a possible danger of neuroparalytic ulceration of the cornea, the method should be reserved for the desperate cases, as injection into the nerve trunk generally suffices. It is possible to inject the anesthetic through the round foramen to act on the second branch. The gasserian ganglion has been blocked for trigeminal neuralgia (4 cases); for gasserectomy (1); resection of the upper jaw (6); operations on the orbit, tongue or pharynx (2 each); on both jaws (3), and for a plastic operation on the face in one case; in fourteen cases for inveterate neuralgia and in eleven cases the trigeminus was blocked for neuralgia and in twenty-seven for resection of the jaws, removal of the tongue or of tumors in the tonsils or nasal septum. Härtel's communication issues from Bier's clinic at Berlin, and the method of nerve blocking in this region is regarded there as a simple operation of great practical value.

Beiträge zur klinischen Chirurgie, Tübingen

LXXXI, V. von Hacker Festschrift, pp. 1-794

85 *Tuberculosis of the Liver and Its Surgical Treatment. G. Lotheissen.
86 Substitute for Beck's Bismuth Paste. G. Lotheissen.
87 *Burns. (Verbrennungen und Ihre Behandlung.) M. Lieber.
88 Access to Tumors in Nasopharynx by Transverse Pharyngotomy. (Die quere Pharyngotomie über dem Zungenbein.) M. Hofmann.
89 Stenosis in Groove After Reduction of Incarcerated Loop of Intestine. (Entstehung von Stenosen an Stelle der Schnürfurchen nach Reposition eingeklemmter Dünndarmschlingen.) M. Hofmann.
90 Isolated Tearing Off of Trochanter Minor. H. Pegger.
91 Polyp Growth in Cystitis. J. Hertle.
92 Transplantation of Fat. J. Zipper.
93 Lengthwise Incision for Resection of Ankle. E. Färber and G. v. Saar.
94 Sliding Hernia of the Large Intestine. (Gleitbrüche des Dickdarmes.) H. Finsterer.
95 *Hernia of the Bladder. (Harnblasenbrüche.) H. Finsterer.
96 *Local Anesthesia for Operations on the Stomach. H. Finsterer.
97 Chronic Vicious Circle After Gastro-Enterostomy, Especially with Incarceration of Loop in Slit in Mesocolon. H. Finsterer.
98 Obstruction of Intestines at Two Points. (Kombinationsileus.) H. Finsterer.
99 *Technic for Spinal Anesthesia. (Unsere Lumbalanästhesie.) H. Helm.
100 *General Ethyl-Chlorid Anesthesia. (Kelennarkose.) H. Peterka.
101 Operations on the Heart. (Die operativ behandelten Herzverletzungen der Grazer chirurgischen Klinik.) H. Schmerz.
102 Tearing Off of Radial Articulation of Humerus. (Fractura capituli humeri partialis.) G. v. Saar.
103 Fracture of Head of the Radius. K. Mulley.
104 Defectively Healed Fractures. (Ueber die mit dem Osteoklasten behandelten, schlecht geheilten Frakturen der Grazer chirurgischen Klinik 1903-12.) F. Ascher.
105 Technic for Treatment of Multiple Fractures of Metatarsal Bones. A. Kirchenberger
106 *Boring a Rib to Drain Effusion in Pleura. (Behandlung der exsudativen Pleuritis durch Dauerdrainage unter die Haut mittels Durchbohrung einer Rippe.) A. Kirchenberger.
107 *Traumatic Acute Bronchitis. O. M. Chiari.
108 Tumor of Carotid Gland. O. M. Chiari.
109 *Local Tetanus. H. Schmerz.
110 Roentgenotherapy of Surgical Tuberculosis. H. Schmerz.
111 *Direct Sunlight in Treatment of Surgical Tuberculosis. A. Wittek.
112 Artificial Pneumothorax in Treatment of Pulmonary Tuberculosis. R. Persch.
113 Treatment of Tuberculosis of the Knee in Children. H. Peterka.
114 *Relapses in Surgical Tuberculosis. H. Peterka.
115 Muscle Plastic Operation on Parasacral Hernia. V. St. John.
116 Abscess in Pouch of Douglas. E. Streissler.
117 Cerebellar Glia Cysts. (Neurologische und chirurgische Mitteilungen über eine operativ geheilte Kleinhirn-Gliacyste.) H. di Gaspero and E. Streissler.

85. **Tuberculosis of the Liver and Its Operative Treatment.**—Lotheissen analyzes thirty-four cases of "conglomerate tubercle" he has compiled from the literature, and thirteen of a tuberculous abscess in or near the liver. In thirty of the cases the tuberculous process was a necropsy discovery. In twenty-three there had been no signs during life of any abdominal trouble. An operation was undertaken in fifteen cases but on an erroneous diagnosis in all but three instances. As long as the process is in an incipient stage or restricted to the inside of the liver, the symptoms are merely those of gastro-intestinal disturbance. Not until the process reaches the surface of the liver or spreads beyond it does its true nature become manifest. It may then appear as a tumor or there may be evidences of irritation of the peritoneum with perihepatic abscesses. The tumor should be removed into sound tissue after intrahepatic ligation of vessels. Wendel has reported the excellent outcome a year later after resection of 940 gm. of liver tissue for an adenomatous growth. The cavity left must be tamponed. Lotheissen emphasizes the necessity for general treatment for the tuberculosis, including exposure to direct sunlight. Complete recovery may be anticipated if treatment is commenced early enough and the patient has the resisting powers of youth and the operation is managed in such a way as not to make too much demands on his strength. Resection of ribs may be necessary, and Lotheissen found it advisable to resect only two or three at a time, thus fractioning the operation; in one case he thus removed separately three cheesy foci, each nearly as large as a man's fist. It has been his experience that patients can stand a very extensive operation for empyema if ample outlet is provided for the pus at the first operation and the operation is completed at several sittings. Local anesthesia with primary ether anesthesia or the "twilight sleep" is ample for the fractioned operation. In ten of the fifteen operative cases the patients recovered although the tuberculous process was far advanced. He warns not to let the propitious hour for operative treatment slip past while trying antisyphilitic treatment.

87. **Treatment of Burns.** Lieber treats burns on the principle that the burned tissues and blood generate a toxin or toxins which are the cause of the general symptoms observed. He reviews the various other theories and the bases for them and the theory of auto-intoxication, and describes his own experience in 188 cases. A temperature below 36 C. was noted in only three cases, but 76 per cent. of the patients developed fever, mostly in the first four days; in forty-eight on the first and in thirty-two the second day. The temperature curve suggests likewise the action of some toxin. It is difficult to foretell the course of the cases; some apparently mild burns proved fatal, and caution is particularly needed in these deceptive mild cases. A child of 4 contracted a burn on the palm of one hand and the sole of one foot, from boiling asphalt. In removing the

asphalt a few whiffs of ethyl chlorid were given. The child seemed lively thereafter and slept normally but it died the sixth day. In another case a young man sat down in a kettle of hot water; the burned buttocks healed readily but the patient died about eighty-one hours after the accident. Such cases confirm the noxious action of some toxin and treatment should aim to expel it. This Lieber accomplishes by saline infusion up to 4 liters a day and saline enemas, having the patient drink copiously water, wine, milk, lemonade, etc., with subcutaneous injection of caffein, camphor and some digitalis preparation. The water-bed, iodoform and morphin have long been discarded in his service. The burn itself is cautiously cleansed with benzin sponges, and boricated vaselin, or a dry powder is applied. The dressings are changed under water. The amount of urine is liable to decline immediately after the burn, but under the above measures it is kept far above normal. Most of the fatal burns were from clothes catching fire. Of the thirty-five fatalities, fourteen occurred the first, eight the second, six the third and two the fourth day after the burn, and three between the sixth and tenth days. Comparison of the outcome shows a much larger percentage of recoveries since the present toxin-eliminating method of treatment was adopted. Many patients now recover as a matter of course who would certainly have succumbed under the older methods of treatment.

95. **Hernia of the Bladder.**—Finsterer has operated for hernia of the bladder in three cases in the last four years and he has compiled forty-nine other operative cases from the literature. The diagnosis is often uncertain and the operator must be on the lookout for the bladder in all operations in this region, to avoid injuring it if it presents in the form of a hernia. In seventeen cases the bladder was injured in this way but no patient died from this cause. Hernia of the ureter is rare.

96. **Local Anesthesia for Operations on the Stomach.**—Finsterer devotes seventy-four pages to his history of this subject, and analyzes his own experience in fifty-five operations on the stomach, including twenty for cancer. The pain from the wound is felt more afterward than with general anesthesia, as the patients' sensibility is more or less deadened with the latter, even after they rouse. They frequently complain that the pain afterward is much worse than during the operation, and morphin may be needed. There is no post-operative vomiting with the local anesthesia, and the factors entailing acute dilatation of the stomach and aspiration pneumonia scarcely ever come into play, or if these occur they are comparatively insignificant. In his fifteen cases of resection there was no fatality from collapse, heart failure or pneumonia. Even when a very little ether is required to complete the operation, the local anesthesia permits painless incision and suture of the abdomen, thus materially reducing the amount of the anesthetic required.

99. **Spinal Anesthesia.**—Helm states that spinal anesthesia has been applied in 1,419 cases at von Hacker's clinic, including 105 in which it failed to work. About 20 per cent. of the patients complained of headache afterward; fever was noted in 30 per cent., and meningitis in six robust young men, one of whom died. Signs indicating direct injury of nerves were noted in 0.1 per cent., including a patient who developed sciatica after an operation for right femoral hernia. Helm wrote to 300 physicians in the districts where his patients resided, to inquire as to the later fate of the patients. He thus learned that 174 (121 men, 53 women) had been under treatment later for disturbances connected with the lumbar puncture, generally headache persisting for one to six months. Others complained of paresthesias and neuralgia in the legs. One man who had been operated on for inguinal hernia presented for a year symptoms resembling the syndrome of tabes and was unable to attend to business during this period. In two cases only there were disturbances in the arms. All the patients finally recovered entirely, but these experiences warn that spinal anesthesia should be restricted to the cases unsuited for other methods; absolute asepsis should be the rule; the tissues should be incised for the introduction of the needle, and the fluid should be drawn extremely slowly, especially if it is under high pressure.

100. **Ethyl-Chlorid General Anesthesia.**—Peterka states that ethyl-chlorid general anesthesia has a mortality record of one to 11,219 in the 100,971 cases he has compiled, and adding five fatalities in his own experience the ratio is one to 8,414. He expatiates on the advantages of this method of anesthesia, especially for minor operations, and appends over seven pages of bibliography.

106. **Drainage of Pleural Effusion Through Rib.**—Kirchenberger bores a hole through the rib at the lowest part of the thorax, the point where the effusion lingers last. The drill used is about 3 mm. thick and the hole is made near the upper edge of the rib to avoid the intercostal artery. An aspiration needle is inserted to be sure that the inner hole passes through the periosteum and the pleura. The skin flap is then replaced and sutured and the effusion is thus automatically drained away. In the ten cases in which he applied this technic benefit was apparent at once and complete recovery soon followed. The operation is a combination of autoserotherapy and drainage of the effusion.

107. **Traumatic Acute Bronchitis.**—In each of Chiari's three cases, after a severe contusion of the chest, the patients coughed a great deal and signs of acute bronchitis speedily developed; there was no exposure to cold or wet as a possible factor.

109. **Local Tetanus.**—Schmerz' patient was a young woman who developed local tetanus, facial paralysis on one side, finally interfering with respiration and entailing death the twenty-eighth day after the wound at which the infection had started. She had tied up the wound with part of the flounce from her petticoat.

111. **Heliotherapy in Surgical Tuberculosis.**—Wittek remarks that the results of heliotherapy demonstrate that general measures are as important for bone and joint tuberculosis as for the pulmonary form.

114. **Relapses in Surgical Tuberculosis.**—In Peterka's 216 cases of manifest surgical tuberculosis the infection had evidently occurred in the majority before the age of 3. Recurrence was observed in eighty-five cases, twice in five cases, and three times in two cases. This shows the importance of general treatment of the tuberculosis and the necessity for prophylactic measures not only against tuberculosis in general—and especially before the age of 3—but also against the flaring up anew of an apparently healed surgical tuberculosis.

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December 30, XLIX, No. 53, pp. 2481-2504

118 Gall-Stone Ileus. A. Tietze.
119 Salvarsan in Frambesia. (Ueber Frambösieheilung durch Salvarsan.) C. A. Koch.
120 Regional Predisposition for Gastric Ulcer. S. Schönberg.
121 Ethylhydrocuprein in Treatment of Experimental Bacterial Infection. R. Levy.
122 Serodiagnosis of Cancer. (Serodiagnostik des Carcinoms nach v. Dungern.) D. Edzard.
123 Some Legal Questions Affecting Physicians. (Aerztliche Rechtsfragen.) H. Lieske.

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December 29, VIII, No. 52, pp. 2095-2110

124 *The Prognosis in Pulmonary Tuberculosis. M. Weisz.
125 Acute Hemorrhagic Pancreatitis; Two Cases. Hellwig.
126 *Neuroses of the Heart. Schurig.

124. **Prognosis in Pulmonary Tuberculosis.**—Weisz emphasizes anew that pulmonary tuberculosis is curable in all its stages, but that the prognosis depends on a number of factors the comparative importance of which it is impossible to estimate in every case. The chances are naturally more favorable for a well-to-do person who can devote time and efforts to getting well. Experience is constantly teaching that the prognosis cannot be drawn with any precision on the basis alone of the objective findings in the lungs. The weight curve shows whether the process is active or chronic or stationary; if the weight remains about the same, no matter how the local process seems to be going, this is a favorable sign if the patient is still in his usual environment. If he is in a hospital or sanatorium this does not apply, as patients may gain in weight in a sanatorium even when the pulmonary process is actively progressing. The temperature curve also may be misleading

unless the individual's normal temperature is known, which is rarely the case. Certain persons have a temperature normally above the standard figure; the hysteric frequently have an afternoon temperature of over 37.5 C. When the temperature can be explained by other causes than the tuberculous process the general condition does not suffer as is inevitable with fever from a tuberculous process. Women and children are liable to have an unstable temperature and tuberculous women are liable to a menstrual or premenstrual rise in temperature, without this being a sign of aggravation of the pulmonary process. There are certain forms of advanced tuberculosis in which after months of subfebrile temperature the temperature may go down to normal or below and stay permanently at this figure. If seen for the first time at this stage, the diagnostician is liable to be misled. The case is cleared up, however, by examination of the urine. The diazo test and the presence of urochromogen throw light on the prognosis, as Weisz has learned by seven years' work in this line. The way in which the urochromogen in the urine rapidly subsides after an artificial pneumothorax is important testimony, he remarks, to the beneficial action of the latter. The constant presence of urochromogen in the urine may be regarded as a bad sign. All his patients who had positive urochromogen findings in their urine have since died. It is a sign that the system has lost its power to resist the onslaughts of the tubercle bacilli. On the other hand, it is possible with the artificial pneumothorax to modify conditions in the general system so effectively that the urochromogen disappears from the urine. Nothing could be more striking testimony to the efficiency of a remedy, he remarks, than to witness under it the subsidence of a symptom which is generally regarded, when constant, as a token of impending dissolution. Another sign useful for the prognosis is the lessening reaction to the Pirquet cutaneous test for tuberculosis; the livelier the reaction the better the outlook, except that, as recovery progresses, the reaction grows less and finally disappears as health returns. With a mild or latent tuberculosis there is generally a distinct reaction to 100 per cent. tuberculin. A distinctly positive reaction with 1 per cent. tuberculin is generally a sign that the organism is making an active struggle against the invading germs. Chronic febrile tuberculosis is generally accompanied by leukocytosis, the expression of the mixed infection which almost invariably becomes installed. The reduction of lymphocytes from the normal proportion of 25 per cent. to 15 per cent. and below must be regarded as a sign of serious impairment of the resisting powers. The leukocytes are a powerful aid in the battle with tubercle bacilli and a reduction in their numbers is a most unfavorable symptom. Reduction of the eosinophils is also an unfavorable sign, although there are many cases of tuberculosis with normal numbers of both leukocytes and eosinophils. The Arneth blood picture demands too much time and effort for it to become a routine diagnostic measure, but Weisz' research has shown that as the disease progresses the nuclear substance either disappears or degenerates. The urochromogen test is applied to urine diluted to one-third and separated into two equal portions. To each half is added three drops of a 1 per thousand solution of permanganate, and the tint is compared with the untreated half. A pure distinct yellow is the positive reaction.

126. **Treatment of Heart Neuroses.** Schurig gives minute directions for the application of the high frequency current; he has found it extremely useful in cardiac neuroses, when strictly individualized. Systematic breathing exercises are also of great benefit, especially, he states, his method of five deep breaths, then after a pause the five deep inspirations and expirations are repeated, with a little pause at the end of each inspiration and expiration, a pause long enough for the patient to count slowly up to five or more. These breathing exercises slow the heart beat by four, ten or more beats. Repeating the exercise then, after an interval of five or ten minutes may reduce the heart beat still further. With a very weak heart, or severe arteriosclerosis, caution is necessary. The effect can be magnified by holding the upper part of the chest so that it cannot expand while the diaphragm makes its downward excursion. This frees the heart from the organs pressing against it while it presses down the viscera, aiding in regulating bowel action. In every case of a cardiac neurosis he urges careful examination of the thyroid. He has had three extremely nervous and irritable patients who showed no signs of exophthalmic goiter except that the thyroid was slightly larger than normal. In each case one erythem dose of the Roentgen rays, distributed over three sittings, had a most excellent effect. The women became more tranquil and almost all their disturbances subsided. Stoney has also reported fine results from Roentgen exposures of the thyroid in cases of supposed neurasthenia with symptoms resembling those of exophthalmic goiter. Her experience includes forty-eight cases of exophthalmic goiter in which the Roentgen rays were applied. In conclusion Schurig urges that systematic rest cures and outdoor reclining should be applied more systematically in treatment of cardiac neuroses, as these neuroses reveal some possible slight tendency to weakness which can most effectually be combated by the rest cures.

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December 24, LIX, No. 52, pp. 2849-2904

127 Negative Pressure in the Long Bones of the Dog. (Beitrag zur Physiologie des Venenkreislaufes.) E. O. P. Schultze and B. J. Behan.

128 Research on Muscles with Aid of Filament Galvanometer. (Muskelstudien mit dem Saitengalvanometer.) A. Gregor and P. Schiller.

129 Serodiagnosis of Tumors. (Serodiagnostik der Geschwülste mittels Komplementablenkungsreaktion. III.) E. v. Dungern.

130 Relations Between Chronic Appendicitis and the Female Pelvic Organs. A. Mueller.

131 *Operative Treatment of Spastic Paralysis by Stoffel's Method. A. Stoffel (Mannheim). Concluded in No. 53.

132 Curability of Otogenous Meningitis. R. Kotz.

133 Microchemical Stain for Fat. (Dimethylamidoazobenzol als mikrochemisches Reagens auf Fett, insbes. über seine Verwertbarkeit zu kombinierten Färbungen in der Mikroskopie des Magen- und Darminhaltes.) A. Friediger.

134 Fitness for Military Service and Enteroptosis. (Militärtauglichkeit und Enteroptose.) H. Röder.

135 *Epidemic Hemorrhagic Diathesis. (Angiorhexis alimentaria.) J. Pick.

136 Diagnosis of Peptic Ulcer. (Zur Diagnose der peptischen Geschwüre im Magen und im Duodenum.) H. Westphalen.

137 Arsenic Poisoning After Salvarsan. (Schwere Arsenikvergiftung nach Salvarsaninfusion.) Eichler.

138 Venesection Plus Saline Infusion in Treatment of Skin Disease. (Die "Organismusauswaschung" bei Hautkrankheiten.) C. Bruck.

December 31, No. 53, pp. 2905-2928

139 *Serotherapy of Melena Neonatorum. R. Franz.

140 Action of Digitalis on Different Forms of Heart Disease. T. Schrenk.

141 *Relief of Disturbance in Swallowing from Disease of the Larynx. (Zur Beseitigung der Schluckbeschwerden bei Larynxerkrankungen.) V. Hinsberg.

142 Chisel Resection of Bone. (Zur Knochenchirurgie.) R. Chiarolanza.

143 Care of the Teeth In the Army. (Zahnpflege im Heere.) J. M. Muller.

144 Laparotomy in the Home. (Zur Laparatomie im Privathaus.) K. Stern.

145 *Technic for Taking the Temperature. (Wie erreichen wir stets gleichmässig genaue Temperaturmessungen?) Heermann.

146 Spring Extension for the Leg. (Federextension an der unteren Extremität.) F. Schöneberg.

147 *Technic for Treatment of Phlegmon on the Arm. Hann.

148 *Spiral Wire to Remove Diphtheric Pseudomembranes. (Einfaches Instrument zur Entfernung diphtherischer Membranen.) A. Strangmeyer.

149 Technic for the Epiphanin Reaction. C. v. Angerer.

150 Operative Treatment of Spastic Paralysis. (Technik meiner Operation zur Beseitigung der spastischen Lähmungen.) A. Stoffel. Commenced in No. 52. See Abstracts 131 and 154.

131. **Operative Treatment of Spastic Paralysis.** Stoffel gives minute details and directions for performing his operation on the nerve of the region, severing certain of its fibers but leaving enough intact to balance the antagonist muscle as it regains strength under exercise and massage. (His method was described in The Journal, 1911, lvii, 2168.) He urges careful practice on the cadaver beforehand as the text-books have not yet made a thorough study of transverse section of nerves. Once master of the technic the operation will be found comparatively simple and easy while it cannot do harm when properly done. Deep general anesthesia is necessary. When the nerve is exposed for 3 or 4 cm. the different fibers are touched with a needle electrode carrying a current so weak that the innervated muscle barely twitches. The contracted muscle responds more readily than normal muscle, which is a distinct

advantage as it is thus possible to sift out with an extremely weak current the special nerve fibers involved. His technic is based on the principle that muscular contracture is the result of a loss of muscle balance; the spastic muscles lord it over the antagonists. Treatment must aim to reduce the strength of the spastic muscle while reenforcing the strength of the antagonist. He discusses each form of spastic contracture in turn, and explains the special technic for each with four illustrations and a number of pictures of patients "before and after." In case of pronation contracture of the forearm, for example, he exposes the median nerve by an incision 8 or 10 cm. long, beginning just below the bend of the elbow and following the course of the biceps muscle. Any veins in the way are ligated; no large vessels are encountered. The nerve shows as a white tract, well defined from the rest of the nerve, and separating in two branches. The main tract is what innervates the three muscles involved in the contracture; the pronator teres, flexor carpi radialis and palmaris longus. This nerve tract will always be found in the proximal third of the wound and the anterior radial margin of the nerve trunk. This main tract and its branches are then loosened up from the tissue below and one branch after the other is lifted up with forceps and touched with the needle electrode. The muscle which the fiber innervates twitches in response. Thus instructed the tract innervating the muscle involved in the contracture is worked loose from the point where the nerve disappears behind the pronator teres upward for a distance of 5 or 7 cm. or more. The nerve bundle is then severed in case of severe contracture, or only part of the fibers. He never leaves the fibers innervating the flexor carpi radialis entirely intact, as this is the most powerful of the muscles involved in pronation. The method was first worked out for treatment of talipes equinus and pronation contracture after long study of the structure of nerves and recognition of the separate individuality of the fibers controlling separate muscles. (See Abstract 154.)

135. **Epidemic Hemorrhagic Diathesis.**—Pick states that thirty-three men and one woman, in the Saaz district, developed a syndrome closely resembling both scorbutus and Werlhof's disease but differing from each in certain respects. Pick ascribes this alimentary angiorhexis, as he calls it, to a lack of vegetables in the diet. Two of the patients died, one a habitual drunkard, from debility, the other from pneumonia.

139. **Serotherapy in Melena Neonatorum.**—Franz says that thirty-five cases were encountered at the Graz clinic, 1900-1911, with a mortality of 52.9 per cent. No drugs have proved effectual in treatment, and even gelatin cannot always be depended on. Since the introduction of serotherapy, however, the outcome has been far more favorable, as is evidenced in the five cases reported in detail. The delivery had been normal and the mothers had shown no signs of a hemorrhagic diathesis. Two of the mothers had had acute tonsillitis not long before, and it was noted that the number of cases of melena increased materially during an epidemic of infectious sore throat. All the infants recovered after injection of 10 c.c. of serum centrifugated from blood drawn from the maternal stump of the umbilical cord and kept from one to four months in dark glass, sealed vials in a dark and cool room. A few drops of chloroform had been added to each vial. The warmed serum was injected under the skin in the thigh or buttock, and the injection was repeated once or twice at need. No by-effects were observed and the general condition began to improve at once.

141. **To Relieve Disturbances in Swallowing in Disease of the Larynx.**—Blocking the nerve in the region with alcohol is the most effectual means of treating disturbances in swallowing. Where this is not practicable, Hinsberg says that great relief may be obtained from a sedative powder shaken on the tongue and swallowed dry.

145. **Taking the Temperature.**—Heermann ensures uniformity in the findings by having the thermometer for the rectum made with a bulging portion which has to be pushed in beyond the sphincter before the thermometer will stay in place. He thinks that lack of uniformity in taking the temperature technic was the reason why such a long period had to elapse before the value of tuberculin treatment was duly appreciated.

147. **Treatment of Phlegmon on the Arm.**—Hann makes a row of three or five lengthwise incisions, 5 cm. long, in the sound tissue above the phlegmon, cutting down to the fascia. He then separates the skin from the fascia and works a broad strip of iodoform gauze through under the skin from one incision to the other. This is done entirely around the arm. The phlegmon is arrested and no appreciable scars are left, he says.

148. **To Draw Out Deep-Seated Pseudomembranes.**—Strangmeyer has sometimes succeeded in clearing out the air passages in diphtheria, when all else had failed, by introducing a wire 0.3 mm. in diameter, wound into a close spiral about 4 cm. long, the diameter of the spiral not over 4 mm. It is introduced through the outer cannula after removal of the inner tube, and the tip is worked like a corkscrew into the obstructing membrane, which can be drawn out with it. He has an assortment of these spirals of various sizes, and many an apparently doomed child has been saved by this simple means.

St. Petersburger medizinische Zeitschrift

December 28, XXVII, No. 24, pp. 353-368

151 Neurologic Indications for Operations on the Brain. O. Stender.
152 Chronic Inversion of the Uterus. W. Beckmann.
153 Pseudoleukemia. E. Wulff.

Therapeutische Monatshefte, Berlin

December, XXVI, No. 12, pp. 841-912

154 *Treatment of Spastic Conditions. (Neue Wege und Erfolge der Behandlung spastischer Zustände.) A. Stoffel.
155 Artificial Pneumothorax. (Technik und Indikation des künstlichen Pneumothorax.) H. Königer.
156 Vegetable Diet in Infant-Feeding. (Gemüsekost im Säuglingsalter.) L. Langstein and K. Kassowitz.
157 Disease of Lacrimal Apparatus. (Behandlung des Tränens.) L. Pick.
158 Operations on the Interior of the Nose. (Operationen an den Nasenmuscheln nach neueren rhinologischen Prinzipien.) A. Rethi.
159 Propaganda for Reform. (Der ärztliche Bezirksverein München.) (Geheimmittelschwindel in der Tierheilkunde.) (Apotheker-Polemik.) W. Heubner.

154. **Prevention and Treatment of Spastic Contracture.**—Stoffel's work in this line is reviewed above (abstr. 131). He here discusses the special indications for his method and emphasizes that the after-treatment is extremely important. Any neglect in the home later is liable to compromise the effect of the operation. Correctly performed and with the suitable after-care it is sure to succeed in correcting spastic contracture of the forearm, both the flexed and extension types, pronation and flexed contracture of the hand, contraction of the fingers or thumb, adduction contracture of the thigh, flexed and extension contracture of the leg, talipes equinus, contracture of the toes, etc. He has always been impressed with the small part played in the contracture by the shriveling of the tissues. Even the most extreme pes equinus, adduction contracture of the thigh, pronation contractures, etc., can be reduced almost completely during general anesthesia. This shows the spastic nature of the contracture and that operations to lengthen the tendons are superfluous. When shriveling is a factor in the contracture, this element soon subsides under gentle exercise after the spastic element has been eliminated. Stoffel's research suggests certain points in prophylaxis of contractures in general. Among them is the experience that contracture can be induced in any musculature by keeping the muscle permanently in the contracted position. Any of the muscles in a limb may become spastically contracted if placed and kept in the attitude of the contracture. Persons with Little's disease and cerebral hemiplegia invite contracture by the way they lie in bed: the hands in pronation, the thighs pressed together, the weight of the bed clothes forcing the feet into the pes equinus shape, etc. Munk found that monkeys kept in the cages after removal of part of the cortex developed contracture while those kept outside and forced to exercise escaped the contractures. These experiences confirm the necessity for watching over patients as soon as cerebral hemiplegia, Little's disease or apoplexy has been diagnosed, not letting their limbs lie in any abnormal position and not letting them stay long in any one position. The extremities must be carefully guarded against heavy and tight clothing; the bedding must not be allowed to bind down the feet. The weight of the bed clothes should be supported

by a "cradle" and the limbs should not be allowed to fall by their own weight into certain positions and stay in them long. A block of wood or sandbag placed against the soles of the feet will keep the foot in the normal right-angled position and prevent a tendency to talipes equinus. Pronation and flexion contracture of the hand can be averted by placing the arm in the proper position over a bran cushion. The patient must not be allowed to lie in abnormal positions in bed, especially with the thighs and knees drawn up much, or else the hip joint and knee may become the seat of severe contracture. This is also liable if the buttocks are allowed to sink deep into the bed. He combats this by supporting the buttocks with a bran cushion. The position of the limbs must be systematically changed several times a day, and they should be passively moved several times a day and the patients should be constrained to exercise them occasionally. This can be accomplished with small children by tickling, etc. These precautionary measures require much time, effort and patience, but the patient gets up without the distressing contractures otherwise liable. The contracture once installed, gentle measures applied systematically several times a day to correct the contracture may perhaps accomplish the purpose in very mild cases; forcible measures only enhance the tendency to spastic contracture. The contracture corrected, the limb is fastened thus in a splint, aiming to separate the points of attachment of the contracted muscle and bring closer together the points of attachment of the abnormally relaxed antagonist, striving to reduce the over-elasticity of the contracted muscle and restore elasticity to the flabby antagonist. With severe contracture, operative treatment gives the only prospect of relief. Three methods are applicable: tenotomy, section of the spinal roots and Stoffel's own technic. Recurrence and over-correction are frequent after tenotomy, and section of the roots is too serious an operation, but his own technic, which he has applied in almost a hundred cases, has given extremely satisfactory results and others have reported similar success with it.

Therapie der Gegenwart, Berlin

January, LIV, No. 1, pp. 1-48

160 Lipoid Compounds of Arsenic. (Ueber eine neue Klasse von lipoiden Arsenverbindungen.) E. Fischer and G. Klemperer.
161 *Hyperacidity. H. Lütaje.
162 *Direct Application of Oxygen in Treatment of Intestinal Diseases. (Weitere Erfahrungen über die Behandlung von Darmkrankheiten mit Sauerstoff.) A. Schmidt.
163 Brain Tumors; Sixty-Three Cases. (Zur operativen Therapie der Hirntumoren.) K. Bonhoeffer.
164 After-Treatment of "Scrofulous" Children. Sippell.
165 *Wedge Resection of Ribs to Reduce Size of Thorax in Treatment of Pulmonary Tuberculosis. M. Wilms.
166 Roentgenotherapy for Uterine Myomas. P. Strassmann.
167 *Can the Protection of a Patent Be Granted to Living Bacteria? (Behandlung der Tuberkulose mittels lebender Tuberkelbacillen.) F. Klemperer.

161. **Hyperacidity.**—Lüthje states that his extensive experience has convinced him that the best results are to be obtained by restricting the diet to milk and vegetables in the form of the Lenhartz diet, but without the meat. The symptoms of hyperacidity disappear on this diet with surprising regularity, avoiding permanently vegetables with much residue, and not returning to meat for months, and then very cautiously, dropping it again at the first sign of trouble. The modified Lenhartz course allows only two eggs and 200 c.c. milk the first day, increasing daily by one egg and 100 c.c. milk to the eighth day when the daily ration is eight eggs; 40 gm. sugar; 900 c.c. milk; 200 c.c. rice cooked in milk, and 20 gm. rolls; no butter. By the thirteenth day, the daily ration consists of eight eggs; 50 gm. sugar; 1,000 c.c. milk; 300 gm. cooked rice; 80 gm. rolls, and 40 gm. butter. The menu is continued thereafter on the same principle of a residue-poor, meat-free, predominantly carbohydrate diet. No skill is required for the preparation of this diet, and it has a curative action at the same time on any tendency to gastritis or ulcer while it supplies ample nourishment. Another advantage of this diet is that the stools can be examined any day without further preliminaries for occult hemorrhage. If milk is not tolerated, he substitutes oatmeal gruel but tries to have the milk gradually incorporated in the diet in some way without the patient's knowledge until the milk can be openly resumed. It is thus possible with tact and patience to break the reflex chain and ensure tolerance for other articles on the menu which the patient may think he is unable to digest. Psychotherapy and persuading the patient to change to more rational habits of life and thought are important adjuvants. Mild laxative mineral waters may be permitted, but no drugs; the bowel functioning generally regulates itself on the above diet. The vegetables allowed after the second or third week are spinach, cauliflower, soft mashed carrots, pea soup and tender young peas; also strained apple and plum sauce. With the above measures it is easy to keep the tendency to hyperacidity under control, but a final cure is difficult to attain as the causes of the hypersecretion are often beyond our reach.

162. **Insufflation of Oxygen in Treatment of Intestinal Disease.**—Schmidt's favorable experiences in the line of sterilizing the intestines by insufflation of oxygen were mentioned in The Journal, Feb. 10, 1912, p. 451. He here reports his further experiences to date, all sustaining his former assertions in regard to the remarkable way in which the oxygen modifies conditions in the intestines so that the morbid tendencies subside and normal conditions are restored, checking putrefaction and fermentation and thus permitting the healing of catarrhal conditions and curing dyspepsia. Small doses have a direct bactericidal action while large doses, by inducing transudation, actually promote the growth of bacteria, but the cleansing thus induced has eventually a curative influence. In disease of the duodenum, gastrogenous diarrhea, fermentation dyspepsia and catarrhs, he insufflates the oxygen by the mouth into the duodenum, through a duodenal tube, thus injecting daily 500 c.c. or even more. If it is difficult to introduce the duodenal tube, he contents himself with insufflation into the stomach, as Rotky has found that oxygen passes rapidly into the duodenum. With disease in the large intestine, he makes the insufflation through the rectum. He cites a few typical examples to show the surprising efficacy of this method of treating intestinal affections and adds that he has found it beneficial also in dyspepsia in infants. Here he introduces 100 or 200 c.c. of oxygen into the stomach and also into the rectum. In nine infants thus treated the effect was an entire success in six cases, and dubious in another. Ulcerative colitis and similar destructive lesions are naturally as rebellious to the oxygen treatment as to other measures. The mild catarrhal affections and dyspepsias respond most readily.

165. **Wedge Resection of Ribs for Compression of Lung.**—Wilms discusses the indications for and results of operative measures to reduce the size of the thorax in treatment of pulmonary tuberculosis. He compares in particular the conditions with resection of ribs and with artificial pneumothorax, and reports the results obtained by the wedge resection in twenty-four cases. He regards it as a comparatively simple operation while the results in appropriate cases are remarkable. It may sometimes usefully supplement an artificial pneumothorax when the latter has not proved entirely successful. Its special indication is a tuberculous process in one upper lobe, with a tendency to shriveling, but little if any involvement of the lower lobe, when the tuberculous process shows a progressive tendency, with recurring hemoptysis, profuse secretion and distinct cavity formation, the lesion threatening speedy involvement of the lower lobe.

167. **Can Living Bacilli Be Patented?** Klemperer states that Friedmann's application for patent protection on his turtle bacilli is very comprehensive; he seems to seek to monopolize the entire field of the treatment of tuberculosis with living bacilli. He claims "discovery," and the application speaks of the "discoverer applicant," which Klemperer regards as rather far-fetched. What was it Friedmann "discovered?" Turtle bacilli? Friedmann was the first one to find them, but any one else can find them now by looking for them. Will he claim patent protection on all the bacilli found on turtles henceforth? And the methods of cultivating, attenuating, etc., these bacilli—the technic familiar to every bacteriologist—will Friedmann claim patent rights over these? Application for a patent on living cultures of bacteria is "something new under the sun," and the outcome of the application will be awaited with interest.

Virchows Archiv, Berlin

December, CCX, No. 3, pp. 321-475

168 Changes in Appendix in General Infection and Peritonitis. K. Sugi. Commenced in No. 2.
169 Metastatic Tumors in the Spleen. (Ueber metastatische Geschwulstbildung in der Milz.) P. Geipel.
170 Blastoma in an Eel. (Zur vergleichenden Pathologie der Geschwülste.) B. Wolff.
171 Chordomas. (Ueber Chordome unter gleichzeitiger Mitteilung eines Falles von seltener Grösse.) Hässner.
172 Disease of the Blood-Vessels of the Spleen. (Blutgefässerkrankungen der Milz.) P. Geipel.
173 Staining of Glandular Organs. (Versuch einer Anwendung der Unna-Pappenheim'schen Färbung an drüsigen Organen.) R. H. Jaffé and W. Löwenfeld.
174 Senile Depressions in the Skull. (Zur Kenntnis der "senilen" grubigen Atrophie an der Aussenfläche des Schädels.) H. Chiari.
175 The Fibrin in Gall-Stones. (Bedeutung des Fibrins im Gallenstein.) H. Kuru.
176 Tuberculosis of the Hypophysis. H. Heidkamp.

Zeitschrift für klinische Medizin, Berlin

LXXVI, Nos. 5-6, pp. 375-499. Last indexed Nov. 23, p. 1930

177 Slanting Upper Aperture of the Thorax. (Neigung der oberen Thoraxapertur.) G. W. Schiele.
178 Complement Content in Body Fluids. (Untersuchungen über den Gehalt an Komplement in normalen und pathologischen Flüssigkeiten des Korpers.) S. Mutermilch and R. Hertz.
179 Serious Consequences of Chronic Spastic Constipation. (Ernsthafte Folgezustände der chronischen spastischen Obstipation. K. v. Noorden.
180 Pneumonia in Brazil. (Pneumonia in Rio de Janeiro und Pneumococciae bastardae.) A. Austregesilo.
181 Aortic Insufficiency. (Zur Frage des diastolischen Herzstosses, des diatolischen akzidentellen Tones und des Dikrotismus des Pulses bei Insuffizienz der Aortenklappen.) N. D. Strasehesko.
182 The Trypsin-Secreting Capacity of the Pancreas. (Zum klinischen Studium der Trypsinabsonderungsfähigkeit des Pankreas. W. Orlowski.
183 Ulnar Neuritis Following Typhoid. (Zur Kasuistik der Erkrankung des N. ulnaris nach Unterleibstyphus.) B. M. Dolgopol.
184 Spinal Injections of Pituitary Gland Extract. (Lumbale Hypophysininjektionen.) R. Hoffmann.

Zeitschrift für Urologie, Berlin

December, VI, No. 12, pp. 967-1121

185 Cancer of the Testicle. (Ueber die bösartigen einfachen Geschwülste des Hodens.—Karzinom, Sarkom, Adenokarzinom.) A. Vecchi. Commenced in No. 10.

Grèce Médicale, Athens, Greece

November 15, XIV, Nos. 21-22, pp. 41-44

186 History of Bulgarian Yoghurt and Its Predecessors in Antiquity. (Etude de l'origine du lait caillé oriental.) M. Moïssidès.

Gazzetta degli Ospedali e delle Cliniche, Milan

December 26, XXXIII, No. 155, pp. 1625-1632

187 The Blood-Picture in Chicken-Pox. (Osservazioni citologiche nella varicella.) E. Mensi.

December 29, No. 156, pp. 1633-1648

188 Syphilitic Lesions in the Central Nervous System. (Sifilide cerebro-bulbare.) V. D'Amico.

Semana Medica, Buenos Aires

December 5, XIX, No. 49, pp. 1161-1220

189 Treatment of Wounds. (Como deben ser tratadas las heridas para que no supuren, o detener la supuracion en el caso que esta se haya producido.) J. A. Blaksley.
190 Water, the Universal Beverage. (De ingesta, El agua, universal bebida.) V. Delfino.
191 Eugenics. (Una nueva ciencia.) V. Delfino.
192 Physico-Chemical Theory of Life. (Notas de plasmogenia.) A. L. Herrera.
193 Research on the Ora Serrata. L. G. Ortin.
194 Psychanalysis. (Aplicaciones de las Teorias de Freud.) W. F. Waugh (Chicago).

Hospitalstidende, Copenhagen

December 25, LV, No. 52, pp. 1549-1572

195 Case of Congenital Stenosis of the Aorta. C. D. Bartels.
196 *Operative Cure of Tendovaginitis with Stenosis at the Styloid Process of the Radius. (2 opererede Tilfaelde af. Forsnaeving af første Senekulisse ved Processus styloideus radii.) T. Petersen.

196. **Painful Tendon Affection at the Styloid Process of the Radius.**—The above title does not accurately designate the affection first described by de Quervain in 1895; the trouble itself is more easily defined. The patient gradually finds it more and more difficult to use one hand on account of pain in the region corresponding to the styloid process of the radius, the pain extending down into the thumb and up into the arm. The pain is elicited especially by adduction and abduction of the thumb and interferes particularly in finer movements of the thumb, picking up a needle, for instance, while larger articles can be grasped without pain. The dorsal aspect of the styloid process is tender and a stretch corresponding to the first groove for attachment of the tendon. Nothing else pathologic can be found and no benefit is derived from persevering conservative measures. Under general anesthesia an incision was made down into this first groove in one of the typical cases reported. As the incision was made the edges sprang forcibly apart and the tendon bulged out, as if it previously had been held down by a tight band. Neither the groove, the tendon nor adjoining tissues showed any sign of inflammation. The operation frees the patients at once and permanently of all disturbances from this cause. Petersen reports two cases, and others have reported similar experiences, de Quervain in thirteen cases, Flörcken in two and Poulsen in ten. Marion reported in 1903 six somewhat similar cases, only he found the region swollen, and some exudation, and his patients were all cured by blisters and a compressive dressing. In the other cases on record no benefit seems to have been derived from conservative measures. The most frequent cause is supposed to be excessive use of the hand or thumb, or special strain; it is possible that gout or chronic articular rheumatism may be incriminated. The diagnosis is easy if the possibility of the affection is borne in mind. It was called by de Quervain fibrous tendovaginitis with stenosis, but the essential feature of the affection seems to be merely a lack of proportion between the size of the tendon and of the groove that gives it attachment. The immediate and permanent subsidence of all pain and tenderness after the operation apparently excludes an inflammatory process, or if such is observed it is maintained by a kind of vicious circle. After failure of conservative measures an operation is justified but it is not necessary to resect the groove; mere slitting it seems to answer the purpose and this might be done subcutaneously. The thumb should be exercised as soon as possible after the operation to prevent adhesion between the tendons and adjoining tissues.

Ugeskrift for Læger, Copenhagen

December 19, LXXIV, No. 51, pp. 1937-1968

197 *Office Treatment of Leg Ulcer. (Gleerup's ambulatoriske Behandling af Ulcus cruris.) K. Nørregaard.

197. **Treatment of Leg Ulcers.**—Nørregaard states that he has applied in 560 cases of varicose ulcers on the leg a simple office treatment which has given constantly satisfactory results, curing in many instances ulceration of many years' standing. In one case the patient had spent so much time in bed on account of his ulcer that it totaled several years out of his life. The main point is the wearing of an elastic bandage all the time, just as a person subject to hernia wears his truss. The next essential is to keep the leg clean and free from chemicals. The physician must carefully instruct the patient in the right way to keep the leg clean. He ascribes his success in large part to this careful instruction of the patient. The elastic bandage is made of loosely twisted cotton woven over long strands of rubber, the whole forming a soft, elastic webbing. It is applied to expel the blood and is drawn as tight as the patient can bear and worn as close to the skin as the secretions permit. At night the bandage is removed and a compress moistened with dilute silver nitrate or boric acid solution is applied. In the morning the ulcer and its environment are rinsed off with pure cold water or dilute boric acid solution. Then the ulcer is covered with thin rubber tissue cut out a little larger than the area of the ulcer and dipped in cold water, then with the elastic webbing, not drawn too tight. If the secretions do not soak through too much, the bandage is not removed till night. Any spots on the bandage can be washed off with soap and water and a nail brush, and the bandage can be dry for the morning. The bandage is preferable to an elastic stocking as it fits better and permits evaporation and ventilation of the skin. The ulcers heal generally in six or seven weeks; sometimes large ulcers heal more quickly than small. Nørregaard queries why the leg and the stomach seem to suffer most from ulcers, and he answers his query by pointing to the influence of gravity. Treatment must aim to relieve the lesion from the influence of gravity. He has his patients return about twice a week and each time the cleansing process is repeated until he is convinced that the patient can attend to it properly himself.

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THE USE AND ABUSE OF BACTERIAL THERAPY *

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As one of the earlier pupils of Wright at St. Mary's Hospital, London, I trust that some of the things I shall say in the discussion of this subject may not seem to be at variance with the teachings of that brilliant student of immunity. There can be no doubt of the value of his researches and their practical application in that realm of medicine with which we are so frequently concerned. But as often happens with any more or less complicated and difficult mode of procedure, the method has been misunderstood and misapplied by many whose optimism carried them further than the facts warranted. It will not be necessary to discuss in detail the features of immunity conferred by the inoculation of bacterial cells or their products in the varied types of infection to which the method is applicable, but rather to consider the practical aspects of treatment involved.

If success is to be secured it will be necessary, in the consideration of any infection, to obtain certain definite information on the following points:

1. The localization of the infection, whether general or focal, whether pyemic or septicemic, whether saprophytic from retained necrotic tissue, whether acute or chronic, as well as other factors, such as local tension of the focus of infection under pressure, and the local blood-supply.
2. Definite knowledge of the predominating type of infection present and of the secondarily infecting organisms.

Speculation should not enter into the consideration of the rational worker, for, if definite knowledge in the application of the method is lacking — if hit-or-miss empirical therapy is employed — the guess may as well be wrong as right and the method discredited. One should remember that bacterial vaccines are toxic products, capable of good or harmful results, according to the method of use. No one will deny the value of morphin within certain limitations, but we all condemn its promiscuous administration. It is safe to conclude that if we depended more on first-hand information obtained by methods of clinical research and less on the advertisements of well-meaning manufacturers of biologic products, in which the evidences of clinical research are many times lacking, the practical results of bacterial therapy would be better.

The statement has repeatedly been noticed, in certain trade journals devoted to biologic products, that the use of vaccines can do no harm. One such journal† has recently recommended the use of mixtures of bacteria for such conditions as vertigo, pruritus ani, hay fever, rheumatism and sciatica. It has also published an article dealing with the treatment of gall-stones by vaccines and mentioned an abstract in which heart-block is spoken of as a streptococcus infection. The concern under whose auspices this journal is published has advertised at a recent medical meeting the use of vaccines in appendicitis. The motive in such instances is not difficult to discern. There may be some ground for the belief that if vertigo, as a symptom, is the result of middle-ear infection or infection of the sinuses, relief may be obtained through the administration of a suitable vaccine, providing free drainage is maintained. But it is, of course, irrational to advise the use of vaccines, without the preliminary bacteriologic knowledge first necessary, and to disregard other possible causes. Likewise in heart-block it is a far from desirable mental attitude to disregard the commonly known etiologic factors and to select a possible cause too remote for serious consideration.

RHEUMATISM

It may not be out of place at this time to speak of the therapy of rheumatism by a now well-advertised bacterial product called "Rheumatism Phylacogen." In the first place, the etiology of acute or chronic rheumatism is unknown and the treatment purely empirical. If the bacterial factors were known and could be isolated, it is possible that good results might be obtained from bacterial therapy. But until such knowledge is available, the treatment is speculative. To inoculate individuals with heterogeneous mixtures of bacteria, hoping to benefit those with gouty types of arthritis or those with atrophic eroded cartilages in arthritis deformans, both of which come under the broad conception of rheumatism, is of course ridiculous. It is not intended to convey the impression that joint manifestations and disability may not result from chronic focal infections elsewhere in the body. Instances are common due to chronic infected necrotic masses in the tonsils, to chronic sinusitis or to pyorrhea alveolaris, in which the joint manifestations clear up when the cause is removed. In such cases a supplemental course of vaccine therapy with the organisms isolated from the focus of infection, might augment the patients' resistance after the removal of the cause and as such would be rational treatment.

The preparation "Rheumatism Phylacogen," however, is made up of the metabolic products of a number of strains of pathogenic bacteria, and may truly be called a shotgun mixture with no scientific basis for its use. Other products such as "Gonorrhea Phylacogen," "Erysipelas Phylacogen" and "Mixed Infection Phylacogen" are on the market.

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* An address before the Kent County Medical Society, Grand Rapids, Mich., Oct. 9, 1912.

† The Bacterial Therapist, G. H. Sherman, M.D., Editor.

In connection with this subject, it may be of interest to quote from a recent reply by the editor[1] of The Journal to a correspondent:

> The resolution of our correspondent not to use this remedy since he knows nothing of it, except the information furnished by its promoters, is the proper one. Physicians have no moral right to employ remedies of whose nature they are ignorant, nor should they accept the statements of interested parties who fail to give them scientific information. "Rheumatism Phylacogen" is one of the series of proprietaries now being put on the market, based on a theory of the originator that it is possible and necessary in every infection, not only to combat the action of the principal causative agent, but also to counteract the influence of other organisms, supposed to be always present, which produce a mixed infection. For meeting this supposed mixed infection, a mixture of the metabolic products of a large number of organisms is made the base of the remedy to be administered. For instance, if the patient has pneumonia, the action of the pneumococcus may be aggravated by the streptococcus, and, therefore, a dose of streptococcus poison is added to the treatment. For fear the meningococcus may be overlooked, some of its metabolic products are added, and so forth. We have no definite information as to the particular organisms whose metabolic products enter into this "shotgun" base, so that the remedy is essentially a secret one. Moreover, as it is said to be produced by the action of pathogenic organisms, it must be of the nature of a toxin and presumably a dangerous one. In any event, until reliable, unbiased evidence as to its composition and action is available, it must be presumed that the injection of these toxins of unknown origin may have an injurious effect. . . .
>
> The honest physician—one who is honest with himself and with his patients—will not lend himself to such experimentation. Let any one who undertakes the use of such a remedy remember that if bad results ensue, he, and not the manufacturer, will be held responsible.

I am aware that many physicians may be able to testify from their experiences that good results have been obtained from the use of these preparations. So are we familiar with many vaunted but now forgotten cures. The fact remains that such improvement as seemed to follow in certain instances has probably resulted in spite of the treatment, not because of it.

TUBERCLE INFECTIONS

In 1909 and 1910, I published the results we had been able to obtain in a limited number of cases of tuberculosis treated with different forms of tuberculin. In some of these opsonic determinations were made, in others the agglutination of the dead tubercle bacillus by the patient's serum, in others the precipitin reaction with the serum, while in others the clinical evidences alone served as a basis for the administration. None of these methods to control the administration of tuberculin sufficed in all cases; for what served as a sufficient immunizing response in one served to produce in others a prolonged negative phase of diminished resistance. I am convinced of the good results which may follow the administration of tuberculin in suitable cases, in suitable institutions, by men experienced in its use. As Pottenger has aptly said, "A hypodermic syringe filled with tuberculin cannot cure tuberculosis. It requires an intelligent brain to guide it."

There is at the present time, however, no adequate method of controlling the dosage. The opsonic index is but one of the methods of estimating the phase of immunity present, and since, in considering the index alone, we neglect other equally important phases of the process, such as the agglutinins, bacteriolysins and bactericidins, it is apparent that the knowledge obtained is incomplete. While half the truth is better than none at all, in this instance it does one little good, for it is a matter of common experience to see patients improve with a persistently low opsonic curve, while others may not be doing well with a persistently high index. I have never been able to satisfy myself that tuberculin-treated patients, in the aggregate, improved any more under its use than those without it.

I have, on the contrary, repeatedly seen harmful results from its indiscriminate use, in which, without careful attention to the clinical symptoms after each dosage, the physician blindly followed the serial dilution recommended by the manufacturer, with the result that he overwhelmed his patients with doses of toxins against which the immunizing machinery was already taxed to the utmost. There can be no doubt that lowered resistance, due to large doses of tubercle toxin, may be responsible for pleurisies with effusion developing in the course of otherwise favorably progressing lesions, for the suppuration occurring in glands which might otherwise have become healed with fibrous tissue, for hemoptysis which occasionally occurs, and for nephritis which may be transient or permanent.

There is much evidence to show that Nature makes the endeavor to auto-inoculate tuberculous individuals by setting free into the circulation toxins or endotoxins from the infected tissues through overactivity. If slight exercise causes a rise in temperature, with any marked degree of index alteration or with auscultatory changes over the lungs, it is certain that auto-inoculation is taking place. It is difficult and, indeed, practically impossible to control the degree of auto-inoculation by exercise, and patients who give evidence of continual auto-inoculation should have their amount of exercise restricted. This includes deep breathing.

The most favorable cases for vaccine treatment are those of chronic type in good nutrition and with no complications; those considered under the head of slowly advancing lung involvement with little or no fever, or other evidence of secondary infection, in whom, due either to an avirulent strain of bacillus or to good resisting powers, the progress of the disease is not rapid.

The acute early pulmonary cases with advancing involvement and active symptoms, such as rapid loss of weight and fever, will do better if the five classical essentials for the management of such cases are supplied, namely, (1) intelligent supervision, (2) fresh air, (3) sunshine, (4) good food and (5) rest.

In the treatment of tuberculous glands and sinuses, we are all aware of the unsettled controversy concerning the rôle played by bovine tubercle bacilli in these conditions. The consensus of opinion is against the view of Koch, who has reiterated his unbelief in the infectiousness of bovine tubercle for man. In intestinal tuberculosis, scrofulous glands and in many tuberculous sinuses leading from joints or bone, the bovine type of bacillus has been found. Dowd's[2] figures give 31 per cent. of twenty-nine cases of cervical tuberculous glands due to the bovine type. Moss[3] has stated that bovine bacilli were demonstrated in 20 per cent. of 306 tuberculous individuals, while the feeding experiments of Vansteenberghe and Grysez have proved that tubercle bacilli were absorbed by the intact intestinal mucosa and that extensive deposits were found later in the mesenteric glands, lungs and viscera. This may occur whether the human or the bovine type is the infecting agent. Ritchie[4] has recorded undoubted cases of lung infection by bacilli of the bovine type and Grober's demonstration of a direct connection between the cervical lymphatics and the pleura and lungs explains the possibility of lung infection by either type of bacillus by extension from the tonsils.

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[1] Queries and Minor Notes, The Journal A. M. A., Aug. 10, 1912, p. 464.

[2] Dowd, C. N.: Surg., Gynec. and Obst., March, 1909.

[3] Moss, W. L.: Bull. Johns Hopkins Hosp., February, 1909.

Since then, in the consideration of this problem, without the elaborate laboratory facilities necessary to determine in each instance the type of organism present, whether in lung, pleura, gland or bone, it seems irrational to employ tuberculin promiscuously as a matter of experiment. It has certainly been natural to those of us who have watched the results obtained to question the advisability of its general use. On the other hand, if for one reason or another it is decided best to administer tuberculin, small doses, from 1/1,000 to 1/100 mg. according to Wright's method, have the advantage of comparative safety and are therefore to be recommended. In surgical tuberculosis, tuberculin therapy has given good results according to Hastings'[5] recent comprehensive article, if overdosage is carefully avoided and if attention is paid to the secondary infecting organisms. I doubt, however, if any surgeon can show that patients with tuberculous glands do not have so many recurrent operations under tuberculin treatment as those without it.

THE BACTERIEMIAS

I have had good results in the treatment, by means of an autogenous vaccine, of a few patients with streptococcus septicemia. On the other hand, I am not convinced, despite the rapid increase of favorable literature on the subject, that the results secured by vaccines will be any better than the results secured through the use, in suitable cases, of antistreptococcus or streptolytic serum and normal human serum. The results with bacterial vaccines have been gratifying in a few instances. In one patient, following an abortion between the third and fourth month of pregnancy, there was a rigor on the sixth day. The lochia were serosanguineous and foul in odor. Blood-cultures gave colonies of hemolytic streptococci on blood-agar. Some placental masses and clots were washed out of the uterus and an injection of 50 millions trivalent streptococcus stock vaccine was given. The temperature ranged from 103 to 104 F. The patient's condition was complicated by an infective periostitis and arthritis involving the right humerus and fibula. In all, six injections were given. The temperature reached normal on the seventh day of treatment, and the recovery of the patient was uneventful.

In this connection the work of Lea and Sidebotham[6] and of Heyemann[7] serves to bring to mind facts known before, but not generally appreciated, in reference to the presence of organisms in the parturient uterus. Lea and Sidebotham found that in 20 per cent. of fifty-eight cases hemolytic streptococci were present during the puerperium and yet produced no symptoms; while Heyemann found hemolytic streptococci in the lochia and blood of 17 per cent. of 125 puerperal cases with fever.

In Heyemann's series only those patients died whose blood contained streptococci, while those recovered in whose lochia, but not in whose blood, streptococci were found, even though accompanied by high temperature and evidence of serious infection.

The conclusion reached by these authors is that the presence of hemolytic streptococci in the lochia, or vaginal secretion, cannot, in itself, be considered an indication of systemic infection. It is obvious that in many cases of apparent septicemia the patients recover without specific therapy, and, as stated by Potter,[8] one must be careful in attributing the cure solely or partly to the treatment employed. The presence of hemolytic streptococci in the cavity of the parturient uterus undoubtedly increases the danger of systemic infection. It is a curious fact that such a comparatively large percentage of parturient uteri with fever contain them and no other serious symptoms follow.

In arriving at a diagnosis, by no cultural methods unfortunately can the virulent strains of organisms be differentiated from the non-virulent. It is essential, therefore, in order to obtain with certainty the strain doing the damage in septicemias, to obtain the culture for the preparation of the vaccine directly from the blood-stream. This is easily done by puncturing a vein with a sterile syringe with a capacity of from 2 to 5 c.c. containing a cubic centimeter or two of sodium citrate or ammonium oxalate solution to prevent clotting. The blood is then inoculated into tubes of sterile broth, ascitic broth or serum broth. If it is not possible to do this, a polyvalent vaccine corresponding to the predominant organisms present in the cavity of the uterus may be used. Probably from 70 to 80 per cent. of puerperal septicemias are due to streptococci or mixed infections of strepto-colon bacilli.

In considering the enormous mortality of puerperal septicemia, it goes without saying that vaccine inoculations or any method of rational procedure offering the slightest hope should be utilized. The attempt, so often made, however, to transfer active immunity in an animal by means of the blood-serum to a patient in this type of infection leads in a majority of cases to failure. On the other hand, I have seen beneficial results follow the use of antistreptococcus, streptolytic and normal human serum in a few cases of septicemia complicating tonsillitis and scarlatina. So far as I am aware there has been no reported recovery in *Streptococcus viridans* septicemia by any mode of treatment. These cases seem to be inevitably fatal.

Reasoning from present-day conceptions of the problems of immunity it may seem unreasonable to expect beneficial results to follow the administration of bacterial vaccines in the treatment of septicemic infections. In fact, the whole question is still *sub judice*. There can be no serious objection, however, to the use of appropriate serums as well as the use of bacterial vaccines in septicemia, when the dosage of the vaccines is controlled by appropriate bacteriologic studies so far as practicable in each case. In 1910, a patient with septic endocarditis and septicemia of six weeks' standing following curettage and septic thrombosis or embolism of pelvic veins was treated successfully by means of bacterial vaccines. The blood-culture showed a *Staphylococcus aureus*. The patient was given doses of from 200 to 300 millions every five days for about ten weeks; recovery followed, although of course the valvular damage was permanent.

Typhoid fever is a bacteriemia and as such has been treated by bacterial vaccines with beneficial results by

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[4] Ritchie, L. C. P.: Lancet, London, Nov. 16, 1907

[5] Hastings, T. W.: Am. Jour. Med. Sc., August and September, 1912.

[6] Lea, A. W. W., and Sidebotham, E. J.: Jour. Obst. and Gynec., Brit. Empire, January, 1909.

[7] Heyemann, T.: Arch. f. Gynäk., 1908, lxxxvi, No. 1.

[8] Potter, N. B.: Further Observations on Opsonins in Normal and Pathologic Serums, THE JOURNAL A. M. A., Nov. 30, 1907, p. 1815.

Watters and Eaton,[9] Callison,[10] Elliott,[11] Leishman,[12] and Meakins and Foster.[13] Bacterial therapy in typhoid is an open question, but, if used at all, the dosage should be large enough to secure evidence of protective response as measured by the only practical method now available, namely, increased agglutinative power on the part of the patient's blood. Smallman[14] has found that 300 millions represent the minimum efficient dose, although Watters and Eaton believe a dose of from 50 to 100 millions sufficient.

In typhoid fever, the varying virulence of different epidemics of the disease make it necessary to exercise care in the consideration of statistics as the result of any single form of treatment.

Typhoid vaccine may be used to advantage in the treatment of typhoid carriers. I have in the past two years reported two such instances.[15]

In gonococcic endocarditis and bacteriemia, I have seen beneficial results in one instance follow the use of antigonococcic serum and gonococcic vaccine. As mentioned above, there can be no serious objection to this method of treatment in any of the bacteriemias provided the necessary bacteriologic studies are made to insure appropriate correctness of diagnosis and dosage. In gonococcus arthritis, the sequel of bacteriemic invasion, good results may be expected from the use of bacterial vaccines, when combined, in my experience, with Bier's passive hyperemia. It has been found wise to begin with small doses, according to the virulence of the vaccine strain and to increase gradually, depending on signs of local and general reaction.

LOCALIZED STAPHYLOCOCCUS INFECTIONS

Possibly the most gratifying results in bacterial therapy have been obtained in the treatment of localized abscesses, furuncles or carbuncles due to staphylococci. I treat such conditions as follows: early incision to allow the escape of stagnant lymph, at which time a culture is taken; a Bier suction-cup is then applied for perhaps five minutes, after which a compress is applied, to be kept moist with a solution of sodium citrate 1 per cent. and sodium chlorid 2 per cent. This serves two purposes, to keep the flow of lymph by osmosis outward because the salt solution is hypertonic and to prevent the obstruction of free drainage, by clotting, since the lymph is decalcified by the sodium citrate. It is one of the essentials of bacterial therapy to keep at the point of infection a fresh supply of blood and tissue lymph. An injection of a stock staphylococcus vaccine is made until the autogenous vaccine is ready for use. The results by this mode of treatment have been better than by any other method. In fact, it may be stated that in any localized infection due to staphylococci, such as empyema wounds, sinuses, and adenitis, good results may be expected from bacterial vaccines providing free drainage and fresh blood-supply to the infected area are maintained.

In acne due to staphylococcus, the results have been good when combined with curettage of the face and hot applications to increase the blood-supply. With the acne bacillus vaccine our experience has not been satisfactory.

In one patient, the first to whom I applied the principle of vaccine therapy five years ago, an empyema pleurae following measles was treated by excision of a portion of two ribs and evacuation of nearly two quarts of pus. The lung gradually expanded and almost filled up the cavity, which, however, continued to discharge for five months. Antiseptic irrigations of all kinds were used and on several occasions the attempt was made to do away with the tube, but such attempts were followed by rise of temperature and chills. A culture from the wound showed *Staphylococcus aureus* from which a vaccine was prepared. After four inoculations, four to six days apart, the discharge was lessened. After six, the tube was removed permanently with prompt closure of the sinus. The patient has remained perfectly well.

In this connection, concerning the use of antiseptic irrigations in infected wounds, there is much to be said. Reasoning from our latter-day knowledge, little seems to be gained through their use except the mechanical removal of septic material, which can be as well accomplished by the use of a hypertonic salt solution, which tends to keep the flow of lymph by osmosis outward. We shall, in fact, accomplish much more by abstaining from the use of solutions damaging to the vitality of tissue, blood and lymph phagocytes thrown out in the wound area.

In six cases of staphylococcus sycosis a prompt cure followed two or three inoculations of a polyvalent staphylococcus vaccine. No other treatment was used except daily shaving and a bland ointment.

Ten cases of acute otitis media with perforation following influenza and measles were apparently benefited by the use of an autogenous vaccine. All were due to *Staphylococcus albus* and *aureus*. The discharge, which had been profuse for three or four weeks before the inoculations, was absent after two or three inoculations at five-day intervals. In two instances of chronic otitis media the *Bacillus pyocyaneus* was isolated. They were not improved by autogenous vaccines.

LOCALIZED GONOCOCCUS INFECTIONS

Any one who has treated a number of cases of gonorrheal vulvovaginitis in children realizes how difficult, prolonged and unsatisfactory the treatment is apt to be. The ordinary procedures — daily douches of mercuric chlorid or compound solution of cresol followed by swabbing the entire surface of mucous membrane with 25 per cent. argyrol or 1 to 2 per cent. silver nitrate solution, or, if the child is not too small, insufflations of protargol powder into the vagina after the method of Dr. Robert S. Walker, a method which should be more generally used — have been followed in my hands by bacteria-absent smears only after prolonged treatment. The use of a polyvalent vaccine, grown for some time on artificial mediums, has seemed materially to shorten the disease.

Vaccines prepared from freshly isolated strains of gonococci do not seem to give so good results as older strains and there appears to be no advantage gained from the use of an autogenous vaccine. The good results obtained by Butler and Long[16] and by Hamilton and Cook[17] are worthy of mention. Acute cases of gonorrheal vulvovaginitis improve more rapidly as a rule under vaccine than those which receive the ordinary routine treatment. The best effects are to be expected in chronic cases. The opsonic index is not essential to treatment. I have treated several patients with gonorrheal inguinal adenitis by the injection of a polyvalent vaccine. One patient has been operated on twice for suppurating glands and part of them were removed each time. The remaining glands had subsequently become indurated and enlarged, and discharged a secretion, cultures from which showed a secondary infection with *Staphylococcus aureus*. A combination vaccine was used; the glands were much reduced in size after four injections and absent after six. In two other patients, the glands were enlarged to egg size, but were much reduced and the discharge absent after six to eight inoculations.

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[9] Watters, W. H., and Eaton, C. A.: Boston Med. and Surg. Jour., 1909, clx, 508; Med. Rec., 1909, lxxv, 93.

[10] Callison, J. G: Med. Rec., 1911, lxxix, 1129, 1161; Post-Graduate, 1911, xxvi, 718; Am. Jour. Med. Sc., 1912, cxliv, 350.

[11] Elliott, J. B.: South. Med. Assn.; abstr. in The Journal A. M. A., Dec. 2, 1911, p. 1861.

[12] Leishman, W. B.: Glasgow Med. Jour., 1912, lxxvii, 401; abstr. in The Journal A. M. A., July 27, 1912, p. 311.

[13] Meakins, J. C., and Foster, L. S.: Canadian Med. Assn. Jour., 1911, i, 496.

[14] Smallman: Jour. Royal Army Med. Corps, 1909, xii, 136.

[15] Stone, W. J.: The Treatment of Typhoid Bacillus Carriers, The Journal A. M. A., Nov. 12, 1910, p. 1708; Am. Jour. Med. Sc., April, 1912.

[16] Butler, W. J., and Long, J. P.: The Vaccine Treatment of Gonorrheal Vulvovaginitis in Children, The Journal A. M. A., March 7, 1908, p. 744.

[17] Hamilton, A., and Cook, J. M.: Jour. Infect. Dis., 1908, ii, 158.

The dose of vaccine depends on the amount of the clinical reaction obtained. In gonorrheal arthritis this reaction consists of slight rise of temperature and malaise with increased tenderness and pain in the affected joints, lasting from six to twenty-four hours after an injection. The best results are apparently obtained when the dose is large enough to produce a slight reaction. I have rarely exceeded 25 millions with the strains making up my vaccine, but Cole and Meakins[18] have used from 300 millions to 1,200 millions in gonorrheal arthritis, while Irons[19] has used 20 millions to 500 millions.

LOCALIZED INFECTIONS WITH B. COLI COMMUNIS

I have treated about twenty infections following appendicitis due to the colon bacillus, in which the wound area was soiled, either at the time of operation through the rupture of an adherent fragile appendix or previously. Each of the patients was discharged with the wound healed on an average three and one-half weeks after operation. The purulent discharge was in each case profuse, but was lessened after the second or third inoculation with a vaccine prepared from the patient's organisms and begun as soon as possible after the pus appeared. The dose varied from 30 to 50 millions every third day. The average stay of twenty-five cases with wound infection treated in the same institution and under similar conditions, but without vaccine, was approximately six weeks as contrasted with three and one-half weeks for the twenty patients treated with vaccine.

The success of the treatment in one patient is worthy of mention. He had been operated on for appendical abscess eight weeks previously in a distant city. Following the operation there was a purulent discharge for six weeks; then the wound closed and the patient was allowed to leave the hospital. A few weeks afterward the wound opened. At this time pus and gas were discharged from the wound. A small perforation of the bowel at the bottom of the wound had taken place, and the patient was thoroughly septic. Pus also appeared in the urine, due to bladder infection from the abscess, and the bowel evacuations contained pus. A pure culture of the colon bacillus was obtained from the wound. An autogenous vaccine was made and an inoculation given every three to four days. After the second inoculation, the pus was diminished in the urine and from the wound. After three inoculations the wound was surgically clean; gas was no longer discharged and the wound soon healed. In all, four inoculations were given and the patient has remained well.

In cystitis due to the colon bacillus, so common in women, the results in many instances have been gratifying. One case cleared up after two inoculations. The patient had previously been treated by bladder irrigations and instillations, with little improvement during four weeks. In one patient with a fecal fistula following a lateral ileocolonic anastomosis, in which an autogenous colon vaccine was used, the results were not satisfactory. The leaking point in the bowel was so large as constantly to allow reinfection. In two cases of acute rectal fistula a colon vaccine was used with good results.

The result in one recent instance of pyelitis of pregnancy, due to the colon bacillus, is worthy of mention. At about the fifth month, this patient began to pass large quantities of pus and blood with the urine. The temperature ranged from 101 to 103 F. with occasional chills, which condition had persisted for about one month and was not amenable to any form of treatment by the attending physician. After the second dose of an autogenous vaccine, the temperature dropped by crisis to normal and so remained. In all ten or twelve doses were given. Varying quantities of pus persisted for several weeks thereafter, but the patient's general condition so much improved that she was delivered at term of a healthy child.

LOCALIZED PNEUMOCOCCUS INFECTIONS

In a self-limited acute disease like pneumonia, it does not appear that much can be accomplished by specific bacterial treatment. In "unresolved" pneumonia the use of a vaccine may be followed by good results. Patients with pneumonic empyema pleurae usually promptly recover with drainage, many of them by aspiration, but if complicated by secondary infection an appropriate vaccine will shorten the period of suppuration. In one patient with chronic frontal sinusitis and chronic empyema of the antrum, due to the *Micrococcus tetragenus* and the pneumococcus, in which an autogenous vaccine was used, the result was good after prolonged treatment.

In long-standing infections of this nature the lining of the cavities has become so altered through the formation of granulation tissue low in vitality, the so-called "pyogenic membrane," that it is difficult to bring to the area involved a sufficient amount of opsonin-containing blood. Likewise, in septic sinuses leading from a portion of necrotic bone, while the condition may be improved and the discharge of pus lessened through the use of a bacterial vaccine, little more than an amelioration of the symptoms may be expected until the necrotic bone is removed.

LOCALIZED STREPTOCOCCUS INFECTIONS

In tonsillitis and the adjacent adenitis, due to the streptococcus, good results may be expected from the use of a stock streptococcus vaccine. Likewise in infected sinuses leading from joints or bone, due to the streptococcus, good results may be expected providing free drainage and fresh blood-supply are secured. In the treatment of certain postscarlatinal complications, such as periostitis or localized abscesses due to streptococcus, the use of an autogenous vaccine is indicated. In erysipelas the results with stock streptococcus vaccine have been satisfactory when combined with local applications of a saturated solution of magnesium sulphate.

THE USE OF BACTERIAL PRODUCTS FOR DIAGNOSIS

An injection of gonococcic vaccine will often differentiate a gonorrheal joint from gout, rheumatic arthritis or tuberculosis. In a gonorrheal joint the pain, tenderness and redness are increased during the height of the reaction, if the vaccine is potent and the dosage sufficient. On the other hand, excessive dosage is to be avoided, for what has been mentioned above in connection with tuberculin as detrimental to the interests of the patient and to the method, holds good in connection with any of the bacterial products. I have, on numerous occasions, seen an epididymitis follow so closely a large dose of gonococcus vaccine as to leave no doubt as to its cause.

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[18] Cole, R. I., and Meakins, J. C.: Bull. Johns Hopkins Hosp., 1907, xviii, 223.

[19] Irons, E. E.: Jour. Infect. Dis., 1908, iii, 279.

In tuberculosis it is now generally conceded that the cutaneous reaction of von Pirquet, the reaction of Moro, the intradermal reaction of Mantoux and Moussu, the ophthalmic reaction of Calmette and the older method of subcutaneous injection have all been of value in diagnosis. My own preference in any doubtful condition has been for the subcutaneous injection of 1 mg. Old Tuberculin with the patient in bed, and to watch for subsequent auscultatory changes and fever. If no reaction occurs in two or three days, 5 mg. are injected and the focal symptoms watched as before. A third injection of 10 mg. may be given if necessary. One can assert, however, with considerable positiveness, if no focal or general symptoms follow the injection of 5 mg., that the patient has not an active tuberculosis.

A negative von Pirquet skin test is also of value in excluding a latent tuberculosis, although a positive reaction may not indicate that the process under consideration is then active. A positive reaction may only indicate that the individual has at some time had an active tuberculosis. It is true, on the other hand, that in active tuberculosis the reaction is often more intense than in the latent non-active types and as such is often of confirmatory value.

In typhoid fever, despite the statement of von Pirquet that a state of sensitization or allergy does not exist in this disease, Chantemesse[20] has described an ocular diagnostic test. He has used a dilution of the bacterial cellular proteids for instillation. The test has recently been applied by Austrian[21] in seventy-five cases of typhoid with positive results in seventy-one. As a diagnostic method the test gives much promise of usefulness.

Prendergast[22] has recently described a new test for typhoid which consists of the intradermal injection of a small dose, 5 millions, of typhoid vaccine. In the nontyphoid patient there becomes apparent within twenty-four hours an area of redness about the site of the injection, while in the patient with typhoid there is no reaction whatever. Such a test may have a negative if not a positive value.

THE USE OF BACTERIAL PRODUCTS FOR PROPHYLACTIC PURPOSES

To Wright must be given great credit for his pioneer work in the prophylaxis of typhoid fever by means of the injection of typhoid vaccine. The value of this work is just being appreciated. The results of such prophylaxis in the British, German and American armies are convincing. But the use of typhoid vaccine should be more general. In institutions where sporadic or endemic typhoid may arise, the well inhabitants should be immunized. This is particularly necessary in general hospitals where examples of contact infection among nurses, orderlies and physicians are common. In many large hospitals, all nurses, orderlies and interns are now immunized on beginning their service. Other progressive institutions should follow the example. It is to be hoped that as a means of furthering their sphere of usefulness, municipal boards of health will offer free immunization to all who apply. The cost will be small and the results will have great prophylactic and educational value. This will be especially worth while in localities where the disease is more or less constantly endemic. The immunity lasts from three to six years, possibly longer.

The recent studies of Sophian and Black[23] in prophylactic immunization against epidemic meningitis are worthy of special mention. They have been able to demonstrate increased agglutinins, from 1 in 200 to 1 in 1,500, in the patients' serum, after three injections of the vaccine; while immune bodies could be demonstrated by complement fixation as early as the fourth day after the first injection. The highest fixation was obtained in dilution 1 in 250 and occurred about three weeks after the beginning of vaccination. Three injections appeared to give the desired results; the first dose of 500 millions, the second and third of 1,000 millions each at weekly intervals. Some local and general reaction follows the injections but most of the symptoms have disappeared in from twenty-four to thirty hours. The immunity lasts at least one year.

Since epidemic meningitis is transmitted largely by healthy carriers of the meningococcus, vaccination of those who have been exposed and who themselves may be "contact carriers" becomes a matter of importance. The number of healthy carriers in an epidemic is much greater than the number who may be ill with the disease, but of course one can never be certain that a temporarily lowered resistance may not render the carrier susceptible. It would seem best, therefore, to vaccinate all exposed to the disease during an epidemic, especially those in whose families the disease has occurred as well as nurses, orderlies and physicians.

In scarlet fever we have attempted to immunize those exposed to the disease by means of a stock streptococcus vaccine. While we have had no instances of subsequent infection there are several factors which serve as argument against its use. The streptococcus has not been definitely shown to be the causative organism in the disease and if it were, the short period of incubation would probably leave insufficient time for immunization by vaccines.

PLEURAL EFFUSION DUE TO ARTIFICIAL PNEUMOTHORAX

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In a paper on the complications of artificial pneumothorax, Weiss[1] estimates that in about 50 per cent. of the cases an effusion develops on the treated side. In spite of this frequency there appear to be comparatively few American articles dealing with this subject, judging from the abstracted and complete papers which I have read.

Harris[2] records two cases, one occurring during the course of treatment, the other five months after discontinuing treatment. Pleurisy with effusion is reported by Hamman and Sloan[3] in two of their cases, but the side affected is not mentioned. Sloan[4] speaks of four cases of pleural effusion occurring in six cases of artificial pneumothorax progressing favorably. Undoubtedly, the great majority of these effusions are insignificant in character. At times they pass unrecognized till they are revealed by the *x*-ray.

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[20] Chantemesse, A.: Deutsch. med. Wchnschr., 1907, xxxiii, 1572.

[21] Austrian, C. R.: Bull. Johns Hopkins Hosp., 1912, xxiii, No. 251.

[22] Prendergast, F. A.: Med. Rec., Dec. 30, 1911.

[23] Sophian, Abraham, and Black, J.: Prophylactic Vaccination Against Epidemic Meningitis, THE JOURNAL A. M. A., Aug. 17, 1912, p. 527.

[1] Weiss, A.: Complications Liable in Treatment with Artificial Pneumothorax, Beitr. z. Klin. d. Tuberk. xxiv, 333; abstr., THE JOURNAL A. M. A., Nov. 9, 1912, p. 1752.

[2] Harris, S. T.: Treatment of Pulmonary Tuberculosis by Compression of Lung, Jour. Med. Assn. Ga., August, 1912; abstr., THE JOURNAL A. M. A., Aug. 24, 1912, p. 675.

As this subject is fully treated in the article by Weiss,[1] I shall refer but briefly to our experiences at the Phipps Institute.

Here seven patients, all with far advanced cases, have received artificial pneumothorax, and of these three have developed effusions on the treated side. The succussion splash was present in all the cases, though none of the patients detected the splash on the first occasion when it was heard by the physician. In one case percussion failed to indicate fluid at the time the succussion splash was first audible. In all three cases the pneumothorax was complete and has remained so till the present, though from four to six weeks have elapsed since the injections were discontinued. In all the cases the quantity of fluid was small, and no appreciable effects were produced. The fluid was recognized from two to three months after institution of treatment, and from four to six weeks after its suspension. The *x*-ray and aspiration were not resorted to in any of the cases. In two the total effect of the treatment has been uncertain; in one case the disease has progressed. Initial injections varying from 250 to 450 c.c. were made; the largest amount given at any one injection was 750 c.c., and the intervals between injections ranged from three to twenty days.

The nitrogen in these cases was injected by Dr. John Speese.

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BENZOL IN THE TREATMENT OF LEUKEMIA

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Benzol (benzene not benzin) has recently been used as a drug in the treatment of leukemia, Von Koranyi[1] being the first one to employ it thus. He was induced to do so, it is said, because of the result of benzol poisoning on girls working in a factory where benzol was used as a solvent for rubber as a cement in the manufacture of tin cans.

Selling[2] reported three cases of poisoning in patients admitted to Johns Hopkins Hospital in 1909, two of whom died and came to autopsy. The patients suffered from purpura hemorrhagica with aplastic anemia and aplastic bone-marrow. In the remarks made on the condition of these patients it was stated that the anemia was aplastic with only slight changes in the appearance of the red cells, except a slight pallor and slight anisocytosis. No regeneration forms of the red cells and no normoblasts were found and only one megaloblast. Platelets were few. There was diminution in the granular type of leukocytes and relative increase in mononuclear types. A leukopenia was also noted.

Koranyi treated a woman aged 32, with enlarged spleen of seven months' duration, who complained of weakness, pain and tenderness in the sternum with a blood-count of reds 3,100,000, whites 220,000, with polynuclears 70 per cent., and myelocytes 16 per cent. Patient received *x*-ray treatments for a period and, Feb. 14, 1912, benzol in the amount of from 3 to 4 gm. per day was given. In April the whites were reduced to 65,000, and by the middle of May to 8,000 with a corresponding improvement in general health. Koranyi states that there were no failures with benzol in chronic leukemia; that the spleen and lymph-nodes were less affected by the remedy; that benzol alone was of benefit, but was more gradual in its effect than *x*-ray, but succeeded where roentgenotherapy fails; that patients who had received *x*-ray treatments responded to benzol medication more readily than those who had not had the *x*-ray treatment. He noticed no serious ill effect. The main disagreeable symptoms noted were a sense of burning in the stomach with the eructation of gasoline-like-tasting fluid, transitional tracheobronchitis and dizziness. He gave the medication in capsules with an equal amount of olive oil.

Koranyi states that he had used benzol also in polycythemia chronica with splenomegaly. At first it seemed to stimulate the bone marrow with resulting increase in the number of red cells from nine to ten millions, but in three weeks the number fell to 6,700,000. The patient then considered himself cured and disappeared.

Selling[2] quotes from Santesson,[3] who experimented on rabbits by injecting benzol subcutaneously and also by wrapping the animals in cloths soaked in benzol. Both procedures produced chronic poisoning with characteristic hemorrhages in pleura, lungs and mucosa of stomach, fatty degeneration of organs and aplastic bone-marrow.

Keralyfi[4] reports seven patients given systematic treatment with benzol. He administered the drug with an equal amount of olive oil in capsules, and the dosage used was from 3 to 4 or even 5 gm. per day. He states that the leukocytes dropped to normal with benzol without *x*-ray treatment. All symptoms subsided. The treatment lasted from three to five months with different patients; the ages of the patients were from 21 to 69 years. He states that the result of the treatment suggests that it may regulate red blood production and be of use in polycythemia chronica. All but one of the seven patients reported were of myeloid type and one of the lymphoid type. In the one patient suffering from lymphatic leukemia the benefit was especially early, the leukocytes dropping from 131,000 to 7,200 in three weeks. A year before this the patient had received twenty *x*-ray exposures, and the leukocytes dropped from 80,000 to 40,000, but the lymph-nodes grew larger under the management.

One patient, a woman, responded to the drug atypically. In three weeks' time with benzol the leukocytes dropped from 140,000 to 100,000. The benzol was stopped, and in five days the leukocytes increased to 290,000. Within ten days from this time the leukocytes had dropped to 65,000 and in fifteen days more to 15,000. All symptoms were improved during the same time. Other reports have been made of equally promising nature.

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[3] Hamman and Sloan: Induced Pneumothorax in the Treatment of Pulmonary Disease, Report of the Eighth Annual Meeting of the National Association for the Study and Prevention of Tuberculosis.

[4] Sloan, M. F.: Discussion to the article referred to in Footnote 3.

[1] Von Koranyi, A.: Beeinflussung der Leukämie durch Benzol, Berl. klin. Wchnschr., 1912, xlix, 1857.

[2] Selling, L.: Cases of Purpura Hemorrhagica Due to Benzol Poisoning, Bull. Johns Hopkins Hosp., 1910, xxi, 33; abstr., THE JOURNAL A. M. A., March 12, 1910, p. 909.

[3] Santesson: Skandin. Arch. f. Physiol., 1900, x, 7.

[4] Keralyfi, G.: Wien. klin. Wchnschr., 1912, xxv, 1311.

On the basis of these reports five patients have been treated with benzol in my service in the Presbyterian Hospital, Chicago. Three were men and two women. Four suffered from myelogenous leukemia and one from a rather atypical type of lymphoid leukemia.

All but one of the patients had received *x*-ray treatments. One had suffered from a rather severe *x*-ray burn. The one woman with myeloid leukemia had received but a few treatments with the *x*-ray, and the patient with the lymphoid type had had no previous *x*-ray treatments. Roentgenotherapy was used in connection with the benzol treatment with all of the patients excepting the male who had suffered from *x*-ray burn.

The phenomenal effect of benzol and the importance of the treatment necessitate rather full case-reports, five of which are presented.

Case 1.—A. M. W., merchant, aged 42, married, first examined Sept. 29, 1910. Progressive loss in strength for past fourteen months, weight declined from 185 to 145 pounds. Patient weak and with very poor endurance. An irritating cough aggravated by variable weather. No expectoration. Profuse night sweats. Some fever with temperature of 100-101 F. at times. Dull ache and weight in left upper abdomen. Two weeks ago very severe pain in upper left abdomen aggravated by breathing. Health always good until present trouble. Appetite now good. Bowels regular.

Examination.—Is pale. General muscular apparatus flabby. Mucous membrane of throat and mouth pale. No lymph-node enlargements. Lungs and heart normal. Pulse rather rapid. Abdomen rather large, tumor in left upper abdomen corresponding to a much-enlarged spleen. Liver edge felt 3 cm. below costal edge at end of deep inspiration, not tender. Patient nervous and apprehensive; a fine tremor of fingers present. Urine: Specific gravity, 1.018; contains no abnormal elements. Blood: Hemoglobin, 46 per cent., Dare; reds 4,200,000, whites 352,000. Differentiation: Small lymphocytes 10 per cent., large lymphocytes 6 per cent., indentate nucleus 2 per cent., myelocytes 10 per cent., polynuclears 70 per cent., polynuclear eosinophils 2 per cent.

Treatment and Result.—Patient was sent to the Presbyterian Hospital where he received *x*-ray treatments and practically absolute rest in bed in a sunny room. Under this management there was rapid improvement in the patient's condition, a gain in weight, hemoglobin increased in percentage and the whites rapidly diminished in number. Nov. 10, 1910, total leukocytes were 30,000; December 30 the total leukocytes were 7,600 and showed 2 per cent. of myelocytes. The spleen diminished rapidly in size. Just before the holidays of 1910 the patient went to California where he received *x*-ray treatments with some regularity, but was rather active physically and not quite satisfied with his surroundings. He returned within a month and the leukocyte count was 82,500 and the spleen palpable and projected from 3 to 5 cm. below the costal edge. Hemoglobin from 85 to 90 per cent., Dare. Patient remained in Chicago, but not at the hospital, receiving regular *x*-ray treatments, and attended to some business affairs. His general nutrition remained good, but he was excessively nervous, the former nervousness apparently aggravated by a railroad accident which occurred on his way from California to Chicago. Sept. 8, 1911, the red count and hemoglobin were practically normal, whites 13,400, myelocytes 20 per cent., of which 3 per cent. were eosinophils, polynuclears 66 per cent., of which 2 per cent. were eosinophils, lymphocytes small 10 per cent., large 6 per cent. During the remainder of 1911 the patient's condition remained about the same, the leukocytes never returning to normal count and myelocytes always present. The spleen remained just palpable. March 20, 1912, the leukocytes had increased to 100,000 of which about 10 per cent. were myelocytes. At about this time the patient was seized with a peculiar sensation in the lower chest and abdomen while taking a warm bath. He became very much frightened and collapsed. Following this there was some soreness over the spleen. The patient continued to receive *x*-ray treatments with some regularity, always with care as to the dosage, but on May 4, 1912, an *x*-ray burn of the skin over the spleen occurred, was painful and necrosis of skin occurred leaving an ulcer about as large as the palm of an ordinary hand. This aggravated the patient's general nervousness and, of course, necessitated the withdrawal of the *x*-ray treatments. The ulcer was finally healed by a surgical plastic operation. During this period without *x*-ray treatments the leukocytes rose in number, reaching a total, October 12, of 191,000, of which there was always a considerable number of myelocytes. Oct. 28, 1912, benzol medication was begun in the dose of 5 minims three times a day, and this was gradually increased so that by November 12 he was taking 15 minims four times a day. There was at first a slight rise in the number of leukocytes, and then after a few days a gradual diminution. November 21 the total leukocytes were 167,000. November 30 the whole blood-count was: reds 4,100,000, hemoglobin 68 per cent., leukocytes 133,000. December 12, reds 4,100,000, hemoglobin 75 per cent., leukocytes 18,250, and three days later the whites had fallen to 12,500, the small lymphocytes 7 per cent., large 2 per cent., indentate nucleus 4 per cent., polynuclears 86 per cent., of which 6 per cent. were eosinophils, myelocytes 3 per cent. December 29, reds 4,680,000, hemoglobin 72 to 75 per cent., leukocytes 7,500, small mononuclears 18 per cent., large mononuclears 3 per cent., polynuclears 79 per cent., myelocytes none. The benzol was stopped December 22. Jan. 7, 1913, reds 4,960,000, hemoglobin from 85 to 90 per cent., leukocytes 3,600, small lymphocytes 12 per cent., large lymphocytes 7 per cent., indentate nucleus 1 per cent., polymorphonuclears 80 per cent., of which 2 per cent. were eosinophils and 3 per cent. basophils.

Case 1 deserves special mention because of the relapse after rather phenomenal improvement under *x*-ray treatment. The patient's general health became very poor while suffering from the *x*-ray burn. At the beginning of the benzol treatment he had approximately 200,000 leukocytes, with a rather large percentage of myelocytes. His spleen had not been palpable for months. Under the use of the benzol, as noticed in the case report, the leukocytes melted away, and three weeks after the drug had been withdrawn the fall continued and reached the low count of 3,600, with no myelocytes. With the great drop in the whites, the red cells amounted to about 5,000,000 and the hemoglobin from 85 to 90 per cent., so that while there was a destruction and removal from the peripheral circulation of the leukocytes, both reds and hemoglobin improved. There was a corresponding improvement in the patient's general condition; a gain in weight of 5 pounds, a feeling of well-being and lessened nervousness, especially of the tremor from which he had suffered during his whole illness.

Case 2.—J. G., druggist, aged 36, married, presented himself for examination, April 23, 1912. Weakness which began about ten months before had gradually increased. There had been a loss of weight from 166 to 150 pounds. Fulness and dragging in upper left abdomen had been noticed for six or eight months and recognized as large spleen three months before patient was seen. Some edema of feet had existed during the last few days, and night sweats at times. Aching pains in the long bones and sternum were noticed a year ago. Appetite was variable, and digestion good. Patient slept well. He had had the deep intramuscular injection of iron and arsenic and six or seven *x*-ray treatments over spleen during last few months. He had always had good health. One niece suffers from pseudoleukemia. Patient has good habits. He gave the following counts as made before coming to Chicago: March 6, 1912, hemoglobin, 30 per cent., reds 3,280,000, whites 552,000. At a later time in March, hemoglobin 40 per cent., reds 3,750,000, whites 575,000. April 23, hemoglobin 40 per cent., reds 3,500,000, whites 415,000.

Examination.—Appearance pale. Mucous membrane of mouth and throat pale. Tonsils slightly enlarged. No enlargements of lymph-nodes. Spleen enormously enlarged, with lower border resting on crest of ilium, the right border extending beyond the median line. Urine: Specific gravity 1.015, acid, no albumin, sugar or casts. Liver easily palpable, slightly tender. Sexual organs negative.

Blood Examination: Hemoglobin 40 per cent., Dare; reds 3,500,000, whites 578,000; differentiation: polynuclears 44 per cent., of which 6 per cent. were eosinophils; small lymphocytes 18 per cent., large lymphocytes 6 per cent., myelocytes 32 per cent., of which a very large percentage were eosinophils.

Treatment and Results.—Patient was sent to the Presbyterian Hospital where he has remained, receiving *x*-ray treatments from two to three times a week. There was gradual but slow diminution in the number of leukocytes and in the size of the spleen. June 5, 1912, the red cells were 3,860,000, hemoglobin 63 per cent., leukocytes 275,000, of which 24 per cent. were myelocytes. September 24 the leukocytes had fallen to 86,000 and the spleen was about half its original size. Oct. 30, 1912, the leukocytes had increased to 143,000. Benzol treatment was begun at this date and on November 6 the total leukocyte count was 201,000. Then there was a gradual fall in the leukocytes, December 24, to 85,000, with a decrease in the number of myelocytes. December 30, the leukocytes had fallen to 40,000.

CASE 3.—J. L. B., farmer aged 52, married, was admitted to Presbyterian Hospital, June 18, 1912. Patient says that he has not been well for three or four years; has not been quite so strong as normal and has tired easily, with occasionally vertigo and headache. Since September, 1911, these symptoms have been worse with a gradual loss in weight. Nov. 12, 1912, he had an attack of nausea with violent bloody vomiting and pain in abdomen. The next day he noticed black stools. The gums bled easily. Patient had slight cough, dyspnea on exertion and edema of feet which disappeared at night. He noticed enlargement of abdomen and tenderness in upper left abdomen and at the sternum for a long time. He says he was never ill before.

Examination.—Face pale, general nutrition poor, muscles flabby, mucous membrane of mouth pale, throat normal, no enlargement of lymph-nodes, lungs and heart normal, spleen enormously enlarged, lower border resting on crest of ilium and right border extending to median line. Liver just palpable at end of deep inspiration; not tender. Blood: Hemoglobin 30 per cent., Dare; reds 2,360,000, whites 640,000; differentiation: small lymphocytes 12 per cent., large lymphocytes 24 per cent., indentate nucleus 2 per cent., myelocytes 33 per cent., of which 8 per cent. were eosinophils, polynuclears 29 per cent., of which 4 per cent. were basophils. Urine: 1,450 c.c. in twenty-four hours; specific gravity, 1.018; few hyalin casts and uric acid crystals.

Treatment and Result.—Patient received *x*-ray treatments two or three times a week with regularity. July 14, hemoglobin was 46 per cent., total leukocyte count 370,000, and spleen slightly smaller. August 27, reds were 4,820,000, hemoglobin 78 per cent., whites 118,000. Sept. 11, 1912, total leukocytes were 28,000; October 6, 47,000. Then came a standstill in leukocytes; November 17, benzol treatment was begun with 7 minims three times a day, after a short period increased to 15 minims four times a day. The leukocytes gradually diminished in number, and December 17 the red cells were 4,600,000, hemoglobin 72 per cent., total leukocytes 15,700, of which 11 per cent. were myelocytes. December 30; leukocytes were 13,500. Myelocytes still further diminished in percentage. Jan. 9, 1913, reds 4,000,000, hemoglobin 76 per cent., Dare; whites 9,800; differentiation: small lymphocytes 10 per cent., large 6 per cent., indentate nucleus 2 per cent., degenerated myelocytes 6 per cent., polynuclears 76 per cent., 2 per cent. of which were of polynuclear and 1 per cent. of myelocytic type.

Cases 2 and 3 require no special mention except for the fact that both patients had *x*-ray treatment for months with progressive improvement in the blood-picture and also that there was diminution in size of the spleen; but this was slow and finally came to a stand. Under the use of both *x*-ray and of benzol the improvement became much more rapid, with corresponding improvement in general health.

CASE 4.—Mrs. F. A., aged 28, secundipara, Russian, was admitted to Presbyterian Hospital, Oct. 21, 1912. Illness began eight months before with weakness, lessened endurance, dizziness, dyspnea on exertion, and nervousness; these symptoms became progressively worse until the patient was obliged to give up work about ten weeks before admission. At that time a mass was noticed in upper left abdomen which caused a sense of dragging and weight; slight edema of ankles occurred at this time which disappeared at night. On admission patient complained of same symptoms with addition of fainting attacks, palpitation of heart, cramp in abdomen and constipation. Menstruation regular.

Examination.—Patient very nervous, skin and mucous membranes pale, no lymph-node enlargements. Heart and lungs normal. Whole left abdomen filled by spleen, extending beyond the middle line on right. Liver palpable at end of inspiration; slightly tender. Pelvic organs normal. Urine normal. Blood: Hemoglobin 50 per cent., Dare; reds 2,840,000, leukocytes 680,000, of which 36 per cent. were myelocytes.

Treatment and Results.—Patient was placed at rest on *x*-ray treatment three times a week. November 7, total leukocytes 476,000. November 13, hemoglobin 50 per cent., total leukocytes 546,000. At this time benzol treatment was begun in the dose of 15 minims four times a day, and November 19 the leukocytes had increased to 780,000; November 22, 600,000; December 2, 290,000; December 17, 46,000, at which time there were 9 per cent. of myelocytes. December 26, reds 4,500,000, hemoglobin 56 per cent., Dare; leukocytes 10,700; myelocytes had entirely disappeared. January 5, reds 4,100,000, hemoglobin 60 per cent., leukocytes 8,500, with normal differentiation.

Case 4 deserves special mention because of the phenomenal effect of the treatment. The patient had had two or three *x*-ray treatments before the benzol was begun; it was first used in a dosage of 0.5 gm. four times a day, then increased to 1 gm. four times a day. The first effect, which was produced within six days, was to increase the number of leukocytes from 546,000 to 780,000. Three days later the count had fallen to 600,000; December 2, to 290,000; December 17 to 46,000, and January 5, the last examination, to 8,500. In less than two months of roentgenotherapy and benzol treatment, the blood-picture had returned almost to normal, and the myelocytes which were found in the blood with high percentage disappeared. The spleen, which was very large in the beginning, was just palpable on the last date. There was a corresponding general improvement in the patient's condition.

CASE 5.—Mrs. B. H., aged 41, secundipara, German, was admitted to Presbyterian Hospital, Dec. 5, 1912. In June, 1912, the patient began to have pain in the abdomen in the form of cramps, and heaviness in upper left abdomen; soon after this a mass was discovered in that region. This caused a sense of dragging and soreness which was aggravated by walking. The appetite was poor. Weakness gradually increased; weight declined from 135 to 117 pounds. On admission the patient complained of heaviness, fulness, pressure and tenderness in left upper abdomen, and that there was a tumor there. She was weak, had dyspnea on exertion, palpitation of heart, no appetite, constipation, amenorrhea of six weeks' duration and a rather profuse leukorrhea. Thirteen years ago at birth of last child, patient suffered from laceration of the perineum and neck of uterus which was repaired, but had suffered from leukorrhea since that time. Otherwise patient had been healthy.

Examination.—Mucous membranes pale; skin rather dark from a diffuse pigmentation. Slight enlargement of lymph-nodes in the posterior triangles of neck, axillary region, supratrochlear and in groins. Heart and lungs normal. Spleen, right border almost to middle line, lower border to iliac crest. Liver moderately enlarged and slightly tender. Pelvis: uterus retrodisplaced and movable; appendages seem normal; slight laceration of cervix uteri. Urine: Specimen normal and later examinations of twenty-four-hour collections normal. Blood: reds 4,500,000, hemoglobin 66 per cent., total leukocytes 45,000, of which 61 per cent. were small lymphocytes, 6 per cent. large lymphocytes, 34 per cent. polynuclears, no myelocytes and no eosinophils.

Treatment and Results.—Benzol and Roentgen treatment were begun at once, and December 9 the total leukocytes were 19,000. December 18, reds were 4,420,000, hemoglobin 58 per cent., total leukocytes 5,800, giving practically the same differentiation. December 26, leukocytes 6,000, small mononuclears 35 per cent., large 21 per cent., polynuclears 41 per cent., with 6 per cent. of eosinophils; indentate nucleus 1 per cent. January 5 the leukocytes were 5,900, hemoglobin 68 per cent., reds 4,120,000.

Case 5 deserves special mention. The blood-picture was that of lymphoid leukemia, but the lymph-nodes were not large. The spleen was very large. With *x*-ray and benzol treatment the leukocyte count of 45,000 dropped to 19,000 in three days, then to 5,800 in six days. The benzol was continued experimentally, and January 5, about one month after beginning the treatment, the blood-count was: hemoglobin 68 per cent., reds 4,120,000, leukocytes 5,900, of which there were small lymphocytes 35 per cent., large lymphocytes 9 per cent. and polynuclears 56 per cent. During the treatment the red cells and hemoglobin remained the same as at the beginning. The spleen rapidly diminished to not more than one-fourth the original bulk, and the small lymph-nodes disappeared. There was a marked improvement in the general condition of the patient.

GENERAL REMARKS

The benzol was usually given in gelatin capsules filled at the time of administration. One patient took the drug in an emulsion, made up by the hospital druggist, of which two teaspoonfuls equalled 15 minims of benzol. The drug was given soon after meals and at bedtime. The beginning was 7 minims, which was soon increased to 15 minims. All patients complained of eructation of gas tasting and smelling of benzol. Burning in the stomach was a common symptom. Dizziness was a complaint of two patients. One patient left the hospital to live with a sister in Chicago, and misunderstanding the order for the medicine, increased the daily dosage to 160 minims. Within a few days he suffered from a severe toxic erythema and pruritus of the skin of the whole trunk and extremities. The drug was discontinued and within one week the erythema disappeared. On resuming the benzol in the dose of 60 minims per day there was no further trouble. As a rule the appetite was not disturbed, with one exception, and in this patient (Case 3) the general nutrition remained good. Of the other four, all gained in weight. No other medicine was given except the necessary laxative or occasionally the mixture of rhubarb and soda as a stomachic. As a rule the patients were kept at rest. The benzol used was that obtained by the hospital druggist, and no analysis was made of it for the presence of nitrobenzol or anilin. The urine of the patients was not examined for nitrobenzol or anilin. The urine did not contain a perceptible, notable increase of uric acid during the rapid leukocytic destruction, nor was there any perceptible general disturbance coincident with the destruction of the enormous number of leukocytes in so short a period.

The chief notable results of the benzol medication were the following:

1. In two patients a marked rise in the leukocytic count for a few days. In three patients this was not observed.
2. A rapid fall in the number of leukocytes, most marked in Cases 1, 4 and 5, in which it resulted in leukopenia.
3. A correspondingly rapid diminution in the size of the spleen, much more rapid than with *x*-ray exposures alone.
4. An improvement of the red-cell count and hemoglobin in all of the myelogenous types.
5. A rapid disappearance of the small though multiple lymph-nodes in the patient with lymphoid leukemia. With this patient the hemoglobin and red-cell count remained the same during the treatment.
6. Stained specimens of blood showed early and increasing degenerated leukocytes, especially of all mononuclear types, including the lymphocytes and myelocytes. This was manifested by basophilic granular degeneration of lymphocytes and by deformed myelocytes containing large dark granules with the Wright stain. The polynuclear cells showed the degenerative changes, but even these showed examples of large, loose, dark granules. In fact, degenerated forms were so numerous that it was difficult and sometimes impossible to arrive at a leukocytic formula. .The blood-picture is new and confusing.
7. In spite of the moderately disagreeable effect of the drug on the stomach, there was a notable improvement in the general condition of all the patients. Inasmuch as *x*-ray treatment had been applied in all but one and was continued during the benzol treatment in all but one, the experience with these patients does not enable one to testify as to the result of benzol alone in the treatment of leukemia.

From the reports made by von Koranyi and others, and from the results noted in this series of patients, it seems justifiable to conclude that benzol in the doses given may at first stimulate the bone-marrow, but very soon the effect is to make the leukocytic marrow hypoplastic. It also seems to render the erythrocytic marrow hyperplastic. This may seem paradoxical, but is apparent clinically.

One is impressed with the drug as a powerful agent—a two-edged sword, which is apparently a remedy of great promise in leukemia, but which used carelessly may defeat the purpose of its use and produce an equally serious condition, namely, aplastic grave anemia, hypoplastic bone-marrow and a fatal termination.

Selling[2] states that impure benzol contains nitrobenzol and other products (anilin, etc.), and that anilin is the probable toxic substance producing purpura hemorrhagica, aplastic anemia, etc.

It would therefore be best to use only pure benzol and to watch its effect by frequent examinations of the patient and the blood. It would also seem wise to err on the side of overcautiousness in size of doses and length of time of use of the drug at any one period, rather than to overuse it with a possible resulting hypoplastic bone-marrow and aplastic anemia.

It may prove a most valuable drug to both physician and patient, especially if it is potent without the use of the *x*-ray.

This report is made now with the hope that others may make use of benzol in leukemia and thus add to the clinical proof of its work

122 South Michigan Boulevard.

Why Think When You Can Know?—Jenner introduced immunity by vaccination and in presenting his subject said that he thought certain hypotheses to be correct. Hunter wrote to Jenner and said, "Why think? Try it on a hedgehog and know."—Mayo in *Boston Med. and Surg. Jour.*

THE EMETIC ACTION OF THE DIGITALIS BODIES *

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Emesis has long been recognized as one of the most annoying of the side actions of the digitalis bodies, and this effect is almost universally attributed to a direct irritant action on the gastric mucous membrane. We have recently shown,[1] however, that this wide-spread belief has no support in direct experimental evidence with therapeutic doses, but that the emesis following the use of amounts comparable to those used clinically is due almost entirely to a direct action on the vomiting center in the medulla.

In the present investigation we have compared the relative emetic and cardiac activities of certain of the more commonly used digitalis bodies, including digitalis, crystalline digitoxin, true digitalin (not German digitalin), strophanthus, amorphous strophanthin, ouabain (so-called crystalline strophanthin), squill, convallaria, apocynum, adonis, digalen, digipuratum, digitalysatum and the fat-free tincture of digitalis.

Single small doses of the drug were injected intravenously from a hypodermic syringe, or small successive portions were injected at short intervals of time until emesis occurred, or until the experiment was abandoned.

The amount thus required to cause emesis was compared to the known fatal dose, or, in many cases, the fatal dose was determined for the animal used in the experiment.

The protocol of an experiment will serve to illustrate the method.

Sept. 23, 1912, male cat, wt. 2.88 kg.
2:13 p. m., 15 mg. convallaria per kg. intravenously.
2:22 p. m., 5 mg. convallaria per kg. intravenously.
2:32 p. m., nausea.
2:36 p. m., emesis.
2:42 p. m., anesthetized; cannula into femoral vein; continuous injection of convallaria in normal saline.
2:54 p. m., convulsions; death, 15.9 mg. per kg. 20 + 15.9 = 35.9 mg. the fatal dose.

Since the animal required 20 mg. of convallaria to cause emesis, and 35.9 mg. to cause death, it follows that the emetic dose was 55 per cent. of the fatal.

NON-PROPRIETARY DIGITALIS BODIES

The results obtained with the non-proprietary digitalis bodies are given in Table 1.

Reference to the table shows that in one instance more than 100 per cent. of the *average* fatal dose was administered without causing nausea or emesis, or the death of the animal, this animal being obviously tolerant toward the drug both with reference to the emetic and cardiac effects.

DISCUSSION OF THE TABULATED RESULTS

The experiments with ouabain came first in chronologic order, and it will be observed that the frequent failure to induce emesis was due to the use of small doses in many cases; but fatal doses also failed to induce emesis in two experiments with this agent.

Forty-two of the sixty-one animals which received more than 30 per cent. of the fatal dose vomited.

The smallest dose of any drug which was followed by emesis was about 20 per cent. of the fatal dose, in the case of true digitalin. We were inclined to think that this was to be attributed to the susceptibility of the animal used in that experiment, but repeated experiments proved conclusively that true digitalin has a very high comparative emetic activity.

TABLE 1.—THE RELATIVE EMETIC AND CARDIAC ACTIVITIES OF DIGITALIS BODIES

Drug	Dose Administered in Percentage of Fatal Dose	Emesis
Digitalis	27	0
	31*	+
	34	0
	35*	+
	36*	+
	37	0 ‡
	39*	+
	45*	+
	47*	+
	48	0
	52	+
	70	0
	80	+
Crystalline digitoxin	28*	0
	40*	+
	42	+
	42	+
	57	+
	57	+
	57	+
	60	+
	71*	+
	100†	+
True digitalin (not the German)	10	0
	18*	+
	20	+
	21*	+
	30	+
	40†	+
Strophanthus	27*	+
	40	+
	50	+
	60	+
	60	+
	100*	0
Amorphous strophanthin	30	0
	35	0
	35	0
	35	0
	40	0
	45	0
	50	0
	61*	+
	69*	+
	71	0
Ouabain (so-called crystalline g-strophanthin)	25	0
	30	0
	30	0
	30	0
	30	0
	30	+
	30	+
	40	0
	40	0
	40	0
	40	+
	40	+
	45	0
	45	0
	50	0
	50	+
	50	+
	60	+
	70	+
	70	+
	100*†	+
	100*	0
	100*	0
Squill (fluidextract)	15	0
(fluidextract)	20	0
(fluidextract)	25	0
	30	0
(freshly made infusion)	66*	+
(freshly made infusion)	84*	+
(freshly made infusion)	84*†	+
Convallaria (fluidextract)	55*	+
	68*	+
	96*	+
	133*	0
	133*	0 §
Apocynum (fluidextract)	40	0
	60	0
	88*	+
	89*	+
Adonis vernalis (fluidextract)	41	0
	41*	+
	49	+

* The fatal dose was determined for each animal in the experiments marked thus.

† Single doses were administered in these experiments, hence they are not included in the averages of minimal effective doses.

‡ Nausea.

§ Nausea with 66 per cent.

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* From the Laboratory of Pharmacology of Cornell University Medical College.

[1] Hatcher and Eggleston: Jour. Pharm. and Exper. Therap., 1912, iv, 113.

It is remarkable that the drug showing the greatest relative emetic activity is precisely that which has been considered as least disturbing to the stomach,[2] and on the other hand it is hardly less remarkable that squill, which was formerly used as an emetic, and is still used as a nauseant, is among the least actively emetic of the drugs of this group.

There is a striking similarity in the relative emetic activity of such dissimilar bodies as digitalis and ouabain. This is true whether we compare the smallest emetic doses or the averages obtained for the two drugs. Thirty per cent. of the fatal dose of ouabain, and 31 per cent. of digitalis, having proved emetic, while the averages for the two series are 49 and 46 per cent. of the fatal, respectively.

Digitoxin and digitalin appear to be the most constantly emetic members of the group, emesis having occurred in every one of fourteen experiments in which the amount administered exceeded the lowest established emetic dose.

It is of interest that these two are the only principles which are obtained from digitalis in a fairly pure state, and we have found that digitalis causes emesis in nearly every case in which an appropriate dose is administered; and it is also suggestive that the relative emetic activity of digitalis lies between that of these two constituents.

TABLE 2.—SUMMARY OF RESULTS SHOWN IN TABLE 1 WITH DOSES EQUAL TO OR EXCEEDING THE MINIMAL EFFECTIVE FOUND

Drug	Emetic Dose in Percentage of Fatal Dose		Number of Experiments	
	Minimum	Average	Total	Effective Per Cent.
True digitalin	18	22*	5	100
Strophanthus	27	47	6	83
Ouabain	30	49*	22	46
Digitalis	31	46	12	66
Digitoxin, crystalline	40	58	9	100
Adonis vernalis	41	45	3	67
Convallaria	55	73	5	60
Amorphous strophanthin	61	65	3	67
Squill	66	75	3	100
Apocynum	88	88	2	100

* In each of these series the result of one experiment is omitted in the calculation of averages because the minimal effective emetic dose was not determined in the experiment. (See Table 1, footnote.)

DIGITALIS SPECIALTIES

If we are correct in believing that small doses of all of the active digitalis principles cause emesis through their direct action on the vomiting center in the medulla, it will be impossible to administer these drugs so as to secure the cardiac action while avoiding that on the vomiting center.

If the claims made for certain specialties are correct with regard to their possessing the cardiac without the emetic action, we must suppose that manufacturers have either succeeded in preparing some new principle, differing widely in action from digitoxin and digitalin, or that they have so combined these principles with other chemicals that they exhibit a highly selective action on the heart.

DIGALEN

Among the more widely used of the digitalis specialties is digalen, which probably consists of impure digitalein.[3]

Clinical testimony is conflicting with regard to the claim that digalen is less actively emetic than other preparations of digitalis.

The results of our experiments with digalen are given in Table 3.

The relatively high emetic activity of digalen is unmistakable in whatever light we examine these results.

1. Its greatest relative activity is exceeded by only one of the digitalis bodies (true digitalin) previously discussed, and nausea was induced in one case with an even smaller dose than that which caused emesis.
2. Nausea or emesis occurred in twelve of the sixteen experiments in which more than 20 per cent. of the fatal dose was administered.
3. The average dose required to cause nausea or emesis in the ten experiments in which this amount was determined (not determined in two of the experiments) was 39 per cent. of the fatal; 39 per cent. of the fatal was the average which caused emesis in seven experiments in which actual emesis occurred, this being lower than the average emetic dose of any of the digitalis bodies previously mentioned except true digitalin.

TABLE 3.—THE RELATIVE CARDIAC AND EMETIC ACTIVITIES OF DIGALEN

LIQUID DIGALEN

Dose Administered in Percentage of Fatal Dose*	Emesis	Remarks
15.7	0	
17.8	0	
18.2	0	
22.3	0	Nausea.
30.1	+	
34.0	0	
40.2	+	
43.0	0	Nausea.
44.3	+	
48.9	0	Nausea.
50.0	0	
63.6	+	Minimal emetic dose was not determined in these two experiments.
94.0	+	

DIGALEN TABLETS

Dose Administered in Percentage of Fatal Dose*	Emesis	Remarks
28.9	+	
34.7	+	
42.8	+	
55.0	+	
78.6	0	
100.0	0	

* The fatal dose was determined in each experiment in Table 3.

Digalen has much less action on the heart than the manufacturers claim it to have; hence the slighter relative emetic activity reported by certain clinicians is to be explained by the fact that they used relatively smaller doses than they would of digitalis.

DIGIPURATUM

Digipuratum is claimed to be a purified extract of digitalis which contains the therapeutically active principles of digitalis so combined with tannin as to prevent their action on the stomach. It is claimed further that digipuratum is free from digitonin, which is said to be a cause of much of the gastric disturbance following the use of digitalis.

Barker[4] states that the digipuratum of Gottlieb is probably one of the best of the more recent digitalis preparations, being free from the stomach-disturbing digitonin.

The results of our experiments with digipuratum are given in Table 4.

On theoretical grounds it seemed difficult to deny that digipuratum might have certain advantages, but these seemed to us to be more apparent than real. Reference to Kiliani's article[5] shows that Boehm found that when less than 100 mg. of digitonin was administered to dogs by the mouth for periods of ten days, emesis did not occur, and we have been able to confirm this observation of Boehm's to the extent that we found that very large amounts of digitonin were required by the mouth to cause emesis in cats.

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[2] Dixon: Manual of Pharmacology, 1906, p. 170. Pfaff and Jaquet: cited by Cushny, Tr. Mich. Med. Soc., 1894, xviii, 155.

[3] Kiliani: München. med. Wchnschr., 1907, i, 886.

[4] Barker, L. F.: Virginia Med. Semi-Monthly, 1911, xv, 457.

[5] Boehm: Cited by Kiliani, Arch. der Pharm., ccxxx, 260.

Furthermore, Kiliani states that digitalis contains only the merest traces of digitonin, and the effect of the traces of this substance present in therapeutic doses of digitalis must be wholly negligible.

The results tabulated show that digipuratum ranks among the most actively emetic of the digitalis preparations.

1. Seven of the nine animals, or 77 per cent., vomited.
2. The smallest emetic dose of digipuratum was only 25.1 per cent. of the fatal.
3. The average emetic dose in the seven experiments in which emesis occurred was only 42 per cent. of the fatal, thus exceeding in relative emetic activity any of the non-proprietary digitalis bodies which we examined, with the sole exception of true digitalin, which is seen to occupy a position by itself.

TABLE 4.—THE RELATIVE CARDIAC AND EMETIC ACTIVITIES OF DIGIPURATUM

Dose Administered in Percentage of Fatal Dose	Emesis	Remarks
25.1	+	Fatal dose determined.
27.2	+	Fatal dose determined.
35.0	+	Fatal dose estimated.
35.0	0	Fatal dose estimated.
43.7	+	Fatal dose determined.
50.0	+	Fatal dose determined.
50.6	+	Fatal dose determined.
57.0	0	Fatal dose estimated.
61.4	+	Fatal dose determined.

DIGITALYSATUM

It is frequently asserted that the galenical preparations of digitalis, as well as the isolated principles, such as digitalin and digitoxin, do not represent the true actions of digitalis because the constituents as they exist in the fresh leaf are altered in the process of preparation, changing their character. Thus the manufacturer of digitalysatum makes the following statement:

> According to Kunz-Krause the extracts of dried plants do not exhibit the characteristic molecule-complex of the drug in which it existed in the living plant: but they exhibit such molecule-complex broken and changed by the process of desiccation.

Digitalysatum is claimed to be a dialysate prepared from the freshly gathered plant without such desiccation, and among the asserted advantages of digitalysatum are that it is well borne by the stomach and is palatable. We are unable to say whether these principles possess any peculiar therapeutic effect, but we can state unequivocally that digitalysatum has the emetic action of digitalis in a degree essentially similar to that shown by the official tincture.

An analysis of the results obtained with digitalysatum shows that they are strikingly similar to those afforded by digalen and digipuratum.

1. Two of the three animals, or 66 per cent., vomited.
2. The smallest emetic dose of digitalysatum was only 28.8 per cent. of the fatal, showing a greater relative emetic activity than any of the non-proprietary digitalis bodies, except true digitalin.
3. The average emetic dose of the two effective experiments was 36.5 per cent. of the fatal, also exceeding in relative emetic activity the average of any of the digitalis bodies except true digitalin.

FAT-FREE TINCTURES

The fixed oils which are found in digitalis and strophanthus have been blamed for at least a part of the gastro-intestinal symptoms which have followed the therapeutic use of those drugs. Wilcox[6] attributed the gastric symptoms following the use of the tincture of strophanthus to the presence of the fixed oil from the seed, but Poulet[7] had previously shown that this fixed oil from another species of strophanthus was absolutely inert, and in this laboratory we have found that the fixed oil of *Strophanthus hispidus* contained about one-thousandth part of the active principle of the seed from which it had been obtained.

The average dose of strophanthus, 0.065 gm. (1 grain) contains about 0.020 gm. (⅓ grain) of the fixed oil, and we have found that vastly larger amounts of the oil were without perceptible effect when administered to cats by the mouth.

The official tincture of strophanthus contains only traces of the fixed oil, hence there is no possibility that this oil is concerned with emesis which sometimes follows the oral administration of the tincture.

England[8] prepared a fat-free tincture of digitalis, and reported that patients could take it with less gastric disturbance than was seen with the ordinary tincture of digitalis, which contained the fixed oil.

TABLE 5.—THE RELATIVE CARDIAC AND EMETIC ACTIVITIES OF DIGITALYSATUM

Dose Administered in Percentage of Fatal Dose	Emesis	Remarks
28.8	+	Fatal dose determined.
30.0	0	Fatal dose not determined.
44.1	+	Fatal dose determined.

TABLE 6.—THE RELATIVE CARDIAC AND EMETIC ACTIVITIES OF FAT-FREE TINCTURE OF DIGITALIS

A commercial fat-free tincture was used for these experiments, but no extravagant claims were made for it by the manufacturer.

Dose Administered in Percentage of Fatal Dose	Emesis	Remarks
27.8	+	Fatal dose determined.
30.0	0	Fatal dose not determined.
40.4	+	Fatal dose determined.

A solid or semisolid fat such as that in digitalis or strophanthus is a very indigestible substance, and it is quite conceivable that the psychic effects of the disagreeable odor of the oil of digitalis might result in nausea in the case of a patient having an extremely irritable stomach; but it is not within the province of the present paper to deal with the psychic effects of odors.

The manufacturer of one of the fat-free tinctures says:

> To the extent that fat causes irritation of the stomach, producing nausea and vomiting, this product is superior to the U. S. P. tincture.

The fat-free tincture made by this manufacturer was tested in the manner previously described for the other digitalis preparations with the results shown in Table 6. In addition we have investigated the actions of the oil obtained from the tincture, and that directly from the leaf.

In order to test the effects of the fixed oil from digitalis we evaporated 100 c.c. of the official tincture of digitalis at a very low heat to a small volume, on a water bath; this was shaken repeatedly with petroleum ether, the ethereal extract separated and evaporated. In this way we obtained 0.0145 gm. (about ¼ grain) of the impure oil. This was smeared on small pieces of meat and fed to a cat which ate it with avidity. The animal showed no gastric disturbance.

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[6] Wilcox: Am. Jour. Med. Sc., 1897, cxiii, 538.
[7] Poulet: Bull. et mém. Soc. de thérap., 1890, p. 189.
[8] England: Am. Jour. Pharm., 1899, lxxi, 332.

Owing to the extremely small yield of fixed oil from the official tincture of digitalis—one-seventieth of 1 per cent.—we next extracted a portion of the fixed oil directly from the leaf with petroleum ether and obtained 0.142 gm. (about 2 grains) a quantity equal to that to be found in 1,000 c.c. of the official tincture. This amount of the oil was fed to a cat in the manner described, without manifestation of gastric or other symptoms.

This animal received an amount of the fixed oil equal to that contained in 70,000 average therapeutic doses of the official tincture calculated for the weight of the cat.

A summary of the results obtained with the four digitalis specialties is given in Table 7.

For the sake of convenience in comparing the relative emetic activities of the more important of the digitalis bodies with those of the specialties, we will present Table 8 showing the minimum emetic dose of each, together with the averages of the emetic doses determined.

TABLE 7.—SUMMARY OF RESULTS SHOWN IN TABLES 3 TO 6 INCLUSIVE, WITH DOSES EQUAL TO OR EXCEEDING THE MINIMAL EFFECTIVE FOUND

Preparation	Emetic Dose in Percentage of Fatal Dose		Number of Experiments	
	Minimum	Average	Total	Effective Per Cent.
Digalen, liquid	30.1	38.2	9	55
Digalen. tablets	—28.9	40.3	6	66
Digipuratum	25.1	42.0	9	77
Digitalysatum	28.8	36.5	3	66
Fat-free tinct. of digitalis	27.8	34.1	3	66

Before passing on to a discussion of our results we wish to call attention to the fact brought out in our previous paper[1] that diarrhea, following small doses of the digitalis bodies, is also of central origin, and while we have confined ourselves in this paper to a discussion of the emetic actions of the digitalis bodies, we would have it understood that much that has been said applies with equal force to the question of the diarrhea.

DISCUSSION OF RESULTS

We believe that two facts stand out prominently as the result of our experiments: 1. The emetic action resulting from the stimulation of the vomiting center in the medulla is inherent in all of the true digitalis bodies, and it cannot be removed or prevented by any process of purification. 2. While we have limited ourselves in this paper to a discussion of the clinical aspects of these pharmacologic studies, we believe that the evidence which we have presented in this, and our preceding, paper is of such a nature that the burden of proof rests on those who would deny that digitalis causes nausea and vomiting in man in the same way that we have shown that it does in the cat and dog.

While advocating the clinical investigation of this question we must maintain that our results obtained on animals cannot be controverted by superficial clinical observations, but only by comparative clinical tests conducted with the same degree of accuracy as our experiments. It is well known that as clinicians we have been too prone to accept opinions concerning the digitalis specialties as furnished in the circulars of the manufacturers, and in our present paper we seek to show that many of these statements are without foundation in fact.

The clinician who would compare the emetic activity of one of the proprietary preparations with that of digitalis should assure himself that he is using amounts of the former comparable in cardiac activity to that of the digitalis with which he would compare it; and it must be remembered that these proprietary preparations are sometimes as notoriously unreliable and inconstant as the tinctures, fluidextracts and other official preparations of digitalis and strophanthus are so often asserted to be on mere hearsay.

We believe that we have called attention sufficiently to the need of more careful clinical studies of the digitalis bodies and preparations in order that we may become better acquainted with the unavoidable disadvantages of these drugs, and we may add that we have projected clinical and pharmacologic investigations of these problems.

TABLE 8.—THE MINIMAL DOSES AND AVERAGES OF EMETIC DOSES OF VARIOUS DIGITALIS BODIES AND SPECIALTIES

Drug or Specialty	Emetic Dose in Percentage of Fatal Dose	
	Minimum	Average
True digitalin	18	22
Strophanthus	27	47
Ouabain	30	49
Digitalis	31	46
Crystalline digitoxin	40	58
Amorphous strophanthin	61	65
Digipuratum	25	42
Fat-free tincture of digitalis..............................	28	34
Digitalysatum	29	36.5
Digalen, tablets	29	40
Digalen, liquid	30	38

Obviously if nausea and vomiting following the use of the digitalis bodies are of central origin they can result only after the entrance of these drugs into the general circulation; hence the practice advised of administering these drugs by other channels in order to spare the stomach is based on an erroneous conception, and when a clinician has observed the cessation of gastric symptoms after another mode of administration has been substituted for the oral, we can only suppose that the absorption of the digitalis body has taken place to a less extent as a result of this change in the mode of administration.

There is sound evidence—both clinical and pharmacologic—that certain of the digitalis bodies are absorbed but very slowly from the gastro-intestinal tract; hence the substitution of one of the members of the group, such as strophanthus for digitalis, may also result in lessened gastric symptoms because strophanthus is absorbed to a very variable degree.

The appearance of nausea and vomiting following the use of any of the digitalis bodies by whatever channel administered must be looked on in ordinary cases as a sure sign of the toxic effect of the drug on the medulla, and one which calls for an intermission of administration, rather than for the use of such drugs as opium to control the symptoms, as recommended by Hochheim.[9]

Hochheim advised the use of ouabain by the mouth in doses of 2.5 mg. (1/24 grain) three to six times a day, with opium to control the diarrhea which the ouabain induced. Since 0.015 gm. of ouabain is probably equal to several times the fatal dose for man by the vein, we believe the procedure advised is distinctly dangerous.

SUMMARY

The opinion is well-nigh universally held by clinicians and pharmacologists that the nausea and vomiting which sometimes follow therapeutic doses of the digitalis bodies are due to their direct irritant action on the gastric mucous membrane.

Analysis of the literature shows that this opinion is based on deductions, and not on experimental evidence obtained with *therapeutic* doses. This is wholly apart from the recognized fact that *massive* doses of these bodies applied directly to the gastric mucous membrane do cause irritation.

We have previously shown that all of the digitalis bodies are capable of causing nausea and vomiting when moderate doses are introduced into the circulation of the cat and dog, the amounts required in some instances being far less, actually, and relatively in proportion to the weight of the animal, than are those which have been used therapeutically in a single day.

We have shown that nausea and vomiting in these cases were due to the action on the vomiting center in the medulla, and, on the other hand, we found that vastly larger doses of some of these drugs could be introduced into the stomach without causing nausea or vomiting, and in such cases it was subsequently shown that little absorption into the blood-stream had taken place.

One cat in about ten will vomit after the intravenous injection of one-third of the fatal dose of digitalis, while three out of four will vomit from larger doses averaging half of the fatal dose; but some are quite resistant to the emetic action and die without the occurrence of emesis when massive doses are injected.

Only traces of digitonin or the fixed oil of digitalis are found in the galenical preparations, and they exert no appreciable effect on the stomach after the use of therapeutic doses.

True digitalin is relatively the most actively emetic of the digitalis principles, digitoxin being much less actively emetic, while digitalis is intermediate in this respect, agreeing with the fact that it contains both of those principles.

We have no means at present of securing the cardiac actions of the digitalis bodies without subjecting the vomiting center to the influence of these agents at the same time, and there is no advantage in substituting one mode of administration, or one member of the group, for another, and the employment of opium to prevent the gastro-intestinal symptoms of the digitalis bodies in ordinary cases masks the appearance of toxic symptoms which should serve as a signal for the reduction of the dose.

Our results certainly lend no support whatever to the claims made that digalen, digipuratum, digitalysatum or the fat-free tincture of digitalis is in any way less actively nauseant or emetic in proportion to its cardiac activity than any of the better known and less expensive galenical preparations of digitalis and strophanthus.

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[9] Hochheim: Zentralbl. f. inn. Med., 1905, xxvii, 65.

MOUTH INFECTIONS

THEIR ETIOLOGY AND A CONSIDERATION OF WHAT EFFECT THEY MAY HAVE ON THE VITAL ORGANS AND THEIR TISSUES *

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During the past twenty-five years the study of microorganisms has shown that certain types of bacteria may exist in certain portions of the body in quantities not sufficient to produce immediate death, but capable of producing toxins. These bacteria may attack the structure of the heart, the lungs, the kidney, the liver, the spleen, the brain, the spinal cord, etc. As a result the infected person may die some years later from nephritis, endocarditis, tuberculosis, or some other disease, but the real cause of death has been the constant development of certain forms of bacteria from which the toxins have proceeded direct to the most vulnerable vital organ.

Excluding pyogenic disturbances emanating from surgical or traumatic causes, invasions by such bacteria appear to be limited to the intestinal tract, the nasopharyngeal region and adjacent territory, and lastly to the mouth, from which source many of the infections of the previously mentioned regions have their origin. There are undoubtedly still many unknown parasites. It has but recently been discovered that many minute organisms are invisible even through our most powerful microscopes. The latest disease discovered by Flexner to be caused by a submicroscopic parasite is epidemic poliomyelitis or infantile paralysis. He says that all the known members of the class of submicroscopic organisms are disease producers. Miller in his great work on microorganisms of the human mouth, first published in 1890, repeatedly dwells on organisms which he was unable to develop. His great work in this field only served to make him positive that there were many bacteria which remained to be discovered.

At present it is commonly understood that the majority of known pathogenic organisms are constantly with us. It is impossible to find a mouth free from bacteria. Why they are harmless one day when perhaps on the following day they may in the same person produce infection is not thoroughly understood; but it has long been recognized that immunity is not due to any one cause, and this fact has made its study a complex one. The vulnerability of different persons varies, as we well know. Certain persons lose their immunity much more readily than do others. It is generally believed that differences in the character of the microorganism have a strong bearing on the susceptibility of the individual.

We are reasonably assured that certain forms of bacteria which attach themselves to our body and surfaces like the mucous membrane in the mouth defend these tissues from more injurious parasites which strive to gain a foothold. It has been demonstrated in certain infections that even when immunity does not exist there must be an abrasion of the skin of mucous membrane before infection is possible. This barrier is overcome when certain insects like the mosquito and the fly inject the microorganism directly into the circulation. Malaria, yellow fever and other diseases are caused in this manner.

It is well known that under some conditions a perfectly healthy person may be the carrier of pathogenic germs and thus may become the means of infecting some person who is not immune. Flexner speaks of other factors which contribute to determine infection. He says:

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* Read before the general session of the National Dental Association, at its annual meeting, held at Washington, D. C., Sept. 11, 1912.

> The period of childhood is especially characterized by a class of infections that depend on imperfections in the anatomic barriers that are far more adequate in adult life. Many of the diseases that we associate with childhood—measles, scarlet fever, diphtheria, epidemic meningitis and poliomyelitis—utilize the mucous membranes of the nose and throat to gain a foothold in the body, because they are notably vulnerable. Their crypts or depressions afford a lodging-place in which multiplication of the parasites can be effected, and the breaks in the epithelial covering constitute the first breach in the external defense which the parasites seek to, and successfully do, enlarge.

This argument will apply with even greater force to the unclean mouth with decaying teeth. The congested condition of the gums with accumulations of débris as well as salivary calculi, exposed as they are to the dust contents of the air and fluctuations of temperature, tend very likely to depress their protective powers to an even greater extent than those of the epithelium of the nose or throat. It is but a step for such bacteria to pass to the tonsils and the pharyngeal region. In fact, the greatest benefit to be derived, especially by the child, from frequent prophylactic treatment of the mouth, is the ability to have at all times a reasonable physiologic mouth and thus keep intact one of the greatest barriers to infection. It is by no means an easy lesson to teach to the most intelligent of our patients.

So far I have considered what are known as the external barriers to infection. These alone would be entirely inadequate to prevent the spread of many diseases of parasitic origin. There is a second line of defense, the internal, of much greater importance than the first, and on the strength of which immunization is chiefly dependent. Flexner describes this as follows:

> It consists of a group of substances contained within the blood but not produced there, and passing from the blood into the lymph, where they exert influence on the cells composing the organs, and on parasites in the interstices of the tissue. The chief site of the production of these protective and healing principles—immunity principles, so-called—is the very place where the blood corpuscles themselves are formed; namely, in the bone-marrow, spleen, and lymphatic glands.

The forms of bacteria in the mouth which have been of especial interest to the dentist have been the pus-producing or pyogenic bacteria. At the same time there are many reasons to suppose that numerous other organisms may be highly cultivated in different portions of the mouth and under favorable conditions become the direct cause of pathogenic disturbances in any of the important tissues of the body.

In studying the subject of oral infections it may be well to divide them into two classes: (1) conditions in which the infection is found in the mouth, and (2) conditions in which the infection is sealed in what is known as a blind abscess in the alveolar process in the intra-apical region. Frequently infections of the latter class will come under the first class when by reason of some increased irritation and inflammation or from operative interference the hitherto confined pus finds an outlet into the mouth.

INFECTIONS FROM THE MOUTH

The mouth is at all times the habitat of numerous pyogenic bacteria, which are ever ready to produce infection and pus formation if immunization becomes impaired.

The presence of purulent matter in the mouth may be due to various causes. The most common is perhaps the ordinary alveolar abscess, in which an infected dead pulp becomes a focus for a continuous flow of pus through the alveolar plate into the mouth. Following this in frequency are the various pathologic conditions around the peridental tissues which are most commonly grouped under the term "pyorrhea alveolaris." In such cases there is always a lack of immunity against the first line of defense, and as a result infection starts at the most vulnerable point under the gingivae, and progresses toward the ends of the roots of the teeth. This results in the formation of pockets alongside the denuded cementum of the root which increase in capacity according to the gravity of the case.

Another cause is some form of trauma which plays an important rôle in the formation of pockets of this nature alongside individual teeth. The destruction of the first line of defense in such cases is mostly produced by improper dental operations. The great number of cases in which only one or two teeth are affected in this way gives us absolute assurance that purulent exudations of this nature are not contagious. Another source of free pus in the mouth is found in impeded eruption of third molars. Purulent exudations in the mouth may also come from impaired tonsils or from the pharyngeal region. Exfoliating pieces of necrotic bone or roots are also frequent etiologic agents.

The effect on the rest of the body of the constant swallowing of purulent matter has been the subject of much argument. Many physicians have accustomed themselves to the habit of calmly dismissing this subject and assuring their patients that all bacteria and pus are destroyed in the stomach by the gastric secretions. Miller's experiments published over twenty-two years ago have been corroborated in every scientific laboratory which has taken up the study. He showed clearly that mouth bacteria are carried into the stomach and thence into the intestines. Granting that certain forms of bacteria are destroyed in normal quantities of gastric secretions, the fact remains that the stomach is devoid of acid peptic secretions during a large part of the time. Digestive action is stimulated by the taking of food. The mere swallowing of saliva and water does not suffice to cause a true digestion. At the commencement of a meal there is scarcely any acid in the stomach and only two or three hours later is the maximum amount of acid found. Science has to-day practically eliminated the idea that the gastric juice is a barrier to the passage of bacteria and pus from the stomach through into the intestines. In view of the fact that every one is constantly swallowing bacteria, the question arises as to the outcome. Another phase of immunity must answer this query. Undoubtedly most of the swallowed bacteria are destroyed, not by the digestive secretions of the stomach and intestines, but by competition with the normal intestinal bacterial flora which has preempted, so to speak, the ground where the nutriment is, after all, limited in quantity.

When, however, instead of merely swallowing the ordinary bacteria mixed with the food, the person is constantly swallowing certain amounts of pus, there is presented to us an entirely different problem. The nature, virility and number of the microorganisms must have a strong influence as to their ability to overcome the surface immunity of the digestive tract. All forms of diseases of the stomach and intestines are possible. By means of the development of such bacteria in the digestive tract they are easily absorbed in the circulation and pass into the lymph spaces.

After this fortress of the body has succumbed, the bacteria with their poisonous results appear to be irresistibly drawn to the most vulnerable of the vital organs. Medical literature is replete with citations of almost every form of disease due to pyogenic bacteria being traced to this individual source. Hunter gives the following lucid classification of possible results:

> 1. Local affections, such as stomatitis, periostitis, sinus infections, inflammation and infection of the tonsils and the pharynx. Besides these diseases we meet many cases of diseases of the middle ear and different portions of the eye and a host of diseases of the skin often very remote from the mouth. Among these may be mentioned acne, alopecia areata, eczema, erythema, herpes, edema, seborrhea, erysipelas and others.
>
> 2. Glandular affections, especially about the neck.
>
> 3. Gastric and intestinal affections such as septic gastritis, septic enteritis, colitis and proctitis, appendicitis, cholecystitis and septic inflammation complicating typhoid ulceration.
>
> 4. Hematogenous infections causing pleurisies, empyemas, nephritis, pyelitis and perinephric abscesses, cholecystitis (and among surgical affections most notably osteomyelitis) and ulcerative endocarditis, various toxic effects on the blood, nervous system and kidneys connected with sepsis.
>
> The poisons act sometimes more on one particular tissue, for example blood (causing septicemia, pyemia, anemia); or nerve (producing severe mental and degenerative effects). Sometimes the toxins may act more on the organs of excretion, for example the kidney (producing nephritis); sometimes on the skin (producing rashes); sometimes on joints (producing so-called rheumatic swelling).

All these different diseases have been noted by Hunter as a result of his hospital investigation into their etiology. It is not my intention to point out in detail every disease capable of owing its origin to pus in the mouth. The character of cases cited is sufficient to indicate that every pyogenic bacterial infection can possibly have its origin in this manner. Hunter's interesting statement of the localizations of these toxins in some one organ in one case and then again in some other organ in another case is borne out by many celebrated clinicians.

If we ask the question why certain bacteria or their toxic products localize in particular organs the answer must consist in a statement of observed facts, since an answer in principle is not possible with our present knowledge.

Most local infections, abscesses especially, are caused by the pus-producing bacteria. These bacteria are known to localize by preference in the heart, the kidneys and the voluntary muscles. The endocardium of the heart and the endocardium of the valves especially are subject to the localization of the pyogenic bacteria. It is believed that the susceptibility of the heart valves is determined in part by mechanical conditions, namely, the force with which the blood is thrown against the heart valves in the course of the cardiac systole. Under these conditions the bacteria suspended in the blood may be forced into the cells covering the surface of the valves. Once localized there they are more readily capable of multiplication. The pyogenic bacteria suspended in the blood tend also to be deposited in the glomerular capillaries of the kidneys where they may multiply; but on the whole, the number of cases in which abscesses are produced in the kidneys in human beings as a result of a general pyogenic infection is not large. The number is much larger in the experimental staphylococcus infection of the rabbit. Bacteria circulating in the blood are deposited by preference in the bone-marrow, spleen and liver, in which organs they often degenerate, but sometimes multiply and produce focal lesions. "Several factors enter into the separation by the different organs of the bacteria present in the circulating blood. They include (a) size of capillaries; (b) rapidity of the circulation, and (c) probably, capacity for elimination."

It must not necessarily be taken for granted when there is a diseased condition of the heart, kidney or other vital organ and at the same time a free flow of pus in the mouth, presenting symptoms known as pyorrhea alveolaris, that the mouth condition is necessarily the etiologic factor. In such cases the pyorrhea is more often the result than the cause of the malnutrition. Just as the toxins from mouth bacteria attack some special organ, we find that the malnutrition resulting from an inflammatory disease of some important organ impoverishes the circulation and consequently impairs nutrition. This impoverishment varies in character and form (not yet scientifically determined) according to which organ may be affected and the extent of the pathologic tissue. This impairment of nutritive cell is found at its maximum in the ultimate capillaries. The gum and peridental sockets afford by far the best example of the most ultimate of capillaries.

It is not unreasonable to suppose that the chemical change that takes place in the blood under such circumstances varies according to the organ involved and nature of the malady. This accounts for the great difference in the clinical picture of the gums in different forms of pyorrhea alveolaris. Irritation from uncleanliness soon destroys the first defense and the clinical appearance of the localized infected area varies from the soft spongy bleeding gums in diabetes to the firm pale and indurated gum in chronic nephritis. It varies from the dark purplish gum in valvular affections of the heart to the livid light pale gum in pernicious anemia.

These differences in the clinical picture when once understood point with unerring certainty to the original cause of the disease. Many years ago I was impressed with the value of mouth inspections in applicants applying for life-insurance, especially when some incipient form of malnutrition existed. Referring the matter to one of the largest companies I was met by a positive refusal even of investigation, because the officers did not desire to increase the difficulty of taking out an insurance policy.

INFECTIONS FROM BLIND ABSCESSES

Considering now the second division of our subject, we are confronted with an entirely different clinical picture. The fact that teeth may have abscesses at the ends of their roots without the exudation therefrom reaching the mouth has long been noted; but only since the use of the *x*-ray has become known in bringing to our view the detailed picture of the alveolar process have we been aware of the large number of blind abscesses which exist. Even to-day the skiagram is used so sparingly for diagnostic purposes that it is difficult to estimate the number of persons who are suffering from the constant absorption of pus sealed in the bony recesses at the end of a root and of which there is no external evidence. Gilmer of Chicago estimates this number at 25 per cent of the population.

Most of these abscesses are a result of the putrefaction and infection of a dead pulp in a tooth. There are, however, a proportion of abscesses which develop around the ends of the roots without any infection from the pulp, as these are known to be alive in many cases.

These are known as pericemental abscesses. There are also a certain proportion of such abscesses found at the ends of teeth in which there have never been any fillings, and which have never even had any external defects of structure; but when the teeth are opened the pulps are found to be dead. In such a case it is not unlikely that the death of the pulp is due to the pericemental abscess.

Inflammation with subsequent infection in the periapical space is at once accompanied by an effort of Nature to limit the area of the pathogenic exudate, and as a result a thick fibrous envelope, a granulomatous defense, surrounds the periapical space, thereby protecting the adjacent parts as much as possible.

The variation in the anatomic picture of the blind abscesses is great, not only as to size, shape and thickness of the protecting envelope, but as to the character of the exudate. When the power of the toxins rises to a certain pitch the envelope ceases to be able to protect the adjacent tissue. The inflammation becomes more extensive, the exudate forces its way between the sheaths of the tissue and generally terminates in an opening into the mouth by way of the alveolar plates. The spongy character of the alveolus makes their infiltration with pus a comparatively easy matter. Blind abscesses have been known to remain quiescent for many years, and then, on account of some change which has not as yet been scientifically demonstrated, produce such an increased activity as to lead to an open alveolar abscess.

Macroscopic investigation has demonstrated the fact that there must be a great variation in the constituency of the exudate, and in the number of cells, color and odor. The scientific investigation of these variations should prove interesting. Another field for investigation is to determine what may be the difference in bacterial nature between the exudate of a pericemental abscess and one resulting from putrefactive pulp tissue.

There is little doubt that in most cases of blind abscess a gradual absorption of the bacteria is going on continuously. The pathogenic bacteria escape from the local foci of infection by penetrating into the surrounding pervious lymph spaces and capillary vessels into which they push through continuous growth or are carried by their own motility or by motile phagocytes.

If time permitted it would be interesting to detail the histories of some of the numerous cases of blind abscess which have been followed by lymphatic infections, skin affections, septic endocarditis, arthritis, nephritis, etc. That such pathologic conditions ensue is borne out by the clinical observation of most reliable authorities.

Given a large carious cavity with a dead pulp, it is most probable that any of the well-known pyogenic bacteria could find a most favorable lodging place in such a pulp, where propagation would be a simple matter.

Undoubtedly bacteriologic investigation of the exudate in such abscesses and also of the focus from which they spring is necessary before we can make any scientific assertions of the diseases which may ensue from such a pus product.

This will be no easy task for the investigating dental bacteriologist. Some valuable work has already been done. In discussing this subject at the last meeting of the American Medical Association, Dr. C. J. Grieves of Baltimore stated that together with Dr. W. S. Baer of Johns Hopkins University he had made a study of over a hundred cases in which apical infection in blind abscesses was the primary portal of entry resulting in septic arthritis. In some of these cases of blind abscess they were able absolutely to isolate the infecting microorganism; this was found in all cases to be the staphylococcus. He says further:

> In almost every instance there had been some bad *apical* dentistry done; some portion of necrotic tissue left or some effort made to fill the root canal. . . . These cases were of long standing, with abnormal temperature that ran for months. Some simulated tuberculosis, but most of them were arthrities. . . . In many fistula cases associated with arthritis (not blind abscesses), when the fistula healed, the temperature of the patient would go up, showing pressure absorption from retention of pus, and when the fistula was opened and drained, the temperature would become normal again.

It must be remembered that Grieves and Baer were investigating only arthritic conditions. A few isolated cases will not suffice; they must be so numerous and of so great a variety of disease as to satisfy the scientific world. Clinical evidence, however, leaves us to-day in a position to believe that such investigation will show that there are few infectious diseases which may not start in this manner.

If anything approximating such a condition is found to be correct it makes the blind abscess much more dangerous than free pus in the mouth.

In these cases there is absolutely no escape from the penetrating bacteria. The symptomatic rise in temperature that so often accompanies such cases depends in degree very likely on the amount of bacteria that are able in a given time to escape into the circulation.

Unfortunately as a profession we must admit that most of the cases of blind abscess are the results of imperfect dental operations. These may be the result in some cases of bad judgment of the operator; in others they may be due to ignorance and incompetency; but in a large number of cases the condition is due to an educated dentist failing to give the time needed to perform an aseptic operation and leave a field that is absolutely free from the possibility of future infection. This is undoubtedly nothing short of malpractice when done by a dentist who knows. In a number of these cases the fee which the dentist could obtain if he gave the necessary time would be so small that it would not give him a living wage.

In most instances the fear of losing the patient if he charged a moderate fee for the time needed causes many men to perform what may justly be termed septic dental operations. Very likely few of them realize the grave danger to the life of their patient that may result from such methods.

The time has arrived when we should understand that the art of our labor is only a means toward preserving the health of the most important part of the body.

Without deriding the great value of the mechanics of our profession and realizing that its usefulness is in proportion to the skill and manipulative ability of the dentist, we must recognize that no dental work in which danger of infection lurks is permissible.

The solution of this problem is the education of the physician and also our patients to the danger of leaving septic foci in any part of the mouth.

Summarizing, we can safely assert that the health of the individual is always menaced by infection if pus is allowed to be produced in the mouth or locked between the walls of the alveolar structure.

All local causes of such infection should be removed as far as feasible.

Neither the mummifying method nor the retention of any small amount of pulp tissue in a root canal should be tolerated. Adequate methods of pulp removal have been evolved which are feasible in the vast majority of cases. This means removing from the root canals in an aseptic manner every particle of organic tissue, and sealing both ends of such an aseptic canal with a noninfectible filling material.

If a tooth is to be preserved under such conditions, the time required to perform such an operation properly should never be curtailed.

If for any reason it becomes impracticable to carry out a pulp operation on these lines the patient's interest is best served by the extraction of the tooth.

38 East Sixty-First Street.

OPERATION FOR EPITHELIOMA OF THE LOWER LIP *

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SAN FRANCISCO

The ideal operation for lip cancer would be one that permitted the removal of the disease in block with the cervical glands and intervening tissue, as in the radical breast amputation. The method of Stewart[1] accomplishes this, but the resulting infection and sloughing is frequently extensive and severe, so that death has not infrequently occurred. Such a block dissection is unnecessary, however, because these epitheliomas seem to form their glandular metastases by embolism rather than by continuous growth along the lymphatics as in cancer of the breast. Moreover, the lymphatics draining the lips do not run over the point of the chin, which can be left to form a valuable support for the new lip.

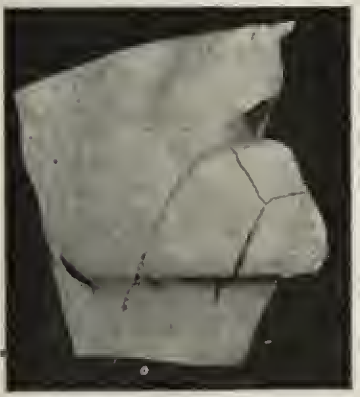
Fig. 1.—Incision outlined and carried down to mucous membrane. Hemostasis made as complete as possible.

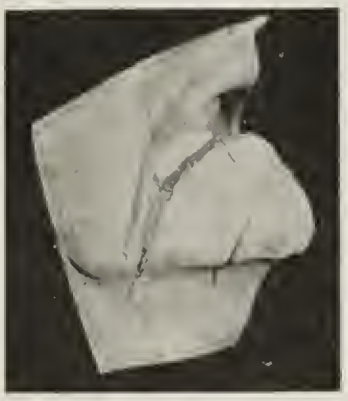
Fig. 2.—Mucous membrane flap dissected off. New lip beveled.

Lip cancer, on account of the loose tissue of the lip and the constant motion of the muscles, is prone to infiltrate far beyond the visible ulceration, and one should therefore feel free to cut wide of the apparent cancer. The V incision does not accomplish this, and I prefer, when less than half of the lip at its middle is to be taken away, to use the diverging incisions of Cheattle.[2] When the lateral half, or more than half in the middle is to be removed, the usual operations described make a very tense lip and frequently result in sloughing; other operations, as those of Estlander and Bruns, destroy the nerve-supply of the upper as well as the lower lip; others, as those of Von Langenbeck and Delpech, do not provide a mucous lining for the flaps, and those of Regnier, Diffenbach, Buck and Buchanan leave extensive raw areas. In my service, while we have not devised a new operation, we have combined the features of several others in the following fashion:

The operative field is anesthetized regionally after the method described by Eloessor.[3] In passing, I should like to emphasize heartily my concurrence in his statement that when an operator has done mouth-and-face operation in this way, he will never go back to general anesthesia. The proposed incisions are outlined by tincture of iodin (Fig. 1), those surrounding the growth being half an inch away from visible and palpable new growth. The flap is formed by slightly diverging curved incisions running from the angle of the mouth and the base line of the excised area over the cheek to the neck. The flap should contain the facial artery (Fig. 3) and be somewhat broader at the base than at its tip. The upper edge of that portion of the flap which is to form the new lip is beveled upward and a mucous membrane flap dissected from the cheek above to form a new vermilion border (Fig. 2). All incisions are at first carried down to mucous membrane and fascia, and bleeding completely stopped before the cavity of the mouth is entered.

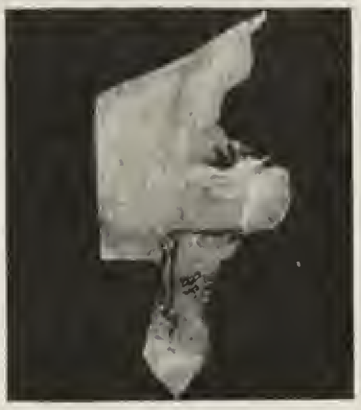
Fig. 3.—Lip removed, leaving strip of mucous membrane attached to jaw. Flap separated from jaw (flap containing the facial artery).

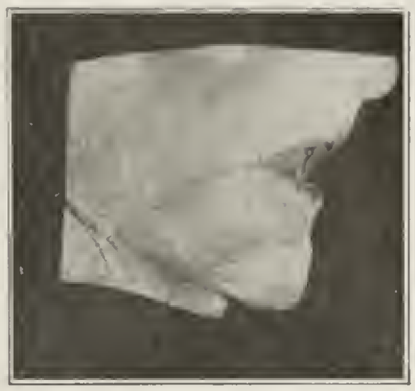
Fig. 4.—Operation completed.

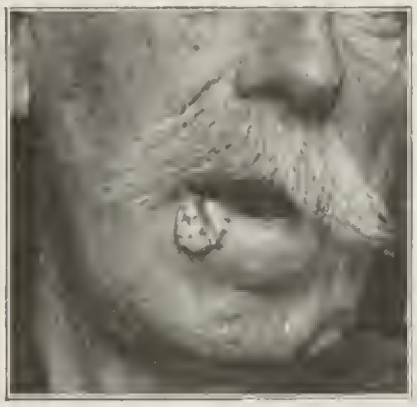
Fig. 5.—Epithelioma of lip in patient aged 72.

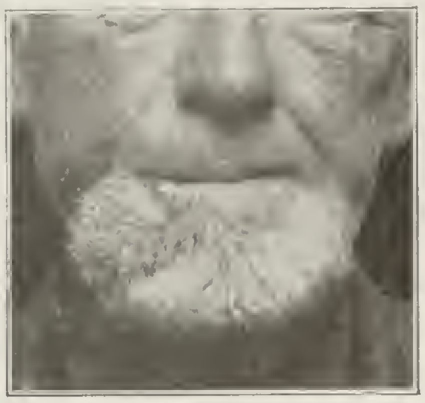
Fig. 6.—Result six weeks after removal of half of lip and part of cheek of patient shown in Figure 5.

The mucous membrane is now cut through and the lip removed (Fig. 3), leaving a strip attached to the jaw in front. The flap is detached from the jaw, but it is not necessary to dissect it loose from the neck (Fig. 3). If the head is bent forward the flap will now slide into

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* From the surgical service and laboratory of the San Francisco Polyclinic.

[1] Stewart, J. Clark: The Radical Treatment of Epithelioma of the Lip, THE JOURNAL A. M. A., Jan. 15, 1910, p. 175.

[2] Cheattle, G. Lenthal: Epithelioma of Lip, Practitioner, London, July, 1906.

[3] Eloessor, Leo: Recent Advances in Regional Anesthesia, Cal. State Jour. Med., March, 1912.

place without tension and is sutured first to the strip of mucous membrane left in front. It is not necessary to remove a triangle from the cheek except when the cancer is at the angle.[4] The rest of the mucous membrane and skin sutures are now put in place (Fig. 4).

Before the new vermilion border is sewed in place, hemostasis must be very carefully attended to, or the thin flap will be lifted off and die. The lower part of both incisions is left open and the drainage is taken care of by gutta-percha tissue. This must be left in for several days to prevent pocketing and thickening of the flap. If Steno's duct has been cut it is reinserted through a puncture hole in the mucous membrane and held by a single catgut stitch. After the operation the mouth must be carefully washed at frequent intervals with 0.25 per cent. compound solution of cresol, special care being used to irrigate between the new lip and the teeth. Two weeks later the block dissection of the neck is made in accordance with the principles laid down in a former paper.[5]

Figures 5 and 6 show epithelioma of the lip and appearance of the patient six weeks after operation.

162 Post Street.

MEDICAL SUPERVISION OF FACTORY EMPLOYEES *

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The modern factory is an epitome of human effort. So much depends on the physical condition of the men employed that it is curious that only recently has the employee received any attention. A change of this condition is now rapidly taking place, and more and more attention is being paid to the man problem.

In most factories this attention has taken the form of improved sanitary and working conditions and care of accidents. Natural progress toward increased efficiency, as well as recent compensation laws, is exerting pressure along new lines, and a scientific study of the physical condition of employees in sickness and health would seem to be the next step.

The problem has been worked out in a superficial way during the past year by a manufacturing plant in Worcester, Mass.,[1] employing about 1,200 men and women, the men greatly predominating. The methods employed and the results obtained form the matter of this paper.

It is obvious that before accurate work can be done with a large number of individuals, a definite knowledge of the physical condition of each must be obtained.

Our first step, therefore, consisted in making a complete physical examination of each employee in a small, well-equipped hospital and recording the same on a card for filing. The examination was made as complete as that given to patients admitted to a general hospital with the exception of the urinalysis, which was done only when some indication existed. We should have made a urinalysis in every instance if time had permitted. Where no defect was found the word "normal" was stamped opposite the part examined, but all defects were carefully noted at length, and filled in on the diagram. At the end of the card, under "diagnosis," the most prominent defects were noted, as well as any general remarks on the case.

In each case the examination was carried on with no third person present, and after its completion the employee was told of any defects found and advised as to the best method of caring for himself. Thus, men having defective eyes were advised to see an oculist, those having hernias to procure trusses, while those with heart trouble were not only advised as to exercise, etc., but, when there was any sign of disturbed compensation, the patient was reported to the superintendent for change of work at the same wages. This was arranged in every case.

As far as we know no factory or corporation has up to this time made a complete physical examination of each employee, with the object of remedying any defects found which could be remedied. Railroads and certain other corporations demand a physical examination of employees from a selective point of view, but defects are not remedied. If severe, they prohibit the applicant; if slight, they are passed over. Under the system we are now considering, every effort is made to gain the cooperation of the workman in overcoming his defects and the company endeavors to assist him by slight changes in the type of his work where this is indicated.

Naturally when active contagious disease is discovered, the employee is discharged until in condition to work without danger to others.

It will be readily recognized that a large number of defects play only a small part in unfitting a man for work, but the constant drag of these little things in the long run acts as a marked handicap.

After a complete physical examination had been made of each employee and those found to be defective in any organ advised of their defects, the defectives were grouped by cross-index into regional defects; thus, all defective eyes were grouped under "eyes," defective ears under "ears," etc., etc.

A reexamination was then begun to ascertain whether the men had followed the advice given, and with what result. The result of the reexamination was most gratifying. It was found that in almost every case the men had followed the advice, and in many cases were already much relieved. For instance, it was found that the men with hernia had all procured trusses, and one went so far as to have the curative operation performed. The men with heart trouble, several of whom had disturbed compensation, were also much more comfortable, partly owing to slight changes in their work, and partly to the realization of their condition and what they must avoid.

It was evident, on looking over the eye defects, that glasses would be necessary. The men were called to the hospital and a free examination by a first-class oculist was offered them, without cost, provided that they would consent to buy the glasses prescribed. With eighteen exceptions the men agreed, and the company immediately made arrangements with a prominent oculist to examine the eyes and prescribe glasses and also to examine the defective ears more carefully. This work has been completed but the results have not yet been reported.

The examination of the lungs was extremely interesting because of the small amount of trouble found. The nature of the business (making grinding wheels) led us to expect a large number of cases of chronic lung disease; we found only thirty cases of emphysema and six cases of active pulmonary tuberculosis. The latter disease was sought for particularly. Sputum examinations were made in all suspected cases, frequently three times, temperature was taken in the afternoon, and reexaminations were made at regular intervals. By these careful methods three incipient cases were discovered and the patients were sent to sanatoriums where the diagnosis and stage of the disease was confirmed. One of the patients has just returned to work cured.

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[4] Sutton, Walter S.: A New Incision for Epithelioma of Upper and Lower Lips of Same Side, The Journal A. M. A., Aug. 20, 1910, p. 647.

[5] Ryfkogel, H. A. L.: Special Factors Concerning Surgery of Cancer of the Lip and Tongue, Cal. State Jour. Med., May, 1912.

* Read before the Worcester County Medical Society, Sept. 11, 1912.

[1] Norton Company.

Among the less serious conditions in which the relief given was much appreciated, flat-foot stands prominent. Putting men with this defect on simple plates has made a great change in their comfort and ability to work.

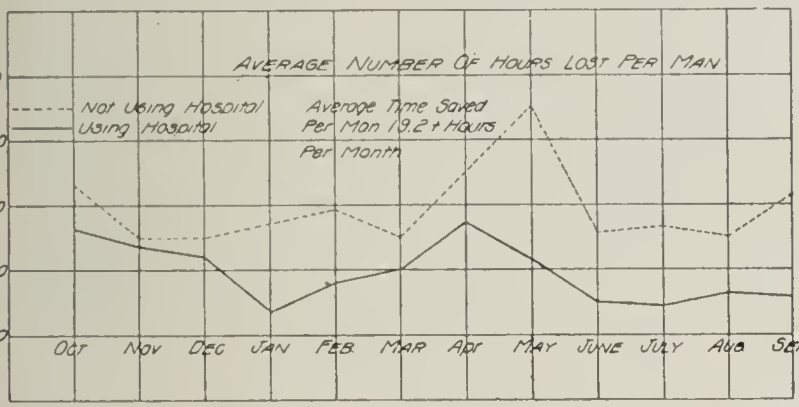


Fig. 1.—Chart showing the average loss of time for one year of all men losing time on account of sickness. Those using the hospital are represented by the unbroken line; those not using the hospital, by the broken line. Men using the hospital and not losing time are not considered.

Although the examination of the genito-urinary tract was made with considerable care, only four cases of gonorrhea and but one case of syphilis were found. We consider this condition of things extraordinary and can give no explanation.

It will be at once evident that examinations and reexaminations while of great value will not by any means cover the medical needs of a large factory. Accidents must receive first aid and, under the new workmen's compensation act, subsequent dressings, and cases of immediate sickness must be provided for in such a way that the least possible time will be lost.

Sanitation must also be inspected and kept at the top notch of efficiency. In the plant in question these matters are all in the hands of the medical department, which has divided its duties into medical and sanitary.

MEDICAL ARRANGEMENTS

The medical arrangements may be divided into medical and surgical.

1. *Medical.*—All men reporting themselves sick are advised by their foremen to go to the hospital for examination and advice. On arrival at the hospital a careful history is taken on a separate card, just as it would be at a general hospital. Then the physical examination card is gone over in order to see if there are any defects which may be the basis of the complaint. Thus, in a case of vomiting, it is of obvious advantage to know that there is no hernia, or to know that there is a poorly compensated heart lesion present in a case of dyspnea. After comparison of the history with the physical findings, if the symptoms warrant it, a local physical examination is made, and the temperature and pulse are taken. A full record of the physical examination is made, and a tentative diagnosis written. The patient is then advised whether to continue work or not, and his condition is explained to him.

When there is any condition requiring immediate medication it is given, but no cases requiring the care of a physician are treated. When a man has a temperature of 100 F. or over, no matter what the diagnosis, he is sent home at once, and urgently advised to call in his family physician. There are, however, a large number of patients who do not come under this category. These men apply to the hospital with beginning colds, constipation, diarrhea, myalgia and all the simpler ailments of every-day life. We have found that these patients, if uncared for, go home, lie around for two or three days, and finally return to work in a rather miserable condition. They cannot afford to call in a physician, will not go to a clinic and so resort to home medication. After obtaining this history from a number of men, we decided to give the very simple treatment indicated, provided the patient did not have a temperature exceeding 100 F.

The results have been most gratifying. By a system of cards filed with us by the foremen on the return of a sick man to work, and a comparison with our hospital files, we have been able to make out a chart of the average time lost by the men using, versus the men not using, the hospital (Fig. 1).

The conditions have been fairly parallel; in some cases, as in a slight epidemic of infectious sore throat, almost exactly so. Moreover, the men applying to the hospital had, in the majority of cases, more real sickness than those not applying, the reason being that as the work is done on a piece basis, men did not come to the hospital on their own time unless really in need of help.

We also found that very many of the men who lost time did not use the hospital because they did not become sick until after they had left the factory, and therefore had had no medical assistance. Therefore we feel that the saving of time by those using the hospital is a fair index to the efficiency of the prophylaxis adopted.

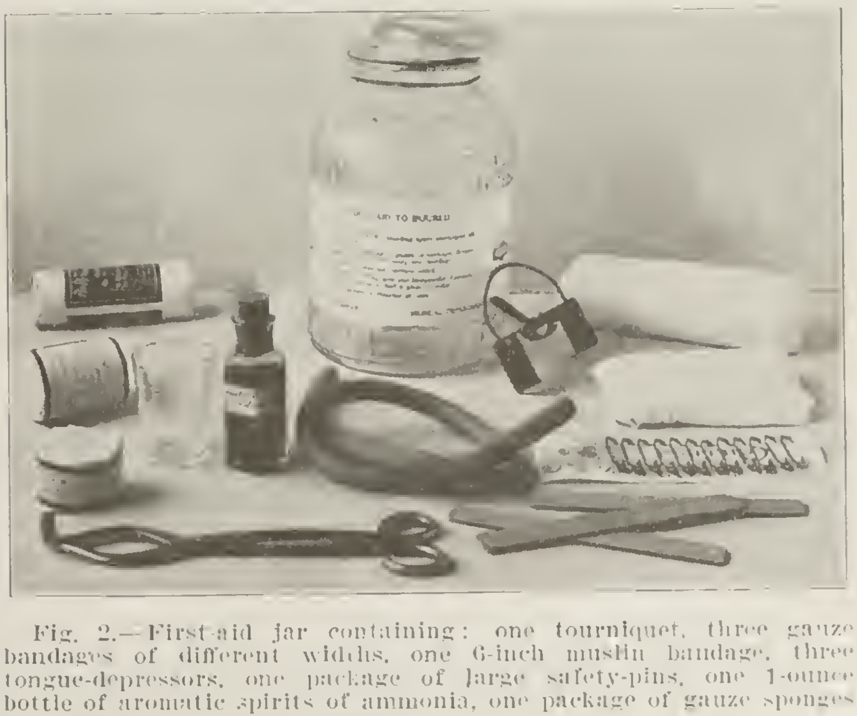


Fig. 2.—First-aid jar containing: one tourniquet, three gauze bandages of different widths, one 6-inch muslin bandage, three tongue-depressors, one package of large safety-pins, one 1-ounce bottle of aromatic spirits of ammonia, one package of gauze sponges and one pair of crucible tongs.

We would reiterate that our object is to prevent, not to cure, sickness in the factory.

2. *Surgical.*—In the treatment of accident, however, our object is to cure in the shortest possible time, following exactly the wishes of the patient in regard to the saving of mutilated parts. Our method of handling accidents is as follows:

The foremen, having received a thorough course of instruction by the physician in charge, were all provided with first-aid jars (Fig. 2). The advantages of these jars over the commonly used boxes are:

1. They are clean and can be used to carry water to the injured when necessary.

2. They are transparent, and it can be seen at a glance whether they are completely equipped.

3. They are easy to carry.

4. They cannot be opened and the contents extracted by a nervous person. (The opening is too small to admit the hand and the contents must be withdrawn by the tongs, which are also used for holding out the tongue in cases of electric shock, etc.)

Posted in each department is an abbreviated card of instruction for accident.

The majority of accidents are treated in the hospital without a first-aid dressing, and it is only under severe emergencies that the jars are used.

A male trained nurse is in constant attendance at the hospital, and on the arrival of an injured man he cleans and dresses the wound. For the last six months we have used the benzin-iodin cleansing and a dry dressing; for the eight months preceding we used the usual soap and water-bichlorid method. The results have been equally good and in fourteen months we have not had a single case of infected wound. We treat on the average two fresh wounds a day. We prefer the benzin-iodin preparation of wounds, because it is quick and not so painful as the scrubbing.

When a serious accident occurs the nurse calls up the physician (who spends an hour and a half each morning and afternoon at the factory) and has the patient prepared for treatment on his arrival. The history, physical examination and treatment, as well as subsequent dressings, are carefully noted on a card similar to that used for cases of sickness.

SANITARY METHODS

The sanitary arrangements in most factories are under the supervision of a man who has many other, and to him, more important duties. The result is a neglect of everything but the grossest necessities, after the instalment of the sanitary fixtures. In the factory under consideration this, and all kindred responsibility, is turned over to the medical department, where the responsibility should rest.

We divide our work into (1) the care of toilets and locker-rooms; and (2) matters pertaining to the general health of the factory.

1. Our system for keeping toilets and locker-rooms in the best condition is as follows:

A. In each plant a man is assigned who does nothing but clean and polish. This employee is entirely under the control of the hospital nurse from whom he receives his orders.

B. The hospital nurse makes rounds weekly and reports to the physician.

C. The physician makes rounds every two weeks, examining everything personally, and recommending any changes he may consider necessary.

The cleaning methods adopted are those in use in the U. S. navy, and are very efficient for factory use.

2. Matters pertaining to general health of the factory. A description of the work done during the past year will explain this branch.

A. Flies.—Early in April a careful investigation was made of the grounds for fly-breeding spots. Several of these were found and they were promptly eliminated on the physician's recommendation. As soon as the flies first began to appear traps were set in all departments, and the entire office building carefully screened. This had already been done in past years but we were able to improve on it in a number of places. The result was an acknowledged lessening of flies all over the works, and a practical abolition of them in the offices.

B. Care of Telephones and Phonographs.—An order was sent out from the main office requesting all departments having telephones or phonographs to keep the mouth-pieces clean with a solution provided in small bottles by the medical department.

We then left a 1-ounce bottle of 2 per cent. liquor formaldehydi with a dozen cotton sponges at each telephone and arranged a wire with a piece of gauze attached for cleaning the phonographs. The hospital nurse makes regular weekly rounds to see that telephones and phonographs are kept clean.

C. Rats.—These appeared in large numbers about the dump previously mentioned. After removing the garbage, we saturated 60 pounds of waste meat with strychnin and placed it where the garbage had been. The meat disappeared and so did the rats.

D. Noticeable Spitting.—This has been reduced to a minimum by notices and a type of cuspidor (designed by the medical department) which is very large and easily cleaned. It is filled half full of a mixture of sand and chlorinated lime.

E. General Information in Regard to Hygiene and Prophylaxis.—This is given by a series of folders called "health bulletins." The medical department publishes one of these bulletins each month and distributes them in the pay envelopes of the men. The subjects treated thus far are (1) rupture, (2) spitting, (3) flies, (4) diarrhea and (5) the human eye. These bulletins are eagerly sought for and read by the men, and already their influence is becoming apparent in the intelligent interest shown by applicants for hospital advice.

CONCLUSIONS

From the results of sixteen months' work we have drawn the following conclusions:

1. It is possible for a simply equipped medical department to control with success the sickness and disability from accident in a large factory.

2. A complete physical examination of all employees is perfectly possible and of great advantage to employer and employee.

3. A system of prophylactic treatment in cases of sickness and accident will materially lessen the amount of sickness and decrease the loss of time.

4. The sanitation of a large factory and all matters pertaining to the general health of the employees can best be maintained by a medical department.

5. Far from exciting distrust and antagonism, a shop hospital, run on the lines laid down, will create a feeling of good will between employee and employer.

37 Pearl Street.

Rural Typhoid.—The country people at present have not learned those precautions which are absolutely necessary to prevent the spread of the disease from the bedside of the patient, and that frequently the disease is spread over large areas of country by contact alone. From our knowledge of the transmission of typhoid, taking into account the isolation and lack of intercommunication of the country people, we may confidently expect that an improvement in the sanitary arrangements of our farms, specifically in the building of a sanitary privy for every home and a more careful observance of the precautions of the sick-room, will result in a marked decrease in the prevalence of typhoid in rural districts.—Freeman, *Public Health Reports.*

THE TECHNIC OF GASTRO-ENTEROSTOMY

WILLARD BARTLETT, A.M., M.D.
ST. LOUIS

For years I have performed gastro-enterostomies in a manner that permits the position and direction of the incision in both stomach and bowel to be accurately located. I have felt that this is not always accomplished, as the operation is ordinarily performed, because a relatively large amount of each viscus is drawn up between the jaws of the Moynihan clamp before the sutures are placed.

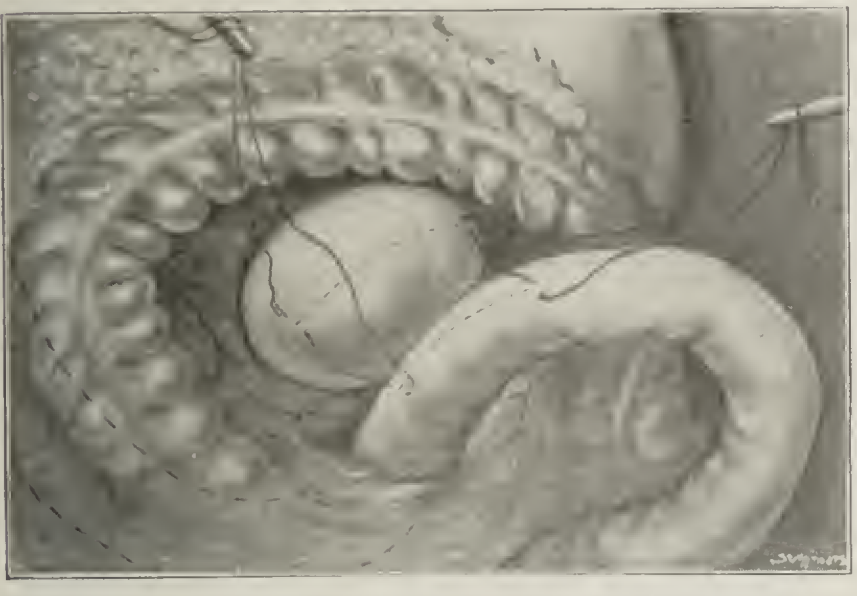


Fig. 1.—The stomach and jejunum are caught with two sutures in such a manner that the highest portion of the jejunum is applied to the lowest portion of the stomach which naturally lies contiguous to it, the object of this being that the intestine may follow its natural course when the operation is complete, as suggested by W. J. Mayo.

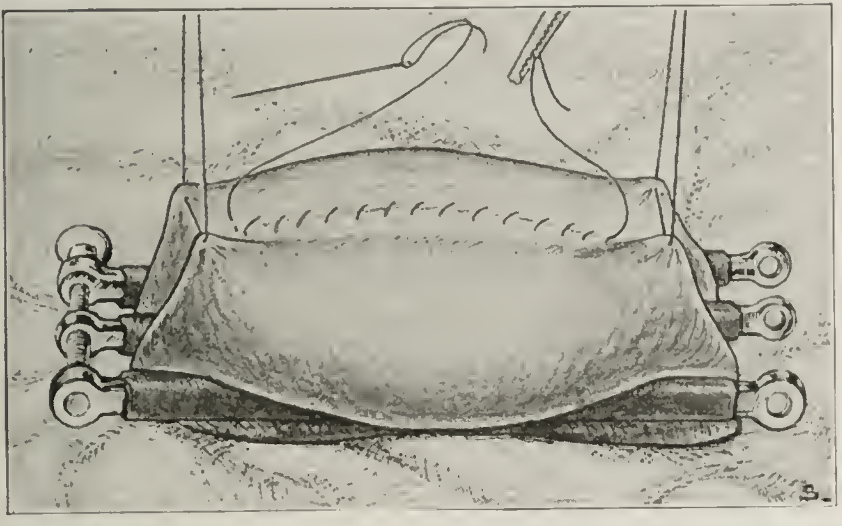


Fig. 2.—A continuous serous suture of silk has united the two points at which the viscera have been approximated by the threads referred to in Figure 1, and now the middle blade of the gastro-enterostomy clamp has just been inserted under this union and the device is ready to be locked.

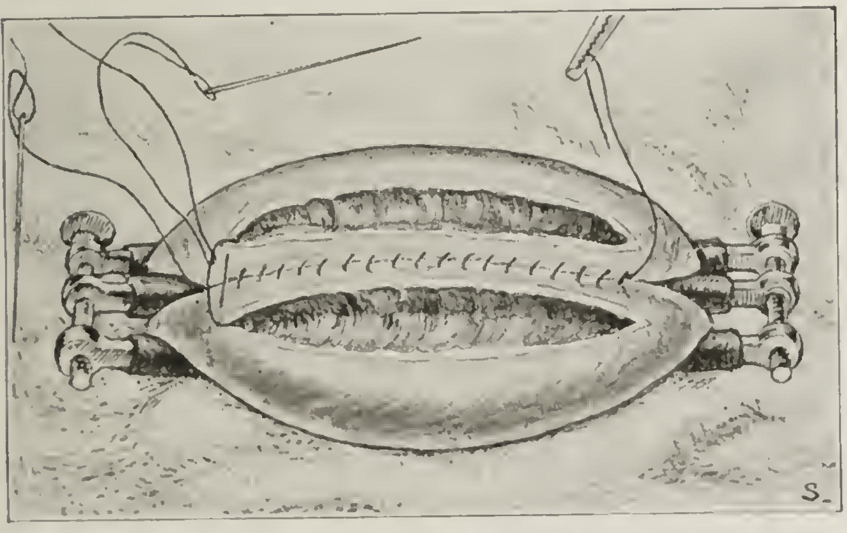


Fig. 3.—The clamp has been locked, the stomach and intestine have been cut open and the inside row of silk continuous sutures commenced.

In performing a gastro-enterostomy, there is an anatomic status which should be obtained—a status which William J. Mayo considers most satisfactory—namely, the establishment of an opening starting about the middle of the posterior wall of the stomach and running obliquely downward and to the left, as shown in Figure 1.

After the abdomen has been opened I expose the highest part of the jejunum, without altering its normal direction, as it passes out from under the peritoneum. Two guide sutures are then placed in the wall of this structure at two points high up and almost 7 cm. apart. The stomach is then brought down through an opening in the transverse mesocolon and the posterior wall of this viscus is matched accurately to that portion of the jejunum between the silk sutures.

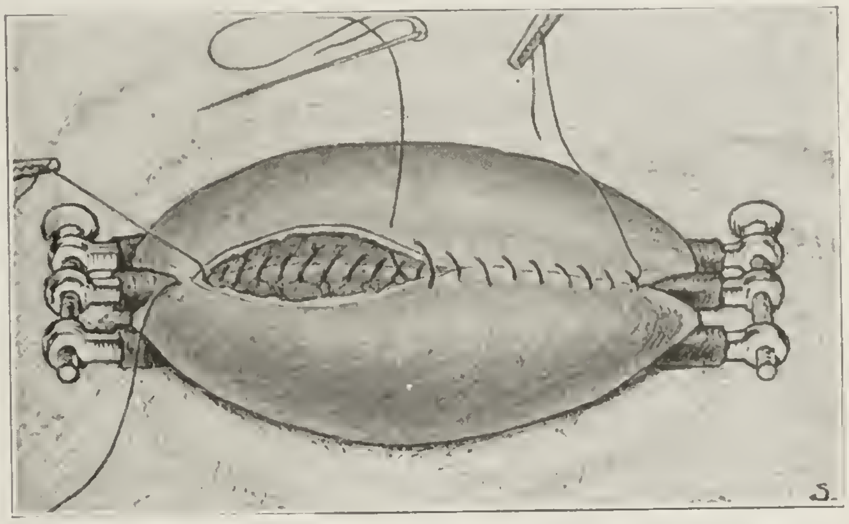


Fig. 4.—The posterior portion of the inner suture line, as well as one-half of the anterior portion, are complete.

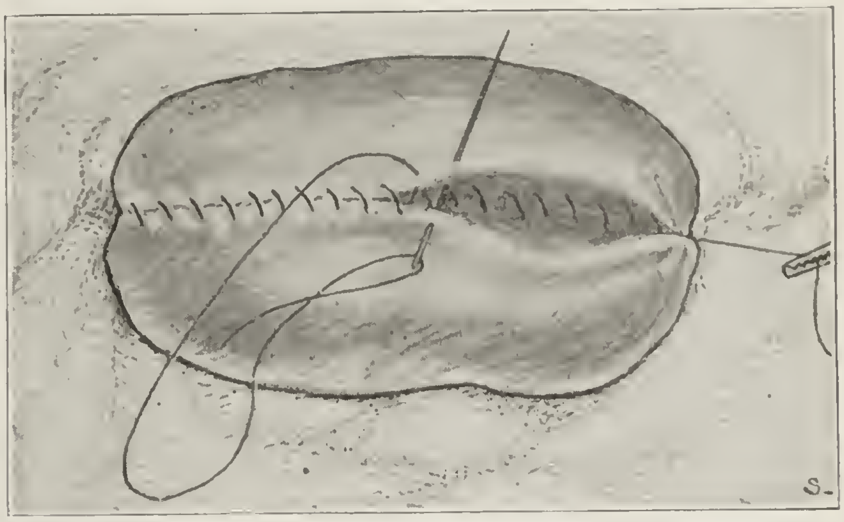


Fig. 5.—Completion of the inner row of sutures. The clamp has been removed to facilitate approximation. The anterior half of the outer row of sutures is seen to be half-way complete.

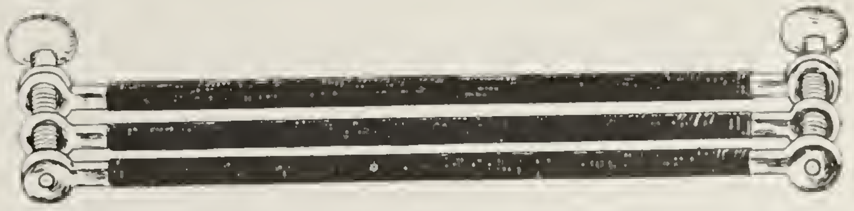


Fig. 6.—The author's gastro-enterostomy clamp. It exerts uniform pressure all along its three blades. This can be graduated to any desired degree since two of its blades float and the screws are tightened only after the desired pressure has been obtained by one hand bringing all of the three blades together to prevent the escape of blood and visceral contents.

With the proximal suture the contiguous stomach wall is caught at a point about midway between the two curvatures, while the lower, in a normal case, is inserted into the stomach wall, well toward the right and at, or very near, the greater curvature. Thus the position and direction of the jejunum determine the intended incision in the stomach (so that when the viscera are replaced in the abdomen at the completion of the operation, they lie approximately in their normal positions). A continuous Lembert suture of silk is then placed, uniting the two points at which the viscera have been approximated by the guide sutures (Fig. 1). My gastro-enterostomy clamp is now placed in position with the middle blade, as shown in Figure 2, under the line of union made by the running suture. The clamp is then locked, and the stomach and intestine are opened (Fig. 3). An inside row of through-and-through continuous sutures is carried completely around the opening (Fig. 4). The clamp is now removed, so as to facilitate approximation, and the through-and-through continuous sutures are covered by an outer row of silk sutures, which brings together the serous surfaces (Fig. 5). The lips of the wound in the transverse mesocolon are now attached to the suture line in several places.

The gastro-enterostomy clamp (Fig. 6), which I have devised is made up of three blades held together by two screws. The advantages of using the clamp are twofold: it exerts a uniform pressure along its three blades, and this pressure can be graduated to any desired degree, since two of its blades float.

405 North Grand Avenue.

GRAFTING AND TRAUMATIC DISSEMINATION OF CARCINOMA IN THE COURSE OF OPERATIONS FOR MALIGNANT DISEASE

WILLIAM J. MAYO, M.D.
ROCHESTER, MINN.

Ontogenous grafting of carcinoma may occur spontaneously especially at points of contact, as about the labia, vulva, and in the gastro-intestinal tract. In the large intestine, at least, grafting may occur not only at points where the mucosa of the opposite wall of the intestine comes in contact with the carcinoma, but has been known to occur by the process of "seeding," in which malignant cells from the tumor have become detached and grafted on the surface of the mucous membrane, sometimes at a considerable distance from and usually below the original growth. The grafting may take place above the growth as well, the cells being carried to proximal points by antiperistalsis.

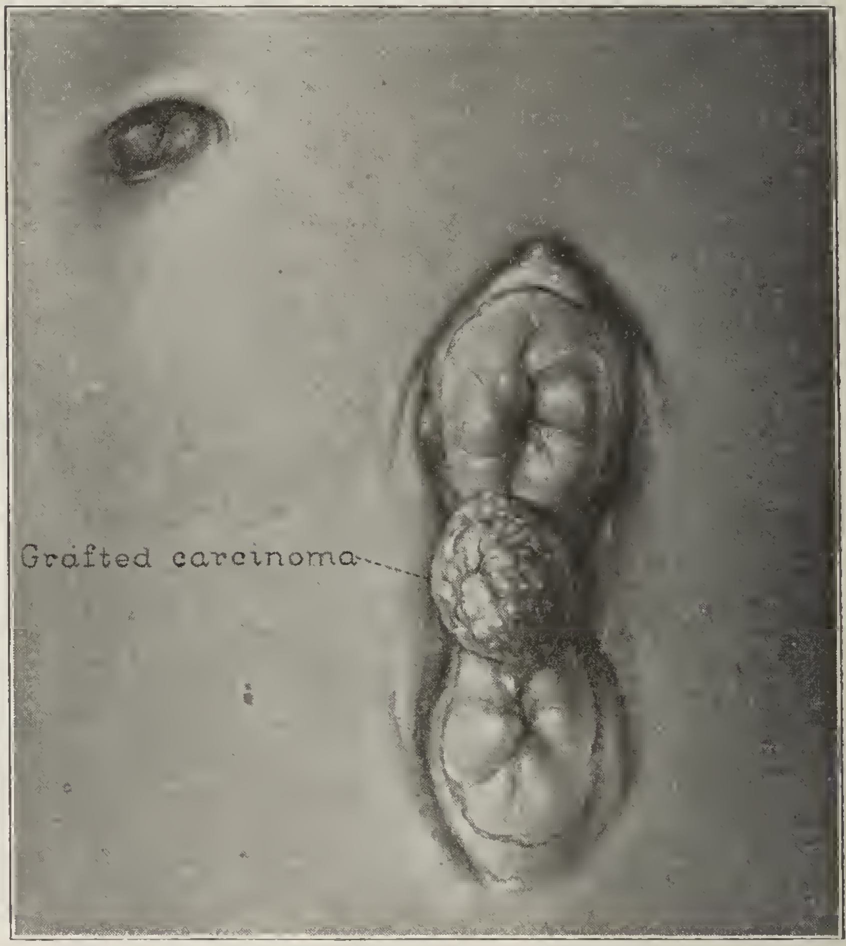
In the days of Rokitansky and Virchow, morbid anatomists recognized ontogenous grafting of carcinoma, and interesting references to its occurrence will be found in the literature of that period. Little, however, seems to have been written concerning it within recent years. I remember an incident which occurred while I was a student in medicine. My father called my attention to a carcinoma of the upper lip which had grafted from an advanced carcinoma of the lower lip, and told me that he had observed similar conditions in other situations.

Realizing the possibility of spontaneous ontogenous grafting of carcinoma, we must also appreciate that the condition may be induced by operative manipulations.

In one of my early resections of the pyloric end of the stomach I had an unpleasant experience. The abdominal wall became infected with carcinoma in the needle punctures made in closing the abdominal incision. This was before the days of elastic clamps which control the escape of the carcinomatous material into the abdominal wound. After this example of carcinomatous grafting I began searing the raw surfaces of the stomach and duodenal stumps following partial gastrectomy for cancer, because I believed that grafting sometimes occurred from bits of loosened carcinomatous tissue freed at operation and left in the cavity of the stomach.

Ontogenous peritoneal grafting in carcinoma of the stomach occurs frequently and is especially common in the pouch of Douglas. These points of grafting may be felt by rectal examination as typical nodules attached to the anterior wall of the rectum on its peritoneal surface. The ovaries are particularly susceptible to such grafting; the involved organs rapidly become cystic and may obscure the original focus of the disease. An example of late grafting occurred recently in our clinic.

The patient, a woman aged 38, from whom two-thirds of the stomach had been removed two and one-half years previously, returned to the hospital with secondary involvement of the ovaries and pelvic peritoneum, but without evidence of involvement in the upper abdomen.



Carcinoma grafted on granulating left rectus colostomy wound.

Another case which occurred in our experience is an example of the possibilities of carcinomatous grafting in a granulating wound. A two-stage operation for carcinoma of the rectum was performed. At the first operation a permanent colostomy was made in the left rectus muscle, and after thorough cleansing of the rectum and lower sigmoid by means of irrigation between the anus and colostomy wound, on the twelfth day the entire rectum and rectosigmoid were removed from behind, using a modified Kraske exposure. The sigmoid was divided at a point six inches above the growth, the end turned in and left as a blind attachment to the colostomy wound. The patient made a prompt recovery and went home at the end of four weeks. Seven weeks later he returned with a typical carcinomatous growth on the inner edge of the colostomy opening. At the time of his dismissal there was a small granulating area unhealed on the mucocutaneous margin of the colostomy wound. There were no other evidences of metastasis, and after the removal of the localized growth the patient had no further trouble. (See illustration.)

The obvious explanation in this case is that during operative manipulations pieces of the carcinoma were loosened and left in the sigmoidal pouch, and as they were discharged out of the colostomy opening grafting took place at the site of the granulations just as bits of skin might have been grafted to this surface.

Therapeutic grafting of normal epithelial elements to cover raw surfaces is of course a well-known procedure. The Reverdin grafts, the Thiersch and Wolff grafts, represent the common forms. That therapeutic grafting is by no means confined to ontogenous sources is shown by the excellent work of Davis,[1] who has grafted such surfaces by means of cold-storage material obtained from amputated limbs, etc., and used it successfully as long as four weeks after the amputation. We know that epithelial cancer has potential initiative far in advance of normal epithelium, and that what happens under scientific direction for therapeutic purposes may be equaled by pathologic accident.

One reason for the small percentage of permanent cures following operations for cancer of the cervix is the proximity of the ureters to the cancerous process in the cervix. Normally the ureters and cervix are ¾ inch apart, but with malignant enlargement of the cervix they may lie in contact. While it is true that the ureters are not often involved primarily, we cannot expect to push them back out of the way during operative manipulations without carrying infection, as the results often demonstrate.

Traumatic dissemination of malignant disease is not uncommon. We have observed several cases of cancer of the breast which have been squeezed and manipulated by ignorant persons until a comparatively curable case has been rendered hopeless because of acute involvement of the skin and fascia.

Embolic vascular dissemination through traumatism is common, especially in cancer of the rectum. The infected thrombi in the derivatives of the portal vein are loosened and carried to the liver.

It is now nearly fifteen years since I abandoned cutting instruments for the cautery knife in performing vaginal hysterectomy for cancer of the cervix. I believed that vaginal hysterectomy done in this way furnished an opportunity for carcinomatous infection of the wound and traumatic dissemination through the lymphatic and vascular systems. It is worthy of note that while I had few cures during the period in which the knife was used, I noted a considerable percentage of cures after adopting the use of the cautery. The unexcelled results achieved by Byrnes in the use of the galvanocautery in high amputations of the cervix for carcinoma were probably due largely to the elimination of these causes of cancer dissemination.

The better results attributed to abdominal hysterectomy for cancer of the cervix as contrasted with vaginal hysterectomy may not be due so much to the removal of the pelvic and iliac lymphatic glands as to the fact that thorough destruction of the carcinomatous cervix is accomplished with the cautery immediately preceding the abdominal incision. When such thorough destruction has been made immediately preceding vaginal hysterectomy, I have observed little if any difference in the ultimate results, other things being equal. There are, however, many cases which are not suitable for the vaginal operation and in which the abdominal route, by furnishing freer access, gives better results.

The removal of pieces of tumor for microscopic examination should be attended by some precautions, and if possible preparation for the immediate extirpation of the growth should be made if the frozen section shows malignant disease. If the suspicious tumor be localized, as in the breast, it is wise to remove the entire tumor for examination without cutting into it and then, if necessary, do the radical operation at once. If removal of the specimen cannot be followed by immediate extirpation, the wound in the growth should be sealed by the use of the actual cautery or pure phenol (carbolic acid).

We should take into strict consideration the possibility of the dissemination of carcinomatous material during operative procedures. A specialized technic should be inaugurated in which carcinomatous processes would be treated as though they were the focus of virulent infection.

The first and most important principle in operations for malignant growths is wide, local extirpation. More than a quarter of a century ago Heidenhain established the law that in operating for the removal of carcinomatous growths the limiting incision should be made at least 3 cm. from the visible expression of the disease. This limit is now considered by surgeons to be altogether too narrow for safety.

The second principle is the removal of the tributary lymphatics, if possible, by block dissection as advocated by Crile.[2] In this procedure the lymphatic channels, glands and the primary disease are removed in one mass.

The third principle in the operative technic in these cases is to avoid grafting or traumatic dissemination of malignant cells during the course of operation, and by proper prophylaxis prevent the possibility of grafting following operation.

TEMPORARY EMBOLISM OF THE MESENTERIC ARTERY

MAX BORNSTEIN, M.D.
MILWAUKEE, WIS.

REPORT OF A CASE

The following case ran a peculiarly interesting course and is worthy of note. I use the term "vegetative endocarditis" advisedly, because it was not possible to obtain an autopsy in order to verify the diagnosis of the pathologic condition of the heart.

History.—Oct. 3, 1912. Mrs. E. S., Hungarian, aged 27, married five years, had one child 3 years old. She had had two abortions, one before and one after the birth of this child. She gave an evident history of a former appendiceal inflammation about two years ago. Three weeks ago she consulted several physicians for the relief of some heart ailment. She was unable to recall any definite rheumatic attack. At 5 a. m., Oct. 3, 1912, I was called to see her. She was then in a very critical state; the case was one for emergency measures. Temperature was subnormal, and pulse rapid, weak and irregular. She was reacting from shock when I arrived, and was then suffering intensely from violent intestinal cramps. She appeared very anemic and was nauseated, but did not vomit. The heart was markedly enlarged both to the right of the sternum and to the left as far as the axillary line. There were murmurs over the mitral, aortic and tricuspid valves, but these were too weak to be defined.

Operation.—The patient was hurried to the hospital (Mount Sinai) where, two hours after the onset of the abdominal symptoms, I opened the abdomen and found the following conditions: The peritoneal cavity contained a considerable amount of turbid yellowish fluid; the small bowel and the ascending and transverse colons were intensely anemic and tightly contracted. During the manipulation of the bowel its color suddenly returned and the spasm relaxed. The vermiform appendix was removed. It contained five fecal concretions, each separately encysted. The uterus and its adnexa were normal. The liver was not enlarged, and the gall-bladder was easily emptied of its contents. The patient was returned to bed in fair condition.

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[1] Davis: Ann. Surg., 1910, li, 40-51.

[2] Crile: THE JOURNAL A. M. A., Dec. 1, 1906, p. 1780.

Three hours later the patient awakened from the anesthetic and complained of excruciating pain in her left leg radiating from her knee down to her foot, which was cold and cyanotic. The application of heat and elevation of the limb offered no relief, and the injection of morphin, ¼ grain, and scopolamin, 1/100 grain hypodermatically, eased her suffering. The pulse had disappeared from the posterior tibial artery where it winds around the internal malleolus, and it could not be felt in the popliteal space. Dry gangrene was the inevitable result and the line of demarcation became defined above the ankle-joint soon after.

Meanwhile the patient's general condition had vastly improved, and she was able to take and assimilate general hospital diet. The bowel movements had become regular and normal in appearance, and no blood was to be found. Urine contained hyaline and granular casts and albumin, but no sugar. She had no pains in the legs and nothing pointed to attacks of Raynaud's disease.

October 18, with the patient deeply under morphin and scopolamin and a very slight quantity of chloroform anesthesia, I amputated the left leg at the knee. The next day she developed acute dilatation of the stomach, which subsided after repeated lavage and several hypodermatic injections of physostigmin sulphate. A few days later while she was talking to her husband, she fell suddenly backward and expired after a few convulsive movements of the left side of her body. Autopsy was refused.

The question arises, were the tetanic intestinal spasms and the intense intestinal anemia due to an embolus, temporarily lodged in the superior mesenteric artery, or was there some other obscure cause which might account for these symptoms? Experiments on dogs have proved that temporary occlusion of the mesenteric artery produces violent tetanic spasm of the bowel with the accompanying anemia; if the occlusion is removed early enough, the bowel will return to its normal state, but if the occlusion is continued long enough, hemorrhagic infarction and sloughing ensue.

In this case I believe that the whole train of symptoms followed the erratic course of an embolus which had broken off from an endocardial vegetation and its lodgment.

This embolus was probably lodged at first in the superior mesenteric artery, from which place it was dislodged by the manipulation of the bowel and its mesentery when the abdominal section, which was apparently timely (two hours after the onset of the abdominal symptoms), was performed. The manipulation of the bowel and the mesentery probably forced the embolus back into the aorta, whence it was carried forward into the iliac and femoral artery of the left side, and finally lodged in the popliteal artery where it played further havoc—spasms and pains in the left leg—distal to the femoral artery. It made its presence known as soon as the patient awakened from the anesthetic. Collateral circulation was insufficient to compensate for the loss of the popliteal supply.

The sudden death and the terminal convulsions were no doubt due to the sudden lodgment of an embolus in the brain.

Dissection of the amputated limb showed complete thrombosis of the anterior and the posterior tibial arteries.

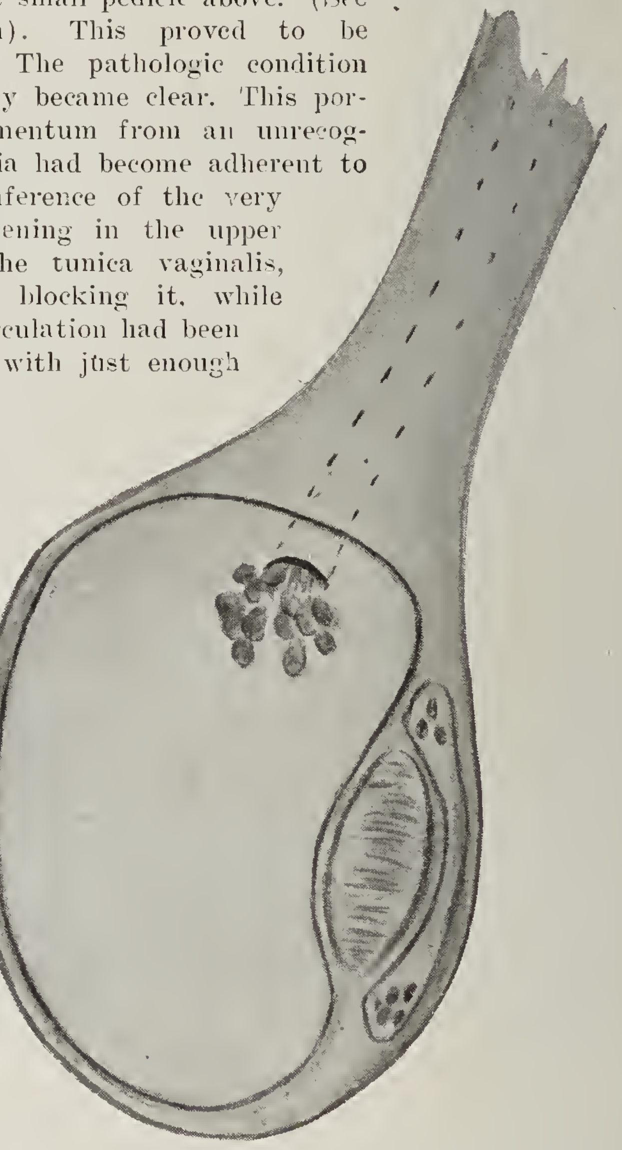
733 Central Avenue.

AN UNUSUAL TYPE OF HYDROCELE

Charles A. Parker, M.D., Chicago

The following case of hydrocele appears worthy of record on account of its unusual pathology. The patient was a well-developed boy, 11 years old. He had fallen on the sidewalk a week previously and the next day had observed a swelling of the scrotum, which had increased in size up to the time of his application for admission to the Children's Memorial Hospital. On examination there was found a characteristic painless pear-shaped, fluctuating swelling in the left side of the scrotum measuring about 2½ by 1¼ inches in diameter. A diagnosis of hydrocele was made and an operation advised. The cyst could not be diminished on pressure. There was no history of a hernia and no evidence of one obtained.

At the operation, Nov. 16, 1912, about 2 ounces of a clear amber fluid were evacuated and the cyst was opened. From the upper wall there projected into the cavity a lobulated reddish mass about one-half inch long broadened below and narrowed to a small pedicle above. (See illustration). This proved to be omentum. The pathologic condition immediately became clear. This portion of omentum from an unrecognized hernia had become adherent to the circumference of the very narrow opening in the upper part of the tunica vaginalis, effectually blocking it, while its own circulation had been interfered with just enough to stimulate secretion but not to cause gangrene or any subjective symptoms of strangulation. The omentum was loosened and after the hydrocele was disposed of a radical operation for hernia was performed. A much-needed circumcision was also done. Prompt recovery followed.



Adherent omental protrusion causing hydrocele.

Fluid in hernial sacs following circulatory disturbances of the hernial contents is the rule, but in most cases the hernial symptoms predominate and no true hydrocele is formed. In the present case the hydrocele was the main feature while the hernia remained obscurely in the background.

7 West Madison Street.

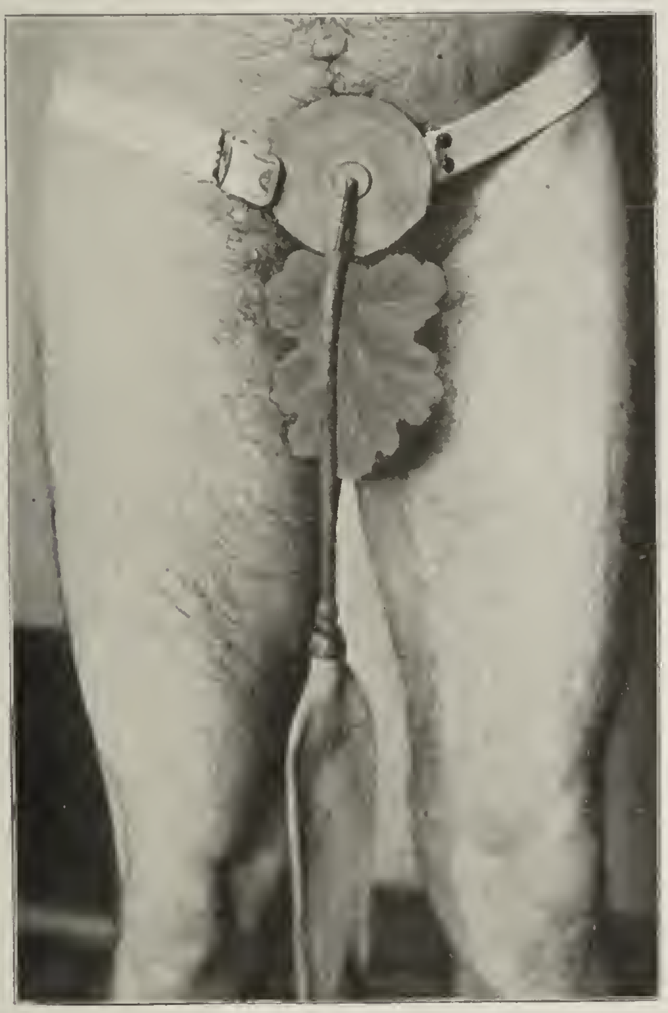
A NEW SUPRAPUBIC DRAINAGE APPARATUS

Ernest G. Mark, M.D., Kansas City, Mo.

It has been my experience that the various devices for permanent suprapubic drainage heretofore presented to the profession have been inefficient, cumbersome and uncomfortable.

After considerable experimentation along this line, I have devised an apparatus which is comfortably borne by the patient and which affords excellent drainage.

It is composed of a colostomy pad through the center of which is placed the short arm of a right-angled German-silver tube. This short arm is divided into two parts fitting into each other by a bevel joint. The distal point is fitted with a shoulder for the attachment of a stiff-walled soft rubber tube which is inserted through the suprapubic wound into the bladder. The long arm lies flush with the outside of the colostomy pad and has a shoulder for the attachment of a tube leading to the leg urinal.



Suprapubic drainage apparatus.

The apparatus is comfortable and can be worn under fairly snug-fitting clothing. It permits of easy cleansing and has the virtue of keeping the patient dry. All in all, it is the most satisfactory appliance for the purpose which I have used.

SYPHILIS OF STERNUM

Maximilian Schulman, M.D., New York

Case 1.—A colored man, aged 32, single, steward on a merchant vessel, came to the out-patient department of the House of Relief in August, 1906, complaining of "indigestion" for which he had been treated about eight months without benefit. His family and previous personal history were entirely negative, and may be so assumed, without further detailing. His habits with regard to alcohol and tobacco were moderately good. He did not abuse either. His immediate complaint, which was the same as he had been making for eight months, was of "pain in the stomach." Apart from this and the fact that the pain was not clearly connected with the ingestion of food (either aggravated or ameliorated by it) it was impossible to obtain a history which one could fairly say was not influenced by the questions. In other words, the patient's intelligence was such that his volunteered statements were few and his own observations scanty, while he was readily influenced by the questioner and one could make out any sort of history one chose. Answers to leading questions were misleading. Thus, the determination of a diagnosis had to be based largely on the objective examination. This showed a rather poorly nourished colored man, whose mucous membranes were pale. Temperature, pulse, heart, lungs and general abdominal examination revealed nothing abnormal. In the case of a colored man lues is always assumed as possibly present and it was thought that an aneurysm might be found. A careful search failed to reveal this, but, it was found that a part of the manubrium sterni the size of a 50-cent piece was exquisitely tender. The tender area was quite sharply limited to the lower part of the middle piece of the sternum. There were no evidences of swelling or redness of the tender area. At that time the Wassermann test was not yet available, so that without waiting for further examination as to gastric contents, feces, urine, etc., a tentative diagnosis of gumma of the mediastinal surface of the sternum seemed warranted, and the patient was at once put on large and ascending doses of potassium iodid together with tablets of mercuric iodid, beginning with 1/12-grain three times a day. Within two days marked improvement was reported and at the end of two weeks there were no symptoms of "indigestion" remaining, while the patient began to show distinct improvement in his general condition. The treatment was continued and improvement progressive. I believe that the prompt and continued therapeutic result confirms the diagnosis. Short of a histologic examination of the tissue (and that obviously was impossible) no better diagnostic measure was at the time available. Here then is a case, very probably of syphilis of the inside of the sternum, masquerading for eight months as a case of indigestion. It may be necessary to apologize for the oral administration of mercury. The patient, time and place made other methods impracticable.

Case 2.—E. S., a white man aged 36, whose family history is negative and whose childhood and early adult history are negative, had a mild attack of gonorrhea at the age of 20, for which he was treated several weeks and from which he had no disturbance subsequently. He drinks an occasional glass of whisky and about two glasses of beer daily. This is a rather intelligent and straightforward man, who gives a history as honestly as he can, and insists that he never had syphilis and cannot recall any symptoms suggestive of it. In 1908 he married a frail girl, who in 1909 gave birth to a perfectly healthy child. The mother gained in weight, color and general well-being very markedly, and neither mother nor child has been in ill health (except for measles in the child) up to date. In 1909 the patient was confined to bed for about a week with a typical attack of acute polyarticular rheumatism, which yielded to aspirin and dietary precautions. At the time there was no cardiac abnormality or anything else wrong, outside the arthritis. Shortly after this he moved to Staten Island and remained well until the spring of 1910, when he is said to have had rheumatism again. From this time on he is said to have had frequent attacks of rheumatism, which he usually treated himself, by having the old aspirin prescription renewed. He found it necessary to increase the dosage with every recurring attack. Early in the spring of 1912 he developed "pain in the heart," which refused to yield to the self-administered aspirin. This symptom was severe and at the onset of the attack usually accompanied by a chill. The chills were not of a regular periodicity nor was the patient's blood examined, but a diagnosis of malaria was made and quinin prescribed, with indifferent result. The "pain in the heart" began to manifest itself more and more frequently and to be more and more severe and of longer duration. There were no symptoms of cardiac decompensation, but appetite, which was usually excellent, began to fail, and the general condition to deteriorate materially. The patient became pale and weak, while the pain was exhausting him.

In June, 1912, the patient moved to New York City again, and on June 14, 1912, I saw him at his home in one of his attacks. I found the man extremely pale and in agonizing pain, which he said was "in the heart" and when asked to point to the seat of the maximum pain, he pointed to the manubrium sterni. A complete physical examination revealed a normal temperature, a pulse of 84 which was full and soft, but which showed an occasional extrasystole. At the cardiac apex, which was half an inch to the left of the midclavicular line and in the fifth intercostal space, there was a clear, moderately high-pitched, systolic blowing murmur, transmitted to the posterior axillary line. Both basic sounds were a little accentuated. Otherwise the heart, lungs and abdomen revealed no abnormalities. A specimen of urine examined the next day was normal. The pain being apparently localized over the sternum, and not transmitted, a possible involvement of the bone suggested itself, in spite of the evidence of cardiac disease and the negative history of lues. With this in view, the sternum and sternochondral articulations were carefully palpated and percussed, with the result that a sharply limited area, about the size of a 25-cent piece was discovered which was extremely sensitive to percussion and even light palpation, though no external evidences of inflammation were apparent. This area was at the right margin of the lower end of the manubrium.

A diagnosis of gumma of the inside of the sternum was made, and the patient was in so much pain that I at once prescribed mercury and iodid, not waiting for a Wassermann examination. The patient was strictly forbidden all other medication and told to report in two days. He reported in ten days, saying that the pain was so much easier after he had taken two doses of the medicine, that he took no more.

The state of affairs was then made clear to him, but he persisted in denying any knowledge of luetic infection, and pointed to his healthy wife and child. He was then instructed to take no more medicine of any kind and to report again in six weeks for a Wassermann examination, when the influence of the couple of doses of medicine would no longer be a factor. This he did, and by then the pain had recurred, though not so severely as formerly.

A Wassermann examination of the blood taken at this time, gave a positive reaction. The treatment was then resumed, with complete alleviation of all pain and marked improvement in the general condition.

Remarks.—Here then is another case of syphilis of the sternum, with no external manifestations and misleading in many ways. I feel sure that these two cases are sufficiently instructive to make reporting them worth while. The interesting features are evident in the clinical histories (though I report them as briefly as possible) and, I believe, need no elaboration. References to gumma of the inner side of the sternum and to the methods of diagnosis are not abundant. Hence my excuse for briefly calling attention to these cases.

229 West One Hundred and Eleventh Street.

New and Nonofficial Remedies

The following additional articles have been accepted by the Council on Pharmacy and Chemistry of the American Medical Association. Their acceptance has been based largely on evidence supplied by the manufacturer or his agent and in part on investigation made by or under the direction of the Council. Criticisms and corrections are asked for to aid in the revision of the matter before publication in the book "New and Nonofficial Remedies."

The Council desires physicians to understand that the acceptance of an article does not necessarily mean a recommendation, but that, so far as known, it complies with the rules adopted by the Council.

W. A. Puckner, Secretary.

HEDIOSIT.—Hediosit is the lactone or inner anhydride, $C_{17}H_{12}N_7$, of alpha-glucoheptonic acid, $CH_2OH.(CHOH)_5COOH$.

Hediosit is prepared by treating glucose with hydrocyanic acid, the condensation product being treated with barium hydroxide and the lactone of alpha-glucoheptonic acid liberated by the addition of sulphuric acid. This solution is evaporated and the product is then recrystallized.

Hediosit is a white, crystalline, odorless powder, possessing a sweet taste. It is readily soluble in water, slightly soluble in alcohol and almost insoluble in ether. The aqueous solution is acid toward litmus.

If hediosit be heated with concentrated sulphuric acid, foaming and carbonizing take place with evolution of carbon monoxide.

If 1.0 Gm. of hediosit be heated on a boiling water bath with 1 Cc. of water and 0.5 Gm. of phenylhydrazine, and a few Cc. of absolute alcohol added, a light-colored crystalline mass will form, which after recrystallization from dilute alcohol melts at 172° C.

An aqueous solution (1:19) of hediosit should be clear and colorless and should not be altered by hydrogen sulphide, sulphuric acid, barium chlorid solution or ammonia water.

If 1 Cc. of the above solution be boiled with 2 Cc. of Fehling's solution no precipitate should be formed.

If 1 Cc. of the aqueous solution be warmed with a few drops of ferrous sulphate and of ferric chloride solution, no blue color should appear on acidifying with hydrochloric acid.

If 0.5 Gm. of hediosit be incinerated, no weighable residue should remain.

If 1 Gm. to 2 Gm. of hediosit weighed into a flask be dissolved in 10 to 20 Cc. of water by warming and a few drops of phenolphthalein solution added, 9.1 to 9.6 Cc. of half normal sodium hydroxide per Gm. of hediosit taken should be required to neutralize the solution.

If 8 Gm. of hediosit be dissolved in water to make 100 Cc. and allowed to stand at the ordinary temperature for 24 hours the solution, when polarized at 17° C., should show a specific rotation of about —52° for the sodium line. After neutralization with caustic soda the solution has a slight dextro-rotation.

Actions and Uses.—Hediosit is said not to be poisonous, and when given even to diabetic patients, not to increase the amount of glucose in the urine, but rather to decrease it. A portion of the hediosit amounting to from 10 to 20 per cent. appears in the urine of dogs as an alkali salt. Since hediosit is oxidized in the system it is claimed to have a food value equal to the same amount of glucose.

Hediosit is said to be useful as a sweetener of the food of diabetic patients, having at the same time a certain food value.

Dosage.—From 10 to 30 gm. (3 drams to 1 ounce). Hediosit should not be given to the extent of causing laxative action. It is therefore recommended to prescribe a single dose of 10 Gm. (2½ drams) daily or 10 gm. three times a day every third or fourth day.

Manufactured by Farbwerke, vorm. Meister, Lucius & Bruening, Hoechst, a.M., Germany (Farbwerke-Hoechst Company, New York). U. S. patent and trademark applied for.

ISATOPHAN.—Isatophan is methoxy-atophan, 8-methoxy-2-phenyl-quinolin-4-carboxylic acid, $CH_3O.C_7H_4N.C_6H_5.COOH$. 8:2:4.

8-methoxy-2-phenyl-quinolin-4-carboxylic acid was described by Doebner (Annalen der Chemie, Liebig, Vol. 249, p. 107), who prepared it by warming together pyroracemic acid, benzaldehyde and ortho-anisidin in alcohol.

Isatophan is a lemon-yellow crystalline powder melting at 216° C., soluble in alcohol and alkalies but insoluble in water or ether. It is tasteless and possesses a slight odor resembling atophan.

If isatophan be dissolved in concentrated sulphuric acid, an orange colored solution results, which yields a yellow precipitate on the addition of bromine water.

If ferric chloride be added to an alcoholic solution of isatophan, a reddish-brown color is produced.

If isatophan be heated above its melting point, carbon dioxide is liberated and methoxy-phenyl-quinolin, a yellow oil, is produced.

Actions and Uses.—Same as for Atophan, but it is tasteless.

Dosage.—Same as for Atophan.

Manufactured by the Chemische Fabrik auf Actien, vorm. E. Schering, Berlin, Germany (Schering & Glatz, New York). No U. S. patent or trademark.

Isatophan Tablets.—Each tablet contains 0.5 Gm. (7½ grains) isatophan.

Therapeutics

PROPHYLAXIS OF MALARIAL DISEASES

Few, if any, of the recent advances in sanitary science have been of greater importance than the methods devised for the diminution and prevention of malarial affections. It is impossible to estimate the economic importance of these diseases in past years. Important extensive public and private work has been greatly interfered with by the prevalence of the disease among workmen, and cities and towns have become unpopular as places of residence after they have acquired the reputation of being malarial locations. By securing control of this disease the accomplishment of important public works has been rendered possible, the cultivation of districts which have been neglected has become practicable, and places of residence which had been partially abandoned have again become attractive.

On this subject Dr. Henry R. Carter, Senior Surgeon. United States Public Health Service, has recently contributed an interesting and important discussion,[1] from which it is proposed to extract some of the more essential facts.

It has already become well recognized that malarial diseases, including under that term intermittent fever, remittent fever and chronic malarial poisoning, are caused by the presence in the blood of a parasite implanted there by a mosquito which has received the malarial infection from the body of a person who is, or who recently has been suffering from the disease. After eight or ten days from the time the mosquito becomes infected he is able to inoculate a human being.

The mosquito which performs this undesirable function of transferring the disease from one human being to another belongs to the genus *Anopheles*, but not all mosquitoes of this genus are engaged in this reprehensible work. As not all mosquitoes are equally guilty of crime, and as certain species might be entirely abolished without affecting the prevalence of malarial infection, it is of no little importance to be able to recognize the mosquito which we have to fear. In regions where malarial affections are present it is not less important to be able to distinguish the mosquito of the genus *Anopheles* from other mosquitoes than to distinguish gray squirrels from chipmunks, or woodchucks from skunks, and it should be an important practical part of the popular biologic teaching in the schools to instruct the pupils in distinguishing between dangerous and harmless varieties of mosquitoes.

In this connection it is stated that "in the female, the sex that bites, the palpi—two little projections on either side of the proboscis—are nearly as long as the proboscis, while in the other varieties the palpi are less than half as long. The males of other species, and anopheles as well, have palpi as long as the proboscis, but in the males they are covered with long hairs and look like plumes. Males of any variety are seldom seen except near the hatching-place, and are very short-lived."

Another point of distinction is that "when resting after a meal of blood the anopheles has her two fore-legs, proboscis, and body all in one line, or nearly so, usually at a considerable angle, from 45 to 90 degrees, with the wall, while other mosquitoes are 'humped up,' both fore and hind legs being bent on the body toward each other. The anopheles is a slight, graceful mosquito."

There are three things to be considered in connection with the transfer of the malarial infection: (1) the person who is or has been affected with the disease; (2) the mosquito which carries the infectious parasite; (3) the person likely to be infected by the mosquito.

Considering first the person who already has the disease and in whose blood the parasites are circulating, certain measures should be taken to prevent the mosquito from becoming infected from him. Every person who is suffering from any of the malarial diseases (with only rare exceptions) should be given adequate doses of quinin to effect a speedy cure. Those who do not avail themselves of this specific treatment but who recover from the acute attack are classed among those known as "carriers." It is common enough to think of the typhoid carrier who disseminates the *Bacillus typhosus* through the community, and also of the patient who has a mild and unrecognized attack of scarlet fever or diphtheria, and who carries the contagion of the disease into schools, churches, trolley cars or stores and so becomes a carrier of the disease. To these and other well-known carriers must be added the carrier of the malarial infection.

It is an obvious fact that a patient who is ill with a malarial disease should be protected from the advances of the anopheles as completely as possible by screening the windows, and by keeping him under a mosquito bar, especially at night. But, because of the difficulty of isolating these patients, and of curing all patients who suffer from any of these diseases, and as many of them walk around where they are surely exposed to the bites of the anopheles, it is not possible by any practicable management to do away entirely with malarial diseases.

Turning next to the second factor, the mosquito, it is necessary to take into account certain facts in its life history.

1. "The female lays her eggs in the shade of grass or bushes on the surface of clear water in swamps, shallow pools, the edges of little streams, etc. She does not like deep water, and the larvae are not found where fish can get at them. They breed especially in water containing green algae, 'frog froth,' and will even breed in rain barrels containing this growth. Otherwise they will not. It is a swamp, not a house, mosquito."

2. "It is from fifteen to twenty-two days, or longer, depending on the temperature, from the time the egg is laid to the birth of the adult mosquito."

3. "The forms between the egg and the mosquito—larva and pupa—live in water but breathe air from the atmosphere and must come to the surface every few minutes to get to it."

4. "These mosquitoes are attracted by light for some distance and are conveyed by light winds." They have been found to be attracted for nearly a mile from their breeding-place to a village brilliantly lighted by electricity, but usually they do not travel more than from a quarter to half a mile, and this distance is modified by the character and direction of the winds. The female anopheles is active almost exclusively in the evening and at night. The bite is not nearly so painful as that of the day mosquito, and the insect is so shy that she rarely bites a moving person, one who is awake. Consequently, anopheles frequently exist where there are no complaints of mosquitoes. "The female anopheles comes into the house at night, attracted by light (and possibly smell), feeds, and if not exceedingly full, leaves as soon as it becomes light," or, if she cannot leave, hides in some dark place through the day.

As it is practically impossible to abolish any pest as prolific as flies and mosquitoes by killing the individuals, it is necessary to turn to the breeding-places and endeavor to abolish these so as to prevent breeding. Following out this principle it becomes necessary to drain swamps, marshes and damp and watery places, and to clear up the banks of streams. This may sometimes be done by the digging of ditches, but this is far inferior in usefulness to draining by underground drains of tile. Where ditches are dug there is still opportunity for the development of the mosquito in the grass and weeds which grow on their borders. Swamps and other damp places having been done away with, it is necessary to prevent the development of the embryonic forms on the surface of the water, and this may be accomplished by placing a thin layer of coal-oil on the surface of bodies of water where the mosquito is undergoing development. This forms a film on the water through which the larvae cannot pass to obtain air, and consequently they die. This of course is not practical on large ponds. Furthermore, when bodies of water contain fish there is less need of adopting these measures, because the fish consume the larvae.

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[1] Carter, Henry R.: Pub. Health Rep., Dec. 6, 1912, p. 2024.

It is seen, then, that it is impossible to isolate all persons who are infected with the malarial parasite, and it is also evident that it is impossible thoroughly to do away with all of the anopheles mosquitoes, under ordinary circumstances. Hence it becomes necessary to consider the third factor in the spread of the disease, the person who has not been infected, but who is likely to be.

When the breeding-places are known, and when they cannot be sterilized with reference to the danger from the mosquito, something can be accomplished by planting hedges between the breeding-places and the residence, which act, perhaps by shutting off the light which attracts the mosquitoes, and also by stopping those mosquitoes that are being carried by the wind. It is desirable to do away with weeds and shrubbery about the house as far as possible, for these form resting-places for the anopheles during the day. Trees which are high and whose branches grow from the trunk at a considerable elevation do not seem to afford a resting-place for the mosquito, under ordinary circumstances. Vines and bushes close by the house, such as rose bushes and grape vines, which are frequently set out close to a piazza to afford shade, should be removed in malarial regions.

From the point of view of malarial infection it is to be desired that piazzas and awnings should be without vines and shrubbery. The main defenses, however, against the anopheles are screens and mosquito bars. In malarial regions houses should be thoroughly and constantly screened. As few entrances as possible should be used, and artificial lights should be placed where they will not shine on these entrances. The doors should be opened as little as possible to allow ingress and egress, and they should be equipped with a strong spring, to ensure quick and complete closure. If the light shines on the door, the mosquitoes are attracted to it, and enter when it is opened; as few go out they accumulate within the house and are confined there.

Still another measure having reference to the still uninfected person is the prophylactic use of quinin. While the efficiency of this does not seem to have been definitely proved, the experience in several localities, particularly of the Japanese in Formosa, and the Germans in East Africa, gives strong presumptive evidence in its favor. This drug may be taken in doses of from 3 to 5 grains every day, or a single dose of 10 or 15 grains once a week. Both methods seem to be effective, the latter slightly more so.

The preventive measures which should be used in the prophylaxis of malaria may, then, be summed up as follows:

1. Cure every patient as rapidly as possible, and while he has the infection isolate him from mosquitoes.

2. Prevent as far as possible the development of the anopheles mosquito by destroying the breeding-places by draining, and the hiding-places by removing weeds and shrubs. Aromatic trees and shrubs seem to be offensive to the insect and may be permitted.

3. Screen the houses so that no mosquitoes may enter to bite the occupants while they are asleep.

4. If the preceding three measures cannot be carried out completely, administer prophylactic doses of quinin to every person. While not preventing infection this will prevent the development of the parasite in the infected person.

DISTURBANCES OF THE HEART

(Continued from page 445)

CARDIOVASCULAR-RENAL DISEASE

The name "cardiovascular-renal disease" is so suggestive of the exact condition in many instances that it has come to be used as a distinct name for the disease of these three parts of the organism, the name representing the pathology and the prognosis. It is impossible to tell which of these three parts of the organism will become pathologically the most diseased before the patient succumbs. "Bright's disease" is the old name for this condition, but it was used by Bright and is now used by clinicians as a more distinctive term for chronic interstitial nephritis. No patient dies of Bright's disease, however, without having more or less chronic endarteritis and more or less hypertrophy and subsequent chronic myocarditis and dilatation of the heart.

In cardiovascular-renal disease it is often doubtful for a long time whether the patient will finally succumb to cardiac disability, to apoplexy from diseased arteries, to a general serious arteriosclerosis, possibly coronary disease, or to uremia from chronic interstitial nephritis. It is also many times impossible to determine where the general disease first started. The beginning may be chronic endarteritis with preceding hypertension, or a slowly developing chronic interstitial nephritis or cirrhosis of the kidneys; in some instances an insufficient heart may cause such irritations of the kidneys from chronic passive congestion that they become cirrhotic. A more serious passive congestion of the kidneys may occur from an insufficient heart, with profuse albuminuria, all kinds of casts, and finally kidney insufficiency, without developing real chronic interstitial nephritis or the small contracted kidney before death occurs.

Cardiovascular-renal disease generally begins insidiously, with the first indication prolonged hypertension with the symptoms described for that condition. Interstitial nephritis also is always insidious in its development, and for months there may be nothing abnormal in the urine. Whether the hypertension and later chronic endarteritis is the primary lesion, or whether the slowly developing interstitial nephritis is the primary lesion, in which case there is also hypertension, the left ventricle will hypertrophy to overcome the increased resistance in the arteries. This hypertension, this beginning chronic endarteritis, this beginning chronic interstitial nephritis, and this hypertrophy of the left ventricle may all occur without any symptoms at all, and the condition is often discovered only on insurance examination, the man considering himself perfectly well. The insidious beginning of this serious disease should therefore cause careful examination of patients who present themselves for some apparently simple functional disturbance, if the patient is over 40, when this disease is most likely to occur.

The diagnostic symptoms are hypertension and slight enlargement of the heart. The urine may or may not aid in the diagnosis. The absence of albumin and even the absence of casts is no indication that chronic interstitial nephritis has not begun. If the kidneys are suspected, frequent examinations should be made of the urine passed early in the morning, after meals and after exercise; a quantitative test of the twenty-four hours' urine for the excretion of the different elements will often disclose an insufficiency in excretive power. The amount of urine passed by these patients is generally large, and the specific gravity low.

An early diagnosis of this disease, and the proper management of the patient, may mean several years of life to the patient.

The symptoms of the beginning of this disease are those already mentioned under the subject of hypertension, and in its incipiency it is hypertension. The various rules and regulations laid down for the management of a patient with hypertension are the very methods of treatment for a patient who has actually begun to have cardiovascular-renal disease. If albumin and casts, or either, are found in the urine, the diet must be more carefully regulated than in hypertension without such signs of renal disease, and the treatment becomes that laid down for Bright's disease or chronic interstitial nephritis. If the blood-pressure is nearly 200 or over 200 mm., it is almost indicative of interstitial nephritis, even if the urine, on repeated examinations, is absolutely negative.

As previously stated, the heart, sooner or later, from hypertension, endarteritis, interstitial nephritis, or from any combination of these conditions, will hypertrophy. The heart will be able to overcome the increased blood-pressure for a shorter or longer time, depending on the age of the patient, the previous health of the myocardium, whether or not the patient's general condition (i. e., his nutrition) is good, and whether or not the kidneys are seriously damaged. Sooner or later, however, the left ventricle generally fails, if the patient does not die intercurrently of an apoplexy, an angina pectoris or uremia. The gradually dilating left ventricle begins to give more and more symptoms of insufficiency, and finally, if the dilatation is considerable, the symptoms are the same as they are in valvular disease with loss of compensation. Pendent edemas, more or less serious, develop; there is more or less dyspnea, and albumin, at this period, is pretty sure to be present in the urine, often in large amount. Besides all the disturbances due to the insufficiency of the heart, the two main disturbances, chronic nephritis and myocardial degeneration, progress together.

Not infrequently it is difficult to determine which condition is the more serious at a given time with a given patient, whether it is the failing heart that has made the kidneys worse, or whether the kidneys are on the point of secreting totally insufficient urine both in amount of liquid and in amount of salts, and uremia is imminent. The clue is often given by the edema being pendent, mostly in the feet and legs, gradually coming into the genitals, with possibly ascitic fluid in the peritoneal cavity and with but little puffing or swelling of the hands and face, all of which is indicative of heart failure. Signs of impending uremia are more general edemas, including the hands and face, nausea, vomiting, headache and drowsiness; or, on the other hand, muscular twitchings and sharp neuralgic pains, as indicative of possible convulsions.

It is beyond the scope of this article to treat chronic interstitial nephritis or Bright's disease. The endeavor to prevent this finale of cardiovascular-renal disease has been sufficiently described under hypertension. If cardiac failure occurs, it should be noted that sufficient doses of digitalis may reestablish the power of the left ventricle and remove temporarily, at least, the beginning edemas. On the other hand, if the kidneys are seriously damaged, suppression of urine may occur under full doses of digitalis, and uremia may be precipitated. It is therefore necessary to make a careful decision on the totality of the above-mentioned symptoms to determine if possible whether digitalis to the physiologic effect should be given, or should not be used at all. Very small doses are unsatisfactory in this condition; very large doses are inexcusable; but good full-sized doses to help the heart, if possible, are often justifiable and valuable. The salt-free diet is often indicated, and may do good in preventing and reducing edema.

The Nauheim baths, with sodium chlorid and with carbonic acid gas, are not always efficient in reducing blood-pressure, and may even do serious harm in cardiovascular-renal disease. Sometimes they raise blood-pressure. If it is decided to try them, the patient should be carefully watched after the bath to see whether he is benefited or injured.

Unless the kidneys are in serious trouble and the patient is almost uremic, when the heart fails the blood-pressure is generally much lowered from what it has been, and this is another indication for digitalis.

Patients who have become ill enough to remain in their room or perhaps in bed with this disease are likely to be sleepless and require hypnotics, and it should be remembered that nothing repairs the heart more than good sleep. The hypnotic selected should not be one that would seriously weaken the heart, but almost any of them may be used intermittently, perhaps, first one and then another. If the patient's heart is very weak, even if the kidneys are seriously damaged, there is sometimes nothing more safe than a small sleeping dose of morphin. It is contrary to the general belief and general teaching, but from the cardiac point of view it is the safest of the hypnotics, and from the kidney point of view it generally does as little harm as any other.

If the patient has not reached the point in this disease just described, or if he has had an exacerbation of the trouble and has become improved, he should never think of returning to his active life. If possible, he should go to a warm climate during the cold weather. He should make up his mind that his activity is over, and that his whole time should be spent in prolonging his life by the easiest possible regimen laid down for him, depending on the condition of his kidneys on the one hand and his heart on the other. The diet depends on which part of his disease is the most in evidence; if his heart, the diet should be that previously described under myocarditis and high blood-pressure; if his kidneys, that for chronic nephritis.

(To be continued)

Gelatin in Acute and Chronic Suppuration.—V. Miehl calls attention to the remarkable transformation he observed in a number of cases of acute and chronic suppuration, especially the pyemic form, when the patients had been given gelatin. He is an army surgeon and has been using this method for three years and with almost invariable success. He has the patient fed with a jelly made with 10 gm. gelatin to 100 or 120 gm. water; after dissolving, the whole is boiled for a minute or two and then sweetened and flavored with lemon juice. This portion is taken during the day. He is convinced that many otherwise doomed patients with puerperal septicopyemic processes might be saved by this means. Its action seems almost specific in thrombophlebitis, he says, and in two cases of paratyphoid with venous thrombosis and pyemia the effect was equally prompt and favorable, as also in a case of post-partum endometritis with occasional chills for three days. He always gives the gelatin as a preliminary to operations when there is reason to suspect hemophilia, and also with compound fractures. In his recent communication on the subject in the *Wiener med. Wchnschr.*, 1912, lxii, 1763, he states that compound fractures treated locally with Peruvian balsam and gelatin taken internally healed without the slightest inflammatory reaction.

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SATURDAY, FEBRUARY 15, 1913

THE CENTRAL NERVOUS SYSTEM AND HEAT REGULATION

There seems at present to be no escape from the conclusion that the temperature regulation of the body is under the dominance of some mechanism connected with the central nervous system. Physiologists are still somewhat divided in their acceptance of the existence of a special cerebral heat-regulating apparatus composed of heat centers and heat nerves. Conservatism in regard to the actual location of a heat center in the brain is assuredly justified; for the evidence of any narrow circumscribed anatomic area devoted to thermoregulatory functions is far from convincing. On the other hand, there can be little hesitation in admitting that in the physiologic sense some coordinating mechanism or "center" controls the various heat-producing and heat-dissipating devices of the body so that the vasomotor responses of the skin, the sweat-secreting glands, the chemical combustion processes in the muscles and the respiratory factors all work in harmony to effect a single result: temperature equilibrium. After destruction of the brain all of this splendid adjustment is lost. Furthermore, in certain diseases of the central nervous system unattended with infectious agents and their toxic products or with muscular manifestations such as convulsions, a rise in temperature is observed. Brain tumors may lead to such symptoms.

Despite the apparent complexity of all the functions that may be concerned, it is evident that the central nervous system is the thermoregulator of the organism. The normal response to external cold seems to be effected in a reflex way through the intermediation of the nervous regulator, the muscles and glands being awakened to an unusual activity with consequent heat production. When there is a tendency toward a rise of temperature, on the other hand, the warmed blood stimulates the central thermoregulator to a response which results in dilatation of the cutaneous blood-vessels, sweat secretion, and occasional heat dyspnea with heat loss. If, then, the nervous system ordinarily reacts to reflex impulses or to blood of abnormal temperature circulating through it in health by diverse responses which serve in the end to maintain a uniform temperature, in fever a somewhat different situation appears to arise. The compensatory loss of heat is not adequate. By this it must not be assumed that the capacity for heat regulation has been completely lost; but the heat-regulating center — the nervous thermoregulator — has been upset by the pathologic condition so that the adjustment between heat loss and heat production takes place at a new temperature level. The toxic products responsible for infectious febrile processes presumably poison the centers so that they no longer respond adequately to the same temperature as under normal conditions of health. There is still some compensating response as a rule; otherwise the rise in body temperature would continue beyond the limits of physiologic endurance.

It is well known that certain regions of the central nervous system, notably in the corpus striatum, have been associated with heat regulation in the so-called "heat puncture" experiment. Mechanical or electric stimulation of this region is followed by a rise in temperature. The interesting question has obviously arisen whether or not the corpus striatum in the region of the usual puncture is capable of response in the way of thermoregulation not only to injury or irritation but also to alterations in environmental temperature. The experimental logic of the situation would demand a temperature-lowering response to warmth applied to the brain center and a febrile response when cold is applied. This is precisely what has been found by Prof. H. G. Barbour in a series of ingenious experiments on animals.[1] A small metallic device permitting a circulation of water through it was permanently inserted through a trephined opening of the skull into the region where the heat puncture can be effected. The temperature of the animal could be manipulated in a most striking way by the temperature to which the circulating water in the apparatus was subjected. Heat thus applied locally to the brain centers acted as an antipyretic, and, conversely, cold induced hyperpyrexia. Peripheral vasoconstriction and vasodilatation were correspondingly influenced. There were limits of locally applied temperature alterations beyond which the appropriate responses could no longer be invoked. The limiting figures are 33 and 42 C. (91.4 and 107.6 F.), respectively.

The description of some of the actual phenomena is quite graphic. When the puncture fever is induced in rabbits the ear vessels are usually completely contracted as the outcome of the mechanical irritation of the brain centers. The ears feel cold. As soon as warm water is circulated through the apparatus implanted in the brain a sudden change ensues. The ear-vessels dilate and fill with blood and they feel warm to the touch. The response is precisely like that which follows the immersion of an ear in hot water.

This interesting study from the Vienna Pharmacologic Institute will serve to direct attention more clearly to the importance of the central nervous system in the regulation of temperature. In the pharmacology of the familiar antipyretics it is already well appreciated that these drugs may advantageously be regarded as narcotics for the overstimulated heat-regulating centers.[2] These are only a few of the diverse manifestations of normal and pathologic temperature regulation in the organism which deserve a thorough scientific investigation. If there is a clearly definable thermoregulator in the body, its functioning deserves to be known with great precision. Certain therapeutic procedures which have come into use in the management of febrile conditions are still the subject of vigorously conflicting arguments. One need only mention the divergent views respecting the employment of antipyretics and cold baths. What is called for to-day is a more intelligent appreciation of the physiology and pathology of temperature regulation to serve as a critique of blind empiric propaganda and practice.

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[1] Barbour, Henry Gray: Die Wirkung unmittelbarer Erwärmung und Abkühlung der Wärmezentra auf die Körpertemperatur, Arch. f. exper. Path. u. Pharmakol., 1912, lxx, 1.

THE GRADES OF MILK

The question of sanitary milk and its relation to the public health challenges the best endeavors of those who have responsibility for the bodily welfare of the American people. There is available to-day, at all events in the larger cities, milk sold under a great variety of designations, and the time has come when these should bear some definite import and carry the same responsibility for truth that is enforced in the designation of other food materials. In other words, there should be a defensible classification of milk offered for public sale.[3]

The qualities of milk now commonly distributed have the designations and presumable standards as follows: 1. Certified milk with a bacterial count below 10,000 per cubic centimeter. The licensing of such supplies is not uniform in various localities. 2. Inspected milk, with a count below 100,000. 3. Pasteurized milk, subjected to heat under varying conditions of uncertain efficiency. 4. Raw market-milk. By far the largest amount of milk sold is market-milk, either raw or pasteurized. A careful study of each of these grades of milk with a determination of their exact status from sanitary, bacteriologic and food-value points of view would be desirable.

Recently Dr. Edwin H. Schorer[4] has made an elaborate study of the classes of milk supplied to the city of Boston. Since these may be looked on as fairly representative of the milk-supply in various parts of the country we shall quote liberally from his findings. As might perhaps have been expected, variation in the imperative cleanliness and other conditions in the production and pasteurization is so marked that even certified and pasteurized milks are variable and their bacterial count cannot be foretold. Inspected milk, in the production of which the chief emphasis is put on sanitary dairy conditions, sterilized containers and temperatures below 50 F., is apparently more uniform in numbers and kinds of bacteria. Schorer contends that it is relatively easy to produce milk of low bacterial content, but the greatest care must constantly be exercised to prevent occasional high counts. The better classes of milk now contain little sediment, market-milks containing more dirt but fewer cells than certified milks. Cream on rising carries with it a large portion of the bacteria in milk. Separator cream does not take with it so large a portion of the bacteria as does gravity cream. It is interesting to note that coagulation occurred as soon after delivery in pasteurized market-milk as in raw milks. Certified milk coagulated at a lower acidity than did the other grades, but it took longer to get the coagulating acidity.

One of the objections to pasteurized milk has been the alleged predominance of putrefying bacteria owing to the readier destruction of their acid-producing antagonists by the heat applied. It appears, however, that the fear of putrefying organisms is not warranted as far as market-milk pasteurized by the holding process is concerned. Certified milk, because it contains little cow-manure, is infected principally with spore-bearing organisms, is always well refrigerated, and contains as large a percentage of protein-digesting and no more acid-forming bacteria than does pasteurized milk.

Contrary to what might be expected, certified milks generally have highest bacterial counts in the fall and winter. Schorer is inclined to attribute this to the fact that the necessity of carrying milk through the cold air to the distant milk-house makes the milkers loath to wash their hands before milking each cow, and that winter weather generally interferes with the rigid technic of certified farms. The higher counts in ordinary market-milks during the summer are probably due as a rule to poor refrigeration, especially at the period in the spring when winter methods are no longer efficient. Like the "man behind the gun" in warfare, so in the dairy industries the real worker is the one on whom above all others the possibilities of wholesome milk depend. Recall the words of Shakespeare: "She can milk; look you, a sweet virtue in a maid with clean hands."

DIGESTIBLE BREAD AND NEWSPAPER FAKES

It is with considerable reluctance that we refer from time to time to exaggerated statements appearing in the newspapers and purporting to present some discovery of supposed interest to the medical profession and incidentally to the layman. Our duty is not primarily centered in the reform of the public press, despite its many past offenses in matters that concern the welfare of the public quite as much as they concern the welfare of the physician who protests against them.

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[2] Compare Meyer and Gottlieb: Experimentelle Pharmakologie, Ed. 2, p. 417.

[3] Melvin, A. D.: The Classification of Market Milk, Bull. 41, Hyg. Lab., U. S. P. H. S., 1908, p. 559.

[4] Schorer, E. H.: Experimental Studies on Milk, Jour. Infect. Dis., 1912, xi, 295.

Now and then, however, we feel compelled to notice some fraudulent claim or intentionally or unintentionally misguiding pronouncement which steals its way into publicity in the guise of a "rare discovery" that has "startled scientists" and furnished the secret of health or the cure of insidious disease. An instance of this appearing in the Philadelphia *North American*[1] has lately been brought to our attention by several correspondents from various parts of the country. The statements involve the alleged discovery of a "way to make bread that is digestible," the solution of the "problem that puzzled scientists and made dyspeptics" being the work of one Mrs. Lydia Sharpless. The honored names of Dr. Weir Mitchell of Philadelphia, referred to as the "famous originator of the 'rest cure,'" and of Professor Edward T. Reichert of the University of Pennsylvania Medical Department are freely and skilfully used in advocacy of the new Sharpless bread (manufactured in Philadelphia!). The reader of the article is shown a word-picture of the dire effects of ordinary bread which is stated to contain so much raw starch as to make it utterly indigestible. Dr. Reichert is quoted as saying:

"Bread is one of the chief causes of all digestive troubles. Intestinal fermentation and the poisons born of such a condition cause no end of illness, especially among children. Yet who ever thinks of bread as being the offender? No one denies a child bread, especially if the bread be well baked or a day or two old. Still, the raw starch-grains are there, and they are almost sure to cause trouble. That is why crackers are so harmful for children. All the starch in them is raw. And toast or zwieback is good for children or invalids, because in these twice or thrice baked forms of bread many of the starch-granules are transformed into dextrin by the additional heat."

The Sharpless bread, thanks to the new Lydia—a name to conjure with in medicine—is mixed, not kneaded, so that "90 per cent. of the starch-grains are gelatinized," whereas, on the alleged authority of Professor Reichert, in the average wheat bread 90 per cent. of the starch-grains are raw. Analyses published in the columns of the *North American* and purporting to come from "one of the best food chemists in Philadelphia" show a surprising agreement between the Sharpless bread and kneaded bread except in the very large content of soluble carbohydrates (19.1 per cent. of dextrin, soluble starch and sugars) in the new variety. "These carbohydrates," the statement continues, "are the active nutrients and their excess in the Sharpless bread indicates the food or calorific value to be more than double that of the hand-made (kneaded) bread; hence, one pound of the former is worth more than two pounds of ordinary bread as life-sustaining food."

This apparently plausible story of the addition "of at least 100 per cent. to the nutritive value of bread" has been widely circulated, as our correspondence indicates. It matters little that a semiveiled retraction of some of the misleading statements was published a few days later[2] in the *North American*. The damage had been done. Hundreds of credulous and well-meaning laymen and not a few physicians were beguiled into the belief that the "staff of life" is indigestible. Since Professor La Wall has shown by means of tests that, so far as the gelatinization of the starch is concerned, there is no material difference between ordinary baker's bread and Sharpless bread, Professor Reichert has admitted that the facts and figures contained in his former statements were based on tests made fifteen years ago and on a government bulletin issued in 1896. Reichert is now quoted as having changed front and as authorizing the statement that "what Mrs. Sharpless has accomplished is also being done by all our first-class bread and cracker bakers." This change of base, however, comes too late to affect the situation materially. Lydia Sharpless and her bread have been advertised. To add to the irony of the situation, the readers are now told that white bread has long been free from raw starch, but that the doctors didn't know it. And then, with grim humor, "the world moves on, even though science sometimes be caught asleep at the switch."

We need not detail the inconsistencies of the new claims quoted above—as to how, for example, starch can at the same time be "gelatinized" and soluble; or as to the ridiculous contentions regarding the identity of soluble products and nutritive value. Or are we to assume that cooked, insoluble foods, like meat and eggs, are unavailable? In truth there are few foods about which such extensive, reliable, easily accessible and popularly presented data exist as are published regarding the nutritive value of bread. Upward of 100 digestion experiments have been made by the Maine and Minnesota experiment stations alone,[3] with young, healthy men, with bread from different grades of flour ground from hard and soft wheats from Indiana, Michigan, Minnesota, Dakota, Oklahoma and Oregon. The results of these experiments give definite information to the effect that bread made from standard patent wheat flour—and that is the variety here involved—is among the most digestible of all foods and worthy of the important place that it holds in the dietary. The reports invariably show a utilization of approximately 98 per cent. of the carbohydrate, without any of the subtle Sharpless devices to increase its nutritive value in this direction.

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[1] The articles in question, under the authorship of Leigh Mitchell Hodges, appeared in the issues of Jan. 6 and 25, 1913.

[2] Jan. 25, 1913.

[3] Snyder, Harry, and Voorhees, L. A.: Studies on Bread and Bread-Making, U. S. Dept. Agric., Office of Experiment Stations, Bull. 67, 1899. Woods, Charles D., and Merrill, L. H.: A Report of Investigations on the Digestibility and Nutritive Value of Bread, U. S. Dept. Agric., Office of Experiment Stations, Bull. 85, 1900; Studies on the Digestibility and Nutritive Value of Bread at the Maine Agricultural Experiment Station, 1899-1903, U. S. Dept Agric., Office of Experiment Stations, Bull. 143, 1904. Snyder, Harry: Studies on Bread and Bread-Making at the University of Minnesota in 1899 and 1900, U. S. Dept. Agric., Office of Experiment Stations, Bull. 101, 1901; Studies on the Digestibility and Nutritive Value of Bread at the University of Minnesota in 1900-1902, U. S. Dept. Agric., Office of Experiment Stations, Bull. 126, 1903; Studies on the Digestibility and Nutritive Value of Bread and of Macaroni at the University of Minnesota, 1903-1905, U. S. Dept. Agric., Office of Experiment Stations, Bull. 156, 1905. Atwater, Helen W.: Bread and Bread-Making, U. S. Dept. Agric., Farmers' Bull. 389, 1910.

It is unquestionably true that "raw" starch is comparatively indigestible and may be a source of intestinal irritation. From the foregoing it must be obvious that the common type of bread is not a mixture of unchanged starch-grains. The carbohydrates of flour undergo both physical and chemical changes in bread-making. Not far from 6 to 8 per cent. of the insoluble starch is changed to soluble forms, while the combined action of the ferments and heat ruptures a large portion of starch-grains, rendering them more susceptible to further changes.[4] The American studies further show a comparatively small amount of residual available energy in the feces from bread made from patent flour (in contrast with whole wheat and graham bread). Even when 20 per cent. of starch was added in the making of the bread, Snyder[5] found the "coefficient of digestibility" of the carbohydrate to remain at 98 per cent. From the point of view of digestibility, fine flour is preferable to coarse flour; but the microscopic studies of Moeller[6] led him to the conclusion that healthy persons digest the starch of cereals and potatoes almost completely, even when the starchy foods are not in a favorable mechanical condition, as is the case in the bran from cereals, in rice and in sliced potatoes. We maintain that the doctrine of the indigestibility of bread by healthy man is a pernicious and unjustifiable fake.

PHYLACOGENS AGAIN

Our practical knowledge of immunity in infectious diseases and of the methods of prophylaxis and cure has advanced greatly during the past ten years. The results of the prophylactic immunization against typhoid and of the treatment of certain cases of furunculosis are familiar examples of what may be accomplished by active immunization with preparations of bacteria commonly known as vaccines. Definite and favorable results have been obtained by the use of vaccines prepared from the organisms concerned in various other acute and chronic infections. The results from the use of vaccines have appealed to physicians generally, and the use of vaccines in many infections has become more and more widespread. Vaccines for these inoculations are supplied by the biologic departments of drug houses, and the preparation and sale of these products have come to occupy a prominent and in all probability a remunerative department, if we may judge by the space devoted to their advertising.

The thinking physician knows, however, that the treatment of infection with vaccines requires careful attention and thought, together with a study of the clinical and pathologic conditions of the individual case, and that unless this requirement is met, more failures than successes follow. We do not enter here into a discussion of the relative merits of stock and autogenous vaccines, or into the question as to what combination of mixed vaccines may be desirable. We assume that the average physician is doing his best with products supplied by the laboratories and that he has not the facilities for the preparation of autogenous vaccines. Under these conditions the problem of obtaining results is difficult enough, and the physician does not have to go far before he finds that even with the most painstaking work he is often unable to accomplish the cure of the infection in question, the consequence being that at present vaccines are discredited by many physicians.

And now the physician is asked practically to disregard the little knowledge he already has of the mechanism of infection and inject into his patients a mixture of toxic bacterial derivatives, called Phylacogens, and see what will happen. Something usually does happen, and the patient has good reason to remember the experience of the chill and violent constitutional symptoms that follow the injection. It hardly seems possible that physicians of experience ever would countenance the injection of such toxic substances into patients already overwhelmed with the poisons of infection, such as that by the streptococcus in erysipelas or the pneumococcus in pneumonia.

To complete the list of Phylacogens so that the busy practitioner need not waste his time in thought, provided he is unable to determine on clinical grounds the nature of the illness in his patient, he is provided with Mixed Infection Phylacogen, a preparation which has the merit of covering the ground, but only so far as name is concerned. We are inclined to look with pity on the polypharmacy of earlier centuries in medicine, and yet in this day of research into the specific causes of infection and of specific treatment we are asked to introduce into patients suffering from a known infection a mixture of many toxic substances, the action of no one of which is understood. This is an utterly irrational procedure, without any semblance of adequate experimental and theoretical basis, and in the end it will work great harm to the cause of legitimate and rational vaccine therapy, to say nothing of the harm inflicted on the innocent patient.

RESECTION OF THE SMALL INTESTINE

Experimental surgery on animals has contributed many useful suggestions and led to numerous corrective technical applications in the domain of human practice. This is particularly true in the field of gastro-intestinal surgery, which has already attracted a number of competent experimenters. It is important for every operator to know to what extent he may be justified in the removal of organs or tissues, and what responses may be expected from the resection of various parts. A model study of the effect of extensive resection of the small intestine has been published by the professor of surgery in Yale University, Dr. J. M. Flint.[1] He has found that as much as 50 per cent. of the total small intestine in dogs may be removed without fatal results. The animals may gradually return to a condition of practically normal weight and metabolism when maintained on a favorable diet under good conditions. Resections of 75 per cent. and even more of the total small intestine may be survived, but such animals are not liable to show a true recovery, as evidenced by a return to normal weight with the establishment of a good compensatory process.

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[4] (See Note 3) Snyder, H., and Voorhees, L. A.
[5] (See Note 3) Snyder, H.: Studies on Bread, Bull. 101, p. 51.
[6] Moeller: Ztschr. f. Biol., 1897, xxxv, 291.

The symptoms manifested by Flint's animals were at first a severe diarrhea, ravenous thirst and appetite, and loss of weight from which they gradually recovered in most cases. Such individuals remain, however, extremely sensitive to unfavorable conditions of diet and living. Metabolic studies, conducted by Professor Underhill on the animals, show that there is a marked increase in the alimentary loss of the foodstuffs, reaching at times as much as two-thirds of the diet content. By diminishing the absorbing surface of the intestine, the resection of large amounts of the intestine disturbs the balance in the absorption of protein and fat products, leading to the excessive excretion of these in the feces. This accounts for the profuse diarrhea invariably observed after the operation. The unsatisfactory utilization of ingested foodstuffs, owing to the limited surface for absorption, forces the subjects for a time to consume their own tissue stores. There is a gradual restoration of the power of absorption, and ultimately the compensatory mechanism is apparently effectual under suitable conditions of feeding and environment; but the result is by no means so satisfactory as the power of absorption of the normal intestine. In explanation of the increased intestinal putrefaction observed under the conditions of the shortened intestine, it is suggested that the food residues now are forced to remain longer than ordinarily in the large intestine, the seat of the action of bacteria.[2]

With the establishment of a compensation in the intestine on a rich, easily assimilated diet, digestion may again proceed as in the normal, except for an increase in the amount of intestinal putrefaction. The carbohydrates may now be absorbed to an extent considerably above the usual, and herein lies a guide to the dietetic management in human cases. The clinical manifestations of the metabolic disturbances, caused in many by an abbreviation of the intestine, consist largely in a diarrhea which, in the majority of instances reported, was only slight in degree. The stools were often fatty in character, indicating the inability of the patient to absorb the dietary fats. Here, too, the limited experience which has been recorded reaffirms the observations on animals, and indicates the value of easily utilizable carbohydrates like the simple sugars, with a restriction of the fats in the diet of these patients.

In general the response to injury or destruction of organs or tissues may be met by several compensatory processes, of which the regeneration of the lost or injured portion represents the most perfect type of compensatory action. Instead of this a hypertrophic process may result either in the remaining portion of the organ or tissue, or sometimes in its mate in case the structure is bilateral. After the resection of portions of the small intestine the compensatory process consists, according to the illuminating morphologic investigations of Flint,[3] in a hypertrophy as well as a hyperplasia of the remaining portion of the small intestine. There is no regeneration of either the villi or the crypts. Computation makes it probable that in favorable cases approximately the original epithelial area of the intestine is restored by the hypertrophic process.

Despite this promising outcome in the experimental trials the prognosis in human cases should be guarded, as Flint properly emphasizes. The histories of the cases reported show that after apparently successful resections the patients, for lack of suitable compensation, may succumb ultimately to a slow process of inanition. The metabolic disturbances in the human cases recorded appear to bear no definite relationship to the amount of small intestine resected. A method of fractional resection might lead to more satisfactory outcome. At present the results of the primary operation are affected by the most diverse factors, such as the age and condition of the subject, the actual length of the intestine and the difficulties in measurement, and the functional efficiency of the mucosa. The animal experiments as well as the human cases emphasize the specific function of the three segments of the gastro-intestinal tract. Neither the stomach nor the colon is able to compensate for the loss of large portions of the small intestine. The surgical rule has been, and will continue to be, the removal of the minimum amount of the intestine permitted by the morbid condition; and the prognosis will depend chiefly on the factors already discussed. The dietary suggestions afforded by the nutrition investigations in relation to the shortened alimentary tract are certain to be helpful in facilitating a satisfactory outcome.

Current Comment

MEDICAL EDUCATION IN ILLINOIS

The rapid progress made in the development of medical colleges in other parts of the country has brought out in strong contrast the great need for improvements in Illinois, which means Chicago. At present there are only three medical colleges which are a credit to the state of Illinois or to the city. Two of these, the Northwestern University Medical School and Rush Medical

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[1] Flint, Joseph Marshall: The Effect of Extensive Resection of the Small Intestine, Bull. Johns Hopkins Hosp., 1912, xxiii, 127.

[2] Compare Erlanger, J., and Hewlett, A. W.: Am. Jour. Physiol., 1901, vi, 1

[3] Flint, J. M.: Tr. Conn. State Med. Soc., 1910, p. 283.

College (the University of Chicago), have kept pace with modern improvements and are in the highest rank (Class A plus). The College of Physicians and Surgeons, although at present in the second class (Class A), has recently become part of the University of Illinois and it is to be hoped that through the adoption of higher entrance requirements it may soon be worthy of admission to the highest rank. Aside from these three colleges Chicago has no medical school worthy the support of the profession or of recognition by the public. In the third class (Class B) are the Bennett Medical College, Chicago College of Medicine and Surgery and Hahnemann Medical College, while in the fourth class (Class C) are the Jenner Medical College and Hering Medical College. The last-named has been reported not in good standing by the Illinois State Board of Health. The continued existence of these low-grade schools really hinders the improvements in medical education in Chicago which otherwise might be possible. At present such schools are prospering because the better schools have adopted and are requiring higher standards of preliminary education. Hundreds of students each year who, because of their inferior training, cannot enter, or are refused admission to the high-grade colleges, easily gain admission to the low-grade institutions. As long as the latter exist, therefore, it will be possible for uneducated men and women to enter on the study of medicine and later become physicians. This condition of things should not be permitted and can be remedied only by teaching the public to realize that the existence of low-grade medical schools means the turning out of low-grade doctors.

SCIENCE, MEDICINE AND CULTURE

In extending the discussions in our editorial columns beyond the immediate boundary of what might be considered as the real field of medicine itself, we have apparently failed at times to meet the approbation of some of our readers, as reference to our Department of Knocks and Boosts will show. The question as to what are the proper limits in respect to diversity of theme and breadth of treatment which discussions in a journal devoted to the advancement of medicine ought to observe should not be answered from a solely professional point of view. In the belief that a broad appreciation of the advances in the related biologic sciences, as well as in the underlying disciplines on which the art of medicine is based, affords proper themes for contemplation by the physician of to-day, THE JOURNAL has taken pains to draw attention frequently to the progress recorded in other circles than those confined to the hospital, the clinic and the bedside. It is accordingly a source of satisfaction and interest to learn the view of a distinguished clinician, Professor His[1] of the First University Clinic in Berlin, in regard to the interrelation of the physician and the natural sciences. In a note published in the initial number of *Die Naturwissenschaften*, a weekly journal intended to present to German readers something akin to what *Nature* in England and *Science* in America offer, His appropriately emphasizes the fact that science and technology can no longer be sharply separated from medicine, the practical and theoretical aspects of which now radiate in nearly every direction. Almost every advance in chemistry, physics and biology is likely, to-day, to be followed by some prominent and far-reaching useful application which soon makes itself felt in the daily activities of the practitioner. The more theoretical studies of men like Liebig, Pasteur, Helmholtz and Roentgen were quick to find a prominent place in the sphere of practical medicine. Accordingly any tendency of the leaders of medicine to neglect the contributions which are now being made from these manifold domains can only result in a failure to promote progress. There is an added reason why the individual ought to keep abreast of the advances in the general field of science. He can scarcely foretell when he will be called on to apply in the routine practice of to-day what was yesterday, like the x-ray, a new discovery of apparently purely technical interest. Above all, the physician, who stands in most communities as the exemplification of culture and up-to-date knowledge, is in duty bound to maintain the eminent and honorable position which the man of medicine should enjoy among his fellows. Breadth of knowledge is in no way incompatible with intensity of interest and technical attainment in any profession.

THE DOMESTIC FLY AND ITS ERADICATION

The fly is a nuisance aside from its assigned rôle of conveying infectious diseases, and the attempt to exterminate it needs no justification. How one can make one's home, town or city flyless is described by C. F. Hodge[1] of Clark University, Worcester, Mass. Hodge believes that it is not an intelligent method to spend $10,000,000 a year for window and door screens in a futile attempt to exclude a lively insect which insists on getting into the house every time the doors are opened. He believes also that the method of swatting the flies, using fly-paper or indoor traps or poisons is ineffective, but may help. His method is to make use in various ways of the conical wire-mesh fly-trap, which is familiar to almost every one, in such a way as to turn the tables on the flies and "put them in jail and let ourselves out." The plan involves, of course, the abolition as far as possible of all breeding- and feeding-places for flies and the application of the fly-trap mentioned above to the garbage-can, to the screens on windows, to the covers on manure-bins, etc., all of which can be done by a little mechanical ingenuity. Garbage-cans are on the market which have a cover larger than the can and not fitting down closely on it so that the flies gain access to the can under the cover and escape through a hole in the cover over which is fixed a fly-trap. In fighting the fly, Hodge has found that the essentials of a successful campaign are to transfer the fight against the fly from the house to outdoors, and then to exterminate it. Another essential feature in a town or city is that households must cooperate. One ignorant or careless home can breed flies enough to vitiate the best endeavors of a whole town. Hodge has succeeded in his neighborhood in practically eliminating flies; he uses no screens in windows and doors, and can sit out doors or have windows or doors open at any time without molestation. As flies begin to breed early in the spring and as they breed with marvelous rapidity, the time to arrange for a fly-campaign is in the winter. An educational campaign in fly-extermination would be aided much by a distribution of the pamphlet of Hodge; in this connection, a little story, "The Autobiography of a Fly"[2] would also do much good.

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[1] His, W.: Arzt und Naturwissenschaften, Die Naturwissenschaften, 1913, i, 3.

[1] Hodge, C. F.: How You Can Make Your Home, Town or City Flyless, Nature and Culture, 4 West Seventh Street, Cincinnati. Price, 2 cents.

PRESCRIBING NAMES

In the Propaganda Department of this issue, we give some space to a cough syrup which is put on the market by Parke, Davis & Co. under the name of Syrup Cocillana Compound. In exploiting this preparation, the manufacturers have used a method as old as the nostrum business itself. They have taken a mixture of little-known and therapeutically worthless drugs, added some well-known and valuable drugs and marketed the product in such a way as to lead the thoughtless to imagine that its therapeutic virtues are due to the little-known ingredients. In the Syrup Cocillana Compound there are three well-known drugs (hive syrup, heroin and cascara) possessing well-marked powers and having a proper place in medicine. But the prescriber of Syrup Cocillana Compound does not have in mind the old-fashioned syrup of squills, the powerful (and treacherous) heroin or the cascara when he orders this product for his patient. He believes, consciously or unconsciously, that the cocillana gives to this mixture therapeutic properties that his judgment would tell him he never could ascribe to the well-known ingredients of the mixture. Yes, the dodge is an old one. As the purchaser of "Syrup of Figs" believes that the fig syrup gives to the product the laxative effect which, as a matter of fact, comes from elixir of senna and Epsom salts — as those who buy "Pa-pay-ans-Bell" are likely to think that whatever therapeutic virtues these tablets may have is due to papain when, as a matter of fact, they must be credited to the charcoal, ginger and sodium bicarbonate of which they are composed — as the users of the various "cod-liver-oil compounds," which contain no cod-liver oil, fondly imagine that the effects obtained are due to oil instead of to the alcohol which forms so large a part — so the prescribers of Syrup Cocillana Compound probably think that its value as a cough medicine depends on the tincture of cocillana when, as a matter of fact, the squills, the heroin and the cascara are amply sufficient to account for every therapeutic action shown. Herein lies one of the vicious phases of the nostrum evil.

KEEPING UP TO DATE

The average country practitioner has little time and inadequate means for scientific research. It is easy for him to fall behind. A correspondent in the Knocks and Boosts Department of this issue says that he often tries to write out the answers to examination questions which we occasionally publish[1] in our Department of Medical Education and State Boards of Registration. This practice certainly gives him a good review, shows him what knowledge he may lack, and points the way for a little study. It will also interest him in the next article The Journal prints on the particular subject in which he finds himself not fully informed. The suggestion is worth passing along. The man who would keep up to date must have some means of judging where his knowledge is deficient; he can then add to his attainments and keep refreshing his mind on the manifold ramifications of the subject of medicine.

McCABE RESIGNS—A REAL JOKE

George P. McCabe, who falsified official documents, and who as dictator of the Department of Agriculture did yeoman service for the food adulterators, has, so the press notices state, "tendered his resignation as solicitor for the Department of Agriculture," to take effect March 4. Note the date! Press dispatches also record the fact that the Secretary of Agriculture, in accepting McCabe's resignation, "expressed regret that the department should lose one whose efforts had been marked with faithfulness . . ." The papers say, further, that in commenting on the resignation "President Taft stated that he was convinced of the thoroughness of the work done by Mr. McCabe." If the American people have not lost their ability to see a joke, these press dispatches will be preserved not so much for their news value as for their quality of subtle, if sardonic, humor.

Medical News

CALIFORNIA

New Hospital.—Plans have been made for a new hospital to be erected at Orange and Alvarado streets, Los Angeles, for the Westlake Hospital Association. The building is to be three stories in height and of reinforced concrete construction.

Non-Vaccinated Pupils Refused Admission.—When school opened in Berkeley, January 27, about 2,400 pupils were denied admission for failure to observe the order of the local and State Board of Health regarding compulsory vaccination.

Asks for Inebriates' Home.—Dr. F. W. Hatch, superintendent of the State Hospitals, in the biennial report of the State Lunacy Commission, recommends the repeal of the law regarding the commitment of inebriates to state hospitals and urges that a special institution be provided for the care of liquor and drug addicts, and that a new state hospital be established at some point in Southern California to relieve the congestion in the other state hospitals.

Personal.—Dr. John L. White, Sacramento, who was operated on for appendicitis in the White Hospital, January 25, is reported to be still in serious condition.——Dr. Charles B. Pinkham, San Francisco, has been appointed a member of the State Board of Medical Examiners, vice Dr. Charles L. Tisdale, Alameda, resigned.——Dr. J. O. Chiapella, Ripon, has disposed of his residence and practice to Dr. Gould of Monterey.——Dr. W. C. Ghilson, Tulare, has returned after a 20,000-mile voyage on the Pacific.——Dr. Guy Manson has succeeded Dr. T. N. Sample, both of Fresno, as physician of Fresno County.

Medical Buildings Remodeled.—The clinical and laboratory building of the Stanford University Medical Department in San Francisco has recently been remodeled at an expense of about $40,000. This large building was formerly used by Cooper Medical College and had in it besides the large Lane Hall a number of amphitheaters and lecture-rooms, and the

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[2] Biennial Report of James H. Wallis, State Food and Sanitary Inspector, Boise, Idaho.

[1] As, for example, in this issue, page 543.

Lane Medical Library. With the removal of the library to its new building and with the shifting of laboratories and the rearrangement of the space formerly occupied by Lane Hall, considerable additional space has been gained for the outpatient clinics and for laboratories.

ILLINOIS

Personal.—Dr. Julia C. Strawn started on a trip around the world by way of the West, February 6.——Dr. Adam Mackay was found unconscious from cold, February 1, and was taken to Wesley Hospital.——Dr. N. P. Ward, Saybrook, who has been ill for several months, is reported to be in a critical condition.——Dr. J. R. Tobin, Elgin, who has been ill with septicemia due to an infected wound of the hand, is reported to be out of danger.

Governor Recommends Establishment of Epileptic Colony.—Governor Dunne, in his inaugural message, recommended the purchase of 2,000 acres of land and the erection of buildings thereon at the earliest possible date, for the care of men, women and children afflicted with epilepsy.

Result of Support Law.—In the first year of the operation of the law which provides for payment to the state for the support of insane patients able to pay at least a portion of the expense, the State Board of Administration reports that it has collected $184,234 from patients and relatives of patients in the different state hospitals for the insane. This money is to be put directly into the state treasury and is not to be used for the conduct of the institutions.

Improvements for State Hospital.—The superintendent of the Watertown State Hospital asks for an appropriation of $225,000 for improvements in the institution. This includes the construction of a new infirmary and amusement hall, improved water-supply, the purchase of eighty acres of farm land, an underground passageway to connect the administration building with the annex, a separate building for women employees and a cottage for male tuberculosis patients.

The Panama Excursion.—Under the auspices of the Illinois State Medical Society an excursion to the Canal Zone has been planned, to start from Chicago, March 1. The price of tickets for the round trip from Chicago will be $245, and the train will run as a special from Carbondale, Ill., to Jacksonville, thence by the Over-Seas Railroad to Key West and by the steamer *Evangaline* to Colon. The prospects are that the party will number about two hundred. Arrangements are in charge of Dr. George N. Kreider, Springfield.

Physicians Asked to Report Deaths.—Dr. J. A. Egan, Springfield, secretary of the State Board of Health, and superintendent of the registration of births and deaths, asks physicians of Illinois to send in reports of any deaths in their practice in 1912 that have not already been reported to the state board or to municipal authorities in cities or villages having burial permit ordinances. For this service, the physician will receive a fee of 25 cents for each death reported, and the thanks of the State Board of Health.

Medical Practice Act Decisions.—In the Appellate Court of the First Illinois District, in the case of the people and the State of Illinois versus F. A. T. Powella, in which it was claimed that the defendant had practiced medicine without a license and the Municipal Court found her guilty, and sentenced her to a fine of $100 and costs, the judgment of the Municipal Court was affirmed.——In the second case, in which the Municipal Court had found the defendant, Mrs. A. Moser, guilty of practicing medicine without a license, and had fined her $100 and costs, she alleged as ground for reversal that there was no evidence before the Appellate Court on which to base a verdict of guilt. In this case also the Appellate Court affirmed the decision of the trial court.

Chicago

Tuberculosis Institute Meeting.—The annual meeting of the Chicago Tuberculosis Institute was held January 29. The superintenaent reported that the chief activities during 1912 had been the advocacy of the method of examination of employees in working places; a campaign for better care of advanced cases in public institutions and the creation of a traveling exhibit. All the summer schools were conducted jointly by Permanent School Extension Committee, School Board and Municipal Tuberculosis Sanatorium, and the improvement of the children in these schools shows what can be accomplished and the need of the work. Dr. O. W. McMichael reported that the institute had distributed nearly 600,000 pieces of literature and that the moving picture film entitled "On the Trail of the Germ," had been displayed in 30,000 moving-picture houses in the United States and viewed by not less than 60,000,000 people. Dr. Theodore B. Sachs reported the success attending the efforts of the Edward Sanatorium, Naperville, and laid especial stress on the importance of early diagnosis in tuberculosis. The constitution was so amended as to divide the work among five departments; namely, exhibits, in charge of Mr. George W. Perkins; literature, Dr. Orville W. McMichael; lectures and conferences, Dr. James Alexander Harvey; research, Dr. Ethan A. Gray, and extensions, Dr. Theodore B. Sachs. The following officers were elected: president, Dr. Theodore B. Sachs; vice-presidents, Drs. Frank Billings and Robert H. Babcock; secretary, Mr. Sherman C. Kingsley, and treasurer, Mr. David R. Forgan.

INDIANA

Evansville School Children Not Vaccinated.—On account of the prevalence of small-pox in Evansville, the Board of Health ordered that every school child be vaccinated. On account of failure to obey this order, 500 children were excluded from the schools.

Open-Air School.—The first open-air school in Indianapolis was opened last week with a great demand for attendance. The school is intended for children with inherited tendencies or delicate constitutions, and no tuberculous children will be admitted.

Personal.—Dr. Grant C. Markle, Winchester, was seriously injured, January 29, in a collision between his automobile and a freight train of the Big Four System.——Dr. Theodore Potter, Indianapolis, was elected vice-president of the Indiana Association for the Study and Prevention of Tuberculosis at its annual meeting, February 8.

KANSAS

Personal.—Dr. John M. Schrant, formerly of Dighton, has returned from Europe and will be located in Hutchinson.——Dr. F. A. Garvin, Augusta, has been appointed health officer of Butler County.——Dr. C. M. Hensley, Topeka, has been reelected health officer of Shawnee County.——Dr. C. E. Hunt, Eldorado, for forty-two years in the practice of medicine, has retired to take up his new duties of probate judge of Butler County.——Dr. C. S. Kenney, Norton, has been appointed superintendent of the new tuberculosis sanatorium, Newton.

New Officers.—Cowley County Medical Society at Arkansas City, January 29: president, Dr. Charles Dunning, Arkansas City; secretary, Dr. C. T. Ralls, Winfield.——Cloud County Medical Society at Concordia, January 22: president, Dr. F. A. McDonald; secretary, Dr. E. N. Robertson, both of Concordia.——Douglas County Medical Society at Lawrence, January 14: president, Dr. S. T. Gillespie; secretary, Dr. H. L. Chambers, both of Lawrence.——Ninth and Tenth Councilor District Medical Society organized at Norton, January 9: president, Dr. F. H. Smith, Goodland; secretary-treasurer, Dr. C. W. Cole, Norton.

KENTUCKY

Hospital Staff Banquet.—The annual banquet of the medical staff of Spears Hospital, Newport, was held January 30. Dr. J. J. Youtsey officiated as toastmaster.

Personal.—Dr. W. S. Stucky, Lexington, has left New York City and is now associated with his father, Dr. J. A. Stucky, in practice in Lexington.——Dr. William Kenney, Jr., Paris, was seriously injured by the kick of a horse, January 19.——Dr. Florence Meder has been reappointed second assistant physician at the Lakeland State Hospital.

Subscription for Frankfort Hospital.—A campaign has been started in Frankfort by the trustees of the Good Samaritan Hospital to raise by popular subscription a fund of $62,000, $32,000 for paying off the bonded debt of the institution and $30,000 for the erection of a nurses' home. The latter will be a three-story brick structure communicating with the main building by a bridge.

Conference on Cattle Testing.—A conference was called recently by the state veterinarian at the offices of the Kentucky Live Stock Exchange, Louisville, at which representatives of the state and federal governments and the city, county and state boards of health considered the question of testing all cattle which supply milk to state institutions. More than 4,000 patients and employees are dependent on these cows for milk and it was declared essential that these animals should be free from all traces of tuberculosis. It was agreed that the tuberculin tests be made without charge by the agents of the Department of Agriculture on the herds of all dairymen in the state on request. These animals will then be segregated and no animals suffering from tuberculosis will be allowed to be brought into the state. A general cleansing and disinfection will be made further to guard against the disease, the state and national governments cooperating in this as far as possible.

MARYLAND

Bimonthly Bulletin Issue.—The Maryland Association for the Prevention and Relief of Tuberculosis is issuing a bimonthly bulletin for the dissemination of information regarding the suppression of tuberculosis in Maryland, etc.

Cornerstone Laid.—The cornerstone of the Miners' Hospital, Frostburg, was laid February 3. The site for the hospital was donated by the mayor and council. The state appropriated $25,000 for construction and $5,000 yearly for maintenance.

Personal.—Dr. W. W. Ford has been appointed a member of the State Board of Health, vice Dr. Nathan R. Gorter, resigned, to become health commissioner of Baltimore.——Dr. H. K. Derr, Hagerstown, is reported to be critically ill.——Dr. George W. Todd, Salisbury, has been elected a director of the Peninsula General Hospital.

Baltimore

Branch of the Society for Physicians' Study Travels.—Dr. Lewellys F. Barker has been selected to organize the Baltimore branch of the American Society for Physicians' Study Travels.

Psychiatric Clinic Staff Appointed.—Dr. Adolph Meyer has been made chief of staff and Drs. Henry J. Berkeley, Clarence B. Farrar, W. Rush Dunton, Edmund B. Huey, Trigant Burrow and David K. Henderson, members of the staff of the Phipps Psychiatric Clinic.

Portraits Presented to Faculty.—Oil paintings of Dr. John Francis Monmonier and John Buckler were presented to the Book and Journal Club of the Medical and Chirurgical Faculty of Maryland, January 21. Drs. Eugene F. Cordell and Samuel Z. Chew, delivered the respective presentation addresses.

Personal.—Dr. Leonard E. Beach sustained painful bruises and scalp wounds by the overturning of his automobile, February 5.——Dr. Ira Remsen, acting president of Johns Hopkins University, has asked to be relieved of his duties as president.——Dr. Arthur Wegefarth has been elected president and Dr. Alexander D. McConachie, secretary of the Northeastern Dispensary.——Dr. John S. Fulton resumed his duties as secretary of the State Board of Health, February 1.——Dr. Edmund Burke Huey, assistant in psychiatry at Phipps Psychiatric Clinic, who has been ailing for a long while, has gone to California to recuperate.

MASSACHUSETTS

Personal.—Dr. George H. Stone, Clinton, has been appointed night physician at the Boston City Hospital.——Dr. Walter C. Bailey, Boston, has been appointed a trustee of the Boston Consumptives Hospital.——Dr. George H. Fessenden, Ashfield, has been appointed associate medical examiner of Franklin County.——Drs. John S. Brownrigg, Roxbury; F. G. Barnum, Hyde Park, and Edward F. Timmins, South Boston, have been appointed assistants to the chief of the Boston Bureau of School Hygiene.

Boards of Health Meeting.—At the annual meeting of the Massachusetts Boards of Health Association, held in Boston, January 30, the following officers were elected: president, Dr. S. H. Durgin, Boston; vice-presidents, Prof. W. F. Sedgwick, Brookline, and Dr. C. V. Chapin, Prividence, R. I.; secretary, Mrs. John C. Coffey, Worcester, and treasurer, Dr. F. G. Curtis, Boston. The legislative committee, in its report, urged that opposition be offered to three bills providing for the reorganization of the State Board of Health.

MINNESOTA

County Tuberculosis Hospital.—Construction work will be started early in the spring on the new tuberculosis building at the City and County Hospital, St. Paul. The building is to cost $75,000, to accommodate fifty patients and will be ready for occupancy about September 1.

State Board Upheld.—In the case of Boyd T. Williams, Minneapolis, formerly of Ohio, who made application for a Minnesota license under the reciprocal act, in which the application was refused on the ground that he was violating the ethics of the profession, the supreme court has affirmed the decision of the district court which had decided in favor of the state board.

New Officers.—Ramsey County Medical Society at St. Paul, January 27: president, Dr. C. J. Meade; secretary, Dr. Carl Smith, Jr., both of St. Paul.——Upper Mississippi Medical Society at Wadena, January 23: president, Dr. William Reid, Deerwood; secretary, Dr. A. W. Ide, Brainerd.——Blue Earth Valley Medical Society at Blue Earth, January 16: president, Dr. R. C. Hunt; secretary, Dr. J. A. Broberg, both of Blue Earth.——Nicollet and LeSeuer Counties Medical Society at Le Seuer, January 21: president, Dr. H. A. Hartung, Le Seuer; secretary, Dr. F. P. Strathern, St. Peter.——Park Region District and County Medical Association at Alexandria, January 15: president, Dr. A. J. Gilkinson, Osakis; secretary-treasurer, Dr. A. M. Randall, Ashby.——Carlton County Medical Society organized at Cloquet recently with Dr. S. O. Watkins, Carlton, president and Dr. Alexander Barclay, Cloquet, secretary-treasurer.——Hennepin County Medical Society at Minneapolis, January 6: president, Dr. H. H. Kimball, Minneapolis.——Red River Valley Medical Association at Crookston: president Dr. H. H. Hodgson, Crookston.——Midway Medical Association, organized at Midway General Hospital: temporary chairman, Dr. Fred E. Leavitt, St. Paul.——Minnesota Southern Medical Association at Mankato: president, Dr. A. B. Stewart, Owatonna.

MISSOURI

Personal.—Dr. Daniel Morton, St. Joseph, has been appointed a member of the Tuberculosis Hospital Commission of Buchanan County.——Dr. and Mrs. Joseph J. Carter, Weston, have returned from Europe.

Hospital Near Completion.—The new isolation hospital on the grounds of the Kansas City General Hospital is completed and partially equipped. It will accommodate from seventy-five to one hundred patients. There will be separate wards for scarlet fever, diphtheria, measles, erysipelas, chicken-pox and meningitis. Drs. Frank Neff, J. E. Hunt and C. S. Merriman, on the General Hospital staff, will be in charge of the hospital.

Provision for State Hospitals.—Fulton State Hospital No. 1 and the Missouri School for the Deaf, Fulton, in their biennial report asked the legislature to make appropriations of $422,495.17 for the biennium.——The president of the Board of Managers and the superintendent of the State Hospital No. 3, Nevada, estimates that $600,000 will be necessary for the maintenance of the institution and for the new buildings required during 1913-14.——State Hospital No. 4, St. Joseph, will receive an appropriation of $110,000 for the next biennium.

NEBRASKA

Personal.—Dr. J. A. Waggener, Omaha, was painfully burned by the explosion of gasoline in his garage, February 1.——Dr. G. E. Williams, University Place, has been appointed physician to the state penitentiary.——Dr. J. Frederick Langdon, Omaha, has gone to Butte, Mont., where he becomes assistant superintendent of St. James Hospital. He has been succeeded by Dr. Daniel F. Lee as assistant city physician of Omaha.

Report of Free Maternity Dispensary.—The first annual report of the Free Maternity Dispensary, Omaha, which is under the charge of the obstetrical department of the College of Medicine of the University of Nebraska, shows that seventy-four patients were cared for during the year, of whom thirty-nine were primiparae and thirty-five multiparae. Cesarean section was made once, version was performed once and five forceps deliveries were made.

New Officers.—Gage County Medical Society at Wymore, January 28: president, Dr. J. I. McGirr; secretary-treasurer, Dr. E. L. Penner, both of Beatrice.——Elkhorn Valley Medical Society at Norfolk, January 21: president, Dr. A. P. Overguard, Fremont; secretary, Dr. A. W. Wells, West Point.——Dodge County Medical Association at Fremont, January 15: president, Dr. P. R. Howard, North Bend; secretary-treasurer, Dr. S. A. Preston, Fremont.——Douglas County Medical Association at Omaha, January 15: president, Dr. B. W. Christie; secretary, Dr. R. R. Hollister, both of Omaha.

NEW YORK

Personal.—Dr. E. S. Willard, health officer of Watertown, was operated on for glaucoma in the Albany City Hospital, January 23, and is reported to be doing well.——Dr. John L. Heffron, dean of the College of Medicine of Syracuse University, was the principal speaker of the annual banquet of the Syracuse alumni in Rochester, January 28.

New York City

Three Ambulance Wrecks.—On three successive nights three different ambulances belonging to the J. Hood Wright Hospital were wrecked in collisions. On one of these occasions the doctor and driver sustained slight injuries.

Tuberculosis Annex Opened.—A tuberculosis annex and night camp has been opened by the New York Nose, Throat and

Lung Hospital, immediately adjoining the present hospital building. The annex contains fifty beds, thirty of which are for tuberculosis patients. The camp is intended for men only who go there after their day's work is done and where every detail of their lives is supervised.

Health Department Seeks New Offices.—The quarters of the Health Department at Sixth Avenue and Fifteenth Street, which the city has occupied for the last ten years, ending May 1, 1912, was retained by the department since the first of last May when the lease ran out, and while the owners of the property have asked $30,000 for the present year which is an advance of $10,000 over the rent previously paid, the department has paid only the former rent and is now threatened with eviction. Active steps are being taken by the city to get a permanent building for the department.

Long and Faithful Service Recognized.—A committee appointed for the purpose has sent out letters to the alumni of the University and Bellevue Hospital Medical College, reminding the recipient of the fifty years of faithful service of Mr. Joseph V. Standish, the clerk of the college, and stating that is has been decided to make him a substantial gift in recognition of his sympathetic support of students. It is also stated that many small sums will be more expressive of wide appreciation than a few large ones. Subscriptions may be sent to John A. Mandel, 338 East Twenty-Sixth Street, New York City.

Children Warned Against Coughing and Sneezing.—Dr. C. Ward Crampton, director of physical training in the public schools, has sent out a circular to principals and teachers directing their attention to the spread of diphtheria, measles, colds, etc., by coughing and sneezing, and urging them to instruct the pupils in the necessity of carrying a clean handkerchief to guard the mouth and nose when coughing or sneezing, and in case the cough or sneeze is too sudden for this to turn the head away from those about him. The annual recurrence of these infectious diseases in almost epidemic form makes such inroads in attendance as to seriously affect the progress of a large number of children and greatly adds to the expense of the department of education. At this time of the year the combined total of those affected by these diseases reaches about 1,000 each week, so that it is highly important that children should know how to protect themselves and others from infection.

Diseased Animals Foisted on Public.—An investigation undertaken by the *Globe*, which stands for the facts as presented, finds that the carcasses of hogs that show well marked and progressive lesions of hog cholera shall be condemned unless the carcasses are well nourished and show only "slight" and "limited" lesions, in which case they may be sold as food. The carcasses which show lesions more numerous or severe than those mentioned are to be condemned, but may be rendered into lard. A great deal of liberty is invested in the inspector in this matter. It is suggested that under such conditions the public should have full protection of the label law. In the case of tuberculosis, if there is no outward evidence that the tubercle bacilli have been distributed through the blood or by other means through the tissues the meat is considered wholesome and is passed. If the tuberculosis appears only in the lungs and kidneys, or the liver and lungs, or if it is found in but one or two of the other organs, the carcass is passed as fit for food. There is the same laxity in case of lymphadenitis.

NORTH DAKOTA

State Society Meeting.—It is announced that the annual meeting of the North Dakota State Medical Association will be held at Minot, May 7-8.

State Sanatorium Opened.—The State Sanatorium, Dunseith, has been formally opened. There are twelve patients in the institution and applications are already on file for more than its present capacity.

Personal.—Dr. Frederick E. Salvage, Fargo, was adjudged insane, January 24, and committed to the Jamestown State Hospital.——Dr. Howard A. LaMoure, formerly superintendent of the State Institution for the Feeble-Minded, Grafton, has been appointed superintendent of the Pueblo (Colo.) State Hospital.

Tuberculosis at State Hospital.—The North Dakota Board of Control of Penal and Charitable Institutions in its report claims that 25 per cent. of the patients of the institution have tuberculosis and that there is no place to segregate the male tuberculosis patients. The legislature is to be asked to make an appropriation for the construction of a separate building for this purpose.

New Officers.—Northwestern North Dakota Medical Society at Minot, January 21: president, Dr. A. Carr; secretary, Dr. Frank Brugman, both of Minot.——Devils Lake District Medical Society at Devils Lake, January 10: president, Dr. W. D. Jones, Devils Lake; secretary, Dr. G. F. Drew, Crary.——Tri-County Medical Society (Wells-Benson-Foster) at New Rockford: president, Dr. A. J. Clay, Bowdon; secretary-treasurer, Dr. O. W. McClusky, Carrington.

OHIO

Inter-County Tuberculosis Hospital.—The secretary of the board of trustees for the building of a joint tuberculosis hospital for Mahoning, Stark and Summit counties announces that each county has paid in its share of the cost. Bids have been received for the construction of the building.

New Buildings for State Hospital.—An appropriation of $160,000 has been asked for the betterment of the Dayton State Hospital. One-half of this amount will be spent for two new buildings for an infirmary and hospital wards, the remainder being used for a cold storage plant and the installation of other needed conveniences.

Personal.—Dr. J. E. Welliver, president of the Dayton Board of Health, is reported to be critically ill with pneumonia.——Dr. O. H. Sellenings, Columbus, has been reappointed a member of the State Board of Health.——Dr. R. G. Perkins, Cleveland, has been appointed city bacteriologist.——Dr. Alva Richards, New Lexington, is reported to be critically ill at his home as the result of a cerebral hemorrhage.

Cincinnati

Personal.—Dr. Robert Stewart has been elected president of the board of trustees of the University of Cincinnati.——Dr. Octavius B. Schmall has been committed to Longview Hospital for the Insane.——Dr. and Mrs. Frederick W. Lamb have sailed for Europe.

New Officers.—Medical Civics Association, annual meeting, February 5: president, Dr. Robert Stewart; secretary, Dr. Frank B. Cross. The paper of the evening was on "River Terminals," and the problem of sewage disposal was also discussed.——Cincinnati Women's Medical Society, January 28: president, Dr. Nora Crotty; secretary, Mrs. Margaret Rockhill.

Work of Social Service Association.—The Social Service Association of the Cincinnati Hospital during its first year has had almost one thousand patients. The association has acquired a convalescent home near Cincinnati which will accommodate twenty-five patients. One important field of labor has been disclosed by a recent advertisement in which a firm asks for laborers who have lost the left leg. Investigation showed that the company operated machines which could be worked easily by the right foot alone and that they had been induced to insert this unique advertisement at the request of the Social Service Association.

Welfare of the Blind.—Dr. Louis Stricker, head of the department of prevention of blindness of the Cincinnati Association for the Welfare of the Blind, in his annual report to the city health department states: "Several lives have been saved and twenty-seven new-born infants were saved from lives of blindness. The cost to educate any one of these children, had they become blind, would have been five times as great as the entire cost of the prosecution of the work of this department for a whole year, and it would have required ten times as great a sum to pay the pension of each one of these did they continue to live up to the fiftieth year, leaving entirely out of consideration the loss of earning capacity. Though there are many hospitals and clinics taking care of those afflicted with eye diseases, those whom we have reached, would never, by reason of their ignorance, have voluntarily presented themselves until too late to prevent serious consequences, and it is just this class that have become a charge on the local community or the state in case of blindness."

PENNSYLVANIA

Sanatorium for Pittsburgh.—A new municipal tuberculosis sanatorium for Pittsburgh is to be established on the Leech Farm on the hilltop opposite Highland Park. In order to bring the tuberculosis treatment within reach of patients, it is proposed by the Committee on Tuberculosis Hospitals to erect dispensaries in different parts of the city.

Personal.—Drs. S. M. Wolfe and F. P. Lanahan have resigned from the staff of the Nesbitt West Side Hospital, Wilkes-Barre. ——Dr. C. W. Sheldon, Tioga, was thrown from his buggy in a runaway accident, January 28, but luckily suffered only a few bruises.——Dr. Herman Boyles, New Castle, who sustained severe injuries by being pinned under his overturned automobile recently, is reported to be improving.

Hospital News.—The trustees of the proposed Abington General Hospital announce that plans for the new hospital to be erected on the Old York Road will be submitted immediately for estimates and that construction work would probably be started in March.——The Monongahela Memorial Hospital Association has erected a new building just outside the city limits at a cost of $75,000, of which $20,000 has been appropriated by the state.

Railway Fatalities.—The State Railway Commission shows in its annual report that there were 1,179 persons killed on the steam railroads in Pennsylvania last year and 11,034 were injured. This loss of life almost equals that in some of the notable battles of the Civil War, not singly, but combined. In Grant's campaign of sixty-four days in the Southwest, culminating with the capture of Vicksburg and including the battles of Port Gibson, Fourteen-Mile Creek, Raymond, Jackson, Champion Hills, Big Black Bridge and Vicksburg, the total Federal loss in killed was 1,243, only 64 more than the number of people killed by the railroads of this state in 1912. If to these figures is added the number of persons killed on the street railways of Pennsylvania for 1912, 177, the total number of deaths from both steam and street railways amounts to 1,356 or 113 more than the total killed in seven battles fought by Grant in the campaign mentioned. There were 4,052 persons injured on street railways in 1912.

Philadelphia

Laryngologists to Meet.—The Eastern Section of the American Laryngological, Rhinological and Otological Association will hold its meeting at the Bellevue-Stratford, February 22.

Surgical Ward for University.—Plans have been made for a six-story surgical ward, 92 by 94 feet to be erected at the southwest corner of Thirty-Fourth and Spruce Streets for the University of Pennsylvania.

Naval Hospital Annex.—To relieve the overcrowded conditions at the Naval Hospital at Twenty-Third Street and Gray's Ferry Road, a frame barracks at the eastern end of the Philadelphia Navy Yard has been converted into a temporary hospital for convalescents.

Unable to Find Explanation for Appendicitis.—An investigation made into the great number of cases of appendicitis among the boys of St. Francis' Industrial School at Eddington failed to find any cause. Thirty-three boys have been operated on for the disease in the last three weeks.

Mental Hygiene Exhibit.—The mental hygiene exhibit prepared for the International Congress of Hygiene and Demography will be held in Philadelphia, March 13-22. The exhibit consists of charts, statistics, photographs and models showing past and present methods of care for the insane.

Phipps Institute Nearly Ready.—The new building for the Henry Phipps Institute of the University of Pennsylvania for the study, treatment and prevention of tuberculosis is rapidly nearing completion and, it is expected, will be ready for occupancy this month. The dedication will take place in June.

Home for Destitute Physicians.—The Aid Association of the Philadelphia County Medical Society is considering the establishment of a home for destitute members of the profession and their wives. It is said that a widow of a physician has expressed her willingness to donate a residence in the suburbs to be used for this purpose.

Reorganization of Health Department.—In a report prepared by the Bureau of Municipal Research, complete reorganization of the Department of Health and Charities is suggested with the creation of an additional bureau of hospitals and the return to the state of some of the functions which are now discharged by the city.

Gifts to College of Physicians.—At the stated meeting of the College of Physicians, held February 5, an Assyrian medical tablet, dating from the seventh century B. C., the gift of Drs. S. Weir Mitchell and Richard H. Harte, was presented by Dr. F. P. Henry, and an original miniature in ivory of Dr. John Morgan, and a silver cigar lighter presented to him in 1765, gifts of Miss Julia Morgan Harding, were presented by Dr. George F. Baker.

Baby Saving Show.—The third of the series of baby saving shows under the auspices of the Child Hygiene Committee of Philadelphia, was opened in the Southwark Public School, February 5, and will remain open until February 15. Lectures and lantern demonstrations are given daily, and a feature of the show is the chart and demonstrations, showing mothers how to feed and dress their babies. A number of cough medicines and soothing syrups which are injurious to infants are also named on charts, and are given prominent places in the exhibit. The fourth exhibit will be at the McCall School at Fifth and DeLancey Streets.

SOUTH CAROLINA

Room Secured for Medical Society Library.—The Columbia Medical Society has rented a room in the Y. M. C. A. building to be used as a library. Both current literature and scientific text-books will be at the service of the members of the society.

Personal.—Dr. Theodore M. DuBose, Jr., has been appointed physician in charge of the hospital at the Fifth National Corn Exposition, Columbia.——Dr. H. A. Mood has been elected health officer of Sumter.——Dr. Max Goldman, who disappeared in July from his boarding place in Knoxville, Tenn., where he was engaged as assistant city bacteriologist, was found ill in Roanoke, Va.

New Officers.—Clarendon County Medical Society at Manning: president, Dr. G. L. Dickson, Manning; secretary-treasurer, Dr. H. L. Wilson, Jordan.——Florence County Medical Association at Florence: president, Dr. C. D. Rollins, Lake City; secretary-treasurer, Dr. F. K. Rhodes, Florence.——Columbia Medical Society: president, Dr. C. F. Williams; secretary-treasurer, Dr. W. R. Barron.——Pickens County Medical Society at Easley: president, Dr. C. N. Wyatt; secretary-treasurer, Dr. R. J. Gilliland, both of Easley (reelected).——Charleston County Medical Association organized with Dr. J. M. Thompson president and Dr. M. M. Edwards secretary.

SOUTH DAKOTA

Higher Preliminary Requirements.—The State Board of Medical Examiners now requires that an applicant for license who matriculated in a medical school subsequent to Aug. 1, 1911, must have completed a preliminary education consisting of two years of work in a college of liberal arts or its equivalent, in addition to an accredited four years' high school course. No medical college will be considered in good standing which accepts or graduates students with less than this amount of preliminary education.

Report of State Sanatorium.—The biennial report of the State Sanatorium for Tuberculosis, Custer, showed that for the last fiscal year the maintenance expense has been $6,806.84 and the income from the various counties $5,637.88, leaving a deficit of only $1,168.96 for the state to meet. At present, the institution has accommodation for only fourteen patients and the superintendent believes that, if it could be so enlarged that from seventy-five to one hundred patients could be received, the sanatorium would very soon become self-supporting.

New Officers.—Aberdeen District Medical Society at Aberdeen, January 28: president, Dr. R. D. Alway; secretary, Dr. W. D. Farrell, both of Aberdeen.——Yankton District Medical Society at Yankton, January 8: president, Dr. E. M. Morehouse; secretary-treasurer, Dr. James Roane, both of Yankton.——Watertown District Medical Association at Watertown: president, Dr. J. B. Vaughan, Castlewood; secretary-treasurer, Dr. S. B. Dickinson, Watertown.——Mitchell District Medical Society at Mitchell: president, Dr. F. W. Freyberg; secretary, Dr. C. S. Bobb, both of Mitchell.

TEXAS

Furnishings Supplied for Hospital.—The furnishings and fixtures for the Walter Colquitt Memorial Hospital which is being erected in Galveston by the Texas Antituberculosis Society are to be furnished by the John Sealy Hospital Aid Society.

Asks for Building Site.—At the annual meeting of the Houston Antituberculosis League, Dr. Elva A. Wright was elected president and it was decided to petition the commissioners of Harris County to set aside a site on the grounds of the county jail on which to erect a suitable structure for a tuberculosis dispensary.

New Officers.—Central Texas District Medical Society at Waco, January 15: president, Dr. R. R. White, Temple; secretary, Dr. Frank Connally, Waco (reelected). The next meeting will be held at McGregor.——Panhandle District Medical Association at Amarillo, January 15: president, Dr. J. C. Anderson, Plainview; secretary, Dr. J. J. Crume, Amarillo.

Society Opposes Contract Practice, Fee-Splitting and Advertising.—The Bexar County Medical Society at its meeting in San Antonio, January 16, adopted an amendment to its constitution prohibiting members from engaging in contract practice, and fixing expulsion as the penalty for violation. The society also placed itself on record as opposing advertising of all kinds by physicians, and the secret division of fees.

LONDON LETTER

(From Our Regular Correspondent)

London, Feb. 1, 1913.

The National Insurance Act in Operation

Considerable difficulties have arisen in the commencement of the working of the medical benefit part of the national insurance act. This is partly due to the attempt of the British Medical Association to boycott the act, and the resultant rush which followed failure to do so, and partly to a large amount of clerical work thrown on the doctors. Much of this appears to be unnecessary and a manifestation of the cumbrous officialism or "red tape" which characterizes all government work. Doctors' offices are besieged by long queues of insured persons for the purpose of having "their cards signed." They apply to be registered on the list of a physician whom they may choose from the panel; this is done by the physician writing his name on a red card supplied to the insured persons by the government. The physician can examine them or not, and accept or reject them as he pleases. The work entailed by this registration alone has been so great that professional work has been seriously hampered. In one case a scandal occurred as the result of the administration, without proper examination, of a mixture for dyspepsia to a man suffering from strangulated hernia. Later he was removed to a hospital and herniotomy was performed too late. At the inquest the physician said that he was too "rushed" by the insurance act to have time to attend to his patients properly—an excuse which was accepted. This congestion of work is of course only temporary and due to the sudden putting into operation of a system of enormous magnitude, full of complicated details. But the cumbrousness of the regulations is a different thing. For every patient treated the physician has to make three copies of the prescription—one to retain himself and two to send to the pharmacist, who retains one and sends the other to the government. It is true that the physician is supplied with prescription books and carbon papers, so that he need write the prescription only once, but sometimes the process is not quite successful. Physicians are also supplied with huge daybooks. In these no fewer than ten entries must be made for each patient, no matter how slight the ailment—name, address, society number, sex, age, occupation, illness, etc. The pages are perforated so that a portion containing the name of the complaint but not of the patient can be torn off. This is to be sent to the insurance commissioners for statistical purposes. The clerical work is so great that many physicians after a hard day's work have to sit up till the small hours of the morning making entries in the book. Already a movement is on foot among practitioners for the purpose of having the regulations altered so as to simplify the clerical work.

THE POSITIONS OF THE HOSPITALS

The hospitals of this country are supported by voluntary subscriptions, and form a feature of the national life contrasting strongly with the state-supported hospitals of the Continent. They are open free to the poor—a term of some elasticity, which in this case means all who are unable to pay the high fees which an operation or some other work requiring a specialist involves. The outpatient departments are frequented by persons with ordinary ailments, such as dyspepsia and chronic bronchitis, and it has always been a grievance with the medical profession that many of these could pay the small fees of the general practitioners. The insurance act has seriously altered the position in more ways than one. Now that the government has become responsible for the medical treatment of the workers, the question is being asked why the voluntary hospitals should receive them. On the other hand, the fact remains that the act has made no provision for operations or other treatment requiring special skill, and the need for the hospitals to supplement the work of physicians under the act is just as great as the need has been for them to supplement the work of the general practitioner in the past. But it is improbable that the government can stop at the point which it has reached. If the hospitals decline to treat insured persons, as many advocate, the government will be compelled to undertake the special as well as the general treatment of the insured. This would probably mean the taking over, partly or completely, of the voluntary hospitals, and in time the extinction of the voluntary hospitals and the substitution of the Continental system of state support. The first effect of the act on many of the hospitals has been a large decrease in the number of outpatients. Many persons with trivial ailments who would have been previously dealt with at the hospitals have been referred to the insurance doctors. Others have been treated once and then been informed that they cannot come again unless a physician certifies that the case is a suitable one for hospital treatment. On the other hand, the act so far has not had any effect on the inpatients, whose cases are all more or less serious. Another manner in which the hospitals will probably be affected is by a decrease of subscriptions. At present they are supported principally by the donations of persons who are wealthy or at any rate in comfortable circumstances, some of them large employers of labor. These persons are now taxed for the benefit of the insured, and it is certain that some of them will not submit to both compulsory and voluntary benefaction, and will therefore cease from contributing to the hospitals. Another source of support is collections from the working class, made up of small sums but totaling considerable amounts. These will also probably fall off as the contributors will consider provision for institutional treatment a government affair, as domiciliary treatment now is.

The Health of the Navy

A report on the health of the navy in 1911 has just been issued. The strength of the navy amounted to 117,100, of whom 79,520 were serving in the home fleet and 37,580 abroad. The health of the force shows a continuous improvement during the last five years; thus the cases of sickness in the five years, 1906 to 1910, averaged 679.9 per thousand strength, while in 1911 they amounted to only 652.9. The chief causes of admission to hospital were venereal diseases, which amounted to 115 per thousand—a figure which shows but a slight improvement on the ratio for 1906-1910, which was 121. Digestive diseases came next with 114 admissions per thousand. Tuberculosis with 2.44 was slightly above the previous average of 2.02, and rheumatic fever was also higher than the average —7.61 against 5.83. Typhoid fever caused 137 admissions and 30 deaths. The only outbreak occurred on a ship on the Atlantic fleet and was traced to infection on shore. Mediterranean fever is now almost extinct in the navy in consequence of the precautions taken against drinking unboiled goat's milk. Only 83 cases of alcoholism were admitted to hospital, an average of 0.7 per thousand, against an average of 0.96 in the preceding five years. This shows the great improvement in the use of alcohol which has taken place not only in the navy but also in the army and in the country generally. There were 218 cases of poisoning, of which 150 were due to ptomains, a large increase over recent years, and two deaths resulted from this cause. These cases were caused by eating such things as periwinkles, fish-cakes and tinned peas.

A State Medical Service

Dr. Benjamin Moore, professor of biochemistry at the University of Liverpool, who is distinguished as a writer on abstruse physiologic and medicopolitical subjects, has delivered a lecture before the Medicolegal Society on the "First Steps Toward a State Medical Service"—a project which he has championed for some time and long before the introduction of the national insurance act. He argued that national economy was the first cause that made his scheme necessary. By an efficient medical service many millions of pounds would be saved annually. The amount which sickness and disease cost annually must exceed $500,000,000. The cost of the insurance act for 14,000,000 people was about $120,000,000, but this did not take into account the loss to the workers through enforced idleness or the loss due to preventable deaths. Of this sum more than $30,000,000 were spent in the treatment of disease and only $5,000,000 in its prevention. The insurance act would undoubtedly do much to prevent the vicious round of troubles that resulted from the simultaneous attack in a household caused by the cessation of wages at the same time that extra expenses were caused by doctoring and the cost of the sick-room. On the supposition that half of the $500,000,000 that sickness costs annually could be saved by a properly organized state medical service, the project would be justified on an economic basis alone. A second reason for the service was national efficiency and physique. The idea that modern scientific medicine, by diminishing the incidence of infectious diseases, prevented the elimination of the unfit and was degrading the physique of the race, was false. The problem of the age looked at from the truly eugenic point of view did not consist in breeding a race fitted to inhabit a germ-laden world, to be capable of withstanding an utterly vile and vicious environment. It consisted rather in forming a pure, healthy and happy environment, and then in producing the noblest and ablest race both physically and mentally to inhabit that purified environment. It was because of our antiquated system of medical practice for pecuniary gain that physical deterioration existed. It was time that both the profession and the public should be disillusionized regarding the time-honored heresy that disease could be eliminated by discovering the cure for maladies. No disease in all history had been materially lessened in its incidence by the discovery of a cure. It was organized preventive medicine that by attacking disease at its incidence and making an environment clean had practically annihilated many diseases. There was a third reason, which he would call the scientific reason: social evolution and the production of a clean, healthy and beautiful world could not be achieved until disease had been conquered. He felt that the scientific power which had brought about the gain in knowledge must soon evolve a method for its application. A state department of medicine should be constituted with a responsible well-informed and well-trained minister in Parliament to represent it. Next in order to the central body would be a corps of about 2,000 men to concern itself with such matters as industrial disease. Finally, the local services would have to be organized. The full service would require the whole of the 30,000 physicians on the medical register. A fair basis of payment would be $2,500 a year with a retirement on pension at the age of 65. The total cost of this would be about $75,000,000. Other expenses, not including such existing expenses as those of hospitals, nursing staffs, etc., would bring the expense up to about $105,000,000. At any given time there would be between 2,000 and 3,000 retired physicians, from 4,000 to 5,000 in institutional service, 1,000 in postgraduate work, between 1,000 and 2,000 in diagnosis and research work and the remaining 18,000 to 20,000 inspecting, preventing and treating disease.

PARIS LETTER

(From Our Regular Correspondent)

Paris, Jan. 24, 1913.

The Skull of Descartes

In the collections of the museum of natural history the skull of Descartes, which was supposed to have been lost, was found (The Journal, Oct. 19, 1912, p. 1469). As doubts of its genuineness were raised, M. Gaston Darboux, secretary of the Académie des Sciences, asked members of the Académie des beaux-arts, especially painters and sculptors, if a comparison of the measurements of this skull with those which might be made from some portraits of the great philosopher would help to identify the skull. The Académie des beaux-arts appointed Dr. Paul Richer, professor of anatomy at the Ecole des beaux-arts, a sculptor and a talented carver of medals, a member of the Académie de médecine and the Académie des beaux-arts, to do this work. Richer took a painting of Descartes by Frans Hals and in order to reduce the personal equation to a minimum adopted the following method: First he made a drawing from the portrait of a skull fitting the portrait as closely as possible; second, he placed the skull in the attitude of the head in the portrait and made a drawing on the same scale; third, he superimposed one drawing on the other. The two drawings proved to coincide almost exactly; other drawings made at random of several skulls under the same conditions showed no correspondence whatever with the portrait of Frans Hals. The same thing was repeated with other portraits of Descartes, and Dr. Richer concluded that the skull preserved at the museum showed the closest similarity to that revealed by the portrait painted by Frans Hals. While the other portraits did not give so exact a result, nevertheless they supported the conclusion that the skull was genuine.

At the last meeting of the Académie des Sciences, M. Edmond Perrier, director of the museum, said that as soon as the skull was proved genuine it would not be proper to permit this precious relic of the great philosopher to remain where it was. He will construct a cabinet for it so that it may be placed in one of the halls of the museum where other valuable relics are already kept and where the skull may be exhibited together with documents proving its authenticity.

The Value of Artificial Pneumothorax in the Treatment of Pulmonary Tuberculosis

At the meeting of the Académie de médecine, January 21, Dr. Louis Rénon, *agrégé* at the Faculté de médecine de Paris and physician to the hospitals, read a paper in which, taking as a basis published reports and his personal experience, he showed that while artificial pneumothorax has considerable value theoretically in the treatment of pulmonary tuberculosis, its practical value is considerably less. Often the method of Forlanini cannot be applied owing to the frequency of extensive and irreducible pleural adhesions. Then, too, the fact that the lesions ordinarily occur on both sides is a contraindication to its use. Moreover, there is considerable difference of opinion as to positive results from artificial pneumothorax. But its immediate results are remarkable in severe cases of tuberculosis and in acute fever, and among the tuberculous with hemoptysis as well as in certain cases of tuberculosis with cavity formation. The disease is often arrested in an extraordinary manner. Patients live whose lives have been despaired of and whose trouble had resisted other treatment. To gain time is at present the actual practical end of artificial pneumothorax. This method ought to be used in the therapy of tuberculosis only as a provisional method until a better one is offered and only in circumscribed areas which must be marked out with great care clinically and roentgenographically in each individual case.

Dentists and General Anesthesia

It was decided by one of the courts at Paris recently that surgeon dentists who have received a diploma since Nov. 30, 1892, after having taken the necessary studies for the practice of surgery, may use local and general anesthesia in their operations without being obliged to call a physician.

BERLIN LETTER

(From Our Regular Correspondent)

Berlin, Jan. 25, 1913.

Personal

On January 21 the prominent Berlin pediatrist, Prof. Otto Heubner, celebrated his seventieth birthday. One of his first works, on syphilitic endarteritis, was the basis for the picture of this disease. Of special importance also were his works on cyclic albuminuria, infantile scurvy, his pathologic-anatomic researches into the nutritive disorders of infants, his calorimetric investigations in normal and sick infants, his studies of diseases of the kidney in childhood and many others. His excellent text-book on diseases of children has gone through many editions. Heubner's birthday was taken as an occasion for his nomination as honorary member of the Berlin Society for Internal Medicine.

Prof. M. B. Schmidt of Marburg has received a call as regular professor of pathologic anatomy in Würzburg.

Friedmann's Treatment for Tuberculosis

As previously mentioned in The Journal early in November, the Berlin investigator of tuberculosis, Friedrich Franz Friedmann, reported a new remedy before the Berlin Medical Society, with which he claimed to have had surprisingly favorable experience as a result of treatment of more than a thousand patients. In spite of the repeated demands of speakers who took part in the discussion, Friedmann gave no definite information in regard to his preparation. He injects it mainly subcutaneously and intramuscularly, but also intravenously and by the method which he calls simultaneous, both intravenously and subcutaneously. According to his statement, scrofulous tumors of the glands, tuberculous abscesses, chronic scrofulous eczemas, bone and joint fistulas and especially pulmonary phthisis have been cured. Suppuration is said not to appear in connection with this treatment as it does after treatment with the Koch tuberculin. The Friedmann preparation has also been used as a prophylactic vaccination in children with hereditary taint. The vaccination consists of a single intramuscular injection; it is said that no injurious action was observed. In the discussion which followed this report, the statements of Friedmann were endorsed by several observers whose patients in clinics had been treated by Friedmann. Among them were the pediatrist Müller, the surgeon Schleich, the pediatrist Karfunkel, and others. The laryngologist Blaschko reported with some reserve as to the results. The urologist Schwenk reported a failure in the treatment of a patient with tuberculosis of the bladder and kidney, and denied the apparently good results which were reported by Friedmann in this particular case. Bier, director of the surgical clinic, gained the impression that there is a certain curative action present in this remedy, but he has not as yet seen a conclusive case. The patients treated at his clinic had cases mostly of the fibrous type, and had largely been treated already by operation. He has not as yet seen a cure in a real severe fungous joint case. Orth, who at Friedmann's request took in charge the control of experiments in which infected guinea-pigs were treated by Friedmann with his remedy, acknowledged that the animals treated lived considerably longer than the others, but that finally all died of tuberculosis. A number of experienced investigators warned against exaggerated hopes and expectations. Fritz Meyer, an assistant of His, fails to find the proof of real cure as shown by the tuberculin reaction. He has further not yet seen a proof that any tuberculous cases can be cured or improved by the Friedmann treatment which could not be improved by the methods of treatment hitherto known, especially in the case of tuberculosis of the kidney and acute pulmonary tuberculosis. He, as well as several other speakers, raised a lively protest against the prophylactic vaccination, because a vaccine containing living turtle bacilli, notwithstanding their breeding from the turtle strain, may originally have had their source in man and thus become later on the cause of a tuberculous infection in children. Goldscheider holds that there is little evidence as far as the treatment and cure of pulmonary tuberculosis is concerned. He fails to find reports about the status before and after the treatment. On the whole, it is true that the reports of Friedmann have excited much interest, but this has nearly completely been lost by the profession as well as by the public. It takes a different aspect here from that which it assumes in America, where, according to newspaper notices which were sent to me (probably intentionally by interested persons), sensational reports about the curative action of the Friedmann treatment are continually being published. As a basis for the apathy with which further reports of Friedmann are awaited, the following points may be mentioned: At first, the lack of a definite statement as to the composition of the remedy, to which is added lately also the report that Friedmann will have the remedy patented; then, the complete failures which have been observed since the well-known publication of Robert Koch on tuberculin, in connection with all apparent cures for tuberculosis; further, the criticism to which the remedy was subjected during the discussion by investigators of good repute, and, last but not least, the lack of confidence which has been accorded Friedmann in the scientific world since his previous publications. In 1904 and 1905 he began to experiment with cultures of the turtle tubercle bacilli strain and reported very favorable results which he obtained with this treatment on cattle. Later on, however, he was energetically repudiated by Rüppel, on the ground of this very preparation which Friedmann had given as the evidence of the success of his treatment. Also Robert Koch felt great distrust of the reports of Friedmann, as he himself told me. Everything considered, it is not surprising that at present, after my inquiries, the remedy is not yet used in a single Berlin hospital. Only Friedmann himself continues his experiments with the remedy on patients in his own clinic. I understand that he contemplates publishing a rather extensive monograph in which all the material together with an accurate protocol will be published. More will be learned from the patients who will be treated and controlled from the beginning by other observers, however, than from this treatise. Only then shall we be in the position to give an opinion with some certainty as to the value or worthlessness of the treatment. At any rate, for the present there is no reason whatever for any enthusiasm, and it would be desirable, in the interest of patients in America, if our American colleagues would do what they can to dampen somewhat the enthusiasm roused by sensational reports. [Those who wish to read more may see The Journal, Dec. 7, 1912, p. 2081; Dec. 14, 1912, pp. 2158, 2159, 2192; Jan. 4, 1913, pp. 67, 70; Jan. 25, 1913, p. 309, and Feb. 1, 1913, p. 375.—Ed.]

Coming Meetings

The Congress of the German Society for Orthopedic Surgery will be held in Berlin, March 25. The main topic is "The Treatment of Chronic Arthritis," and the introductory address will be given by Kraus of Berlin.

The German Surgical Society will hold its meeting in Berlin, March 26 to 29. The main themes are "Ulcus duodeni (by Küttner of Breslau); "Brain and the Spinal Cord Surgery" (by von Eiselsberg and Ranzi of Vienna), and "The Treatment of Joint and Bone Tuberculosis" (by Garrè of Bonn).

Conviction of Physicians for X-Ray Injuries

For the purpose of extracting a foreign body from the back of a patient, two Baden physicians used the *x*-rays and through their carelessness the patient was severely burnt. He filed a suit for damages against the physicians, and as has previously been done in similar cases, the physicians were sentenced to pay the patient $2,500 (10,000 marks) for his injuries.

Municipal Sanatorium for Pulmonary Diseases

A sanatorium for patients with pulmonary and laryngeal disease will soon be established on the manorial estate Bush, which is located near, and belongs to, Berlin, and where already several other large municipal sanatoriums are located. The expense is estimated at $2,125,000 (8,500,000 marks).

Causes of Increased Nervous Disease in the Army

The extent of nervous and mental diseases in Germany is discussed in the German Army Medical Journal (*Deutsche Militärärtztliche Zeitschrift*), and the following conclusions are reached: By a careful selection before the commencement of military duty, a more marked decrease of these diseases may be expected. The fact that no decrease has been secured indicates an actual increase of mental diseases in the population. It cannot be proved statistically that cases of neurasthenia and hysteria have increased. Very prominent among the neurasthenics, however, is the large number of men identified with sedentary pursuits. In the army especially the paymasters are afflicted by many diseases of this kind. Alcoholism and syphilis, the main causes of mental and nervous disorders, have not increased in the last few years. On the other hand, the unfavorable influence of civilization in general, resulting in neurasthenia and paralysis, is much greater at present than formerly. Cases of severe forms of mental derangements have not increased in the army; they have even decreased. The number of severe forms of convulsions (severe epilepsy and hysteria) remained about the same. Everything considered, one gains the impression that our civilization, which especially in Germany forces continually the country population into the background, brings along an overtaxation of the nervous system, and as a result weakness and insufficient power of resistance against external injurious conditions, such as syphilis, alcohol, etc.; the weakened disposition appears to be hereditary. On the other hand, the nervous system can be adapted to the increased requirements; it is possible for strong natures to work while the nervous system is taxed to its utmost, and produce such works as only the modern man can accomplish—and yet without becoming ill with nervous or mental diseases. A general nervous degeneration cannot be expected, but the nervously weak frequently succumb. The increase of mental and nervous diseases in Germany, which even the foreigners notice, is explained by the sudden transformation of Germany from an agricultural state into an industrial one.

VIENNA LETTER

(From Our Regular Correspondent)

Vienna, Jan. 20, 1913.

The Correlation Between Tuberculosis of the Uropoietic System and Tuberculous Meningitis in Vienna

Drs. Blum and Müller have in the course of investigations on the fate of patients suffering from tuberculous disease of the uropoietic or genital organs discovered a remarkable correlation between these organs and the meninges. Within the last ten years there died and were subjected to post-mortem examinations in the Vienna General Hospital 5,372 persons from tuberculosis. Of these, 723 suffered from tuberculosis of the urinary system, and of the latter, 222, or 30 per cent., had also tuberculous meningitis. In 77 cases the genital organs were affected, with 17 per cent. of meningitis; 105 persons suffered from tuberculosis of the urinary and genital organs. Here the two investigators found meningitis in 22 per cent., while in the 4,372 cases of pulmonary tuberculosis without affection of the urogenital system only 6 per cent. showed meningitis. Even the cases with tuberculosis of the bones (216) had 14 per cent. of meningitis. Therefore a distinct predisposition of persons suffering from urogenital tuberculosis for meningeal tuberculosis is evident, especially in the cases of pure uropoietic tuberculosis, and less in the cases of pure genital tuberculosis. These figures apply only to adults, as genito-urinary disease of this kind is very rare in childhood. These observations seem to be valid only in Vienna, as in other statistics, collected by Simmonds, such conditions could not be found.

Hydrophobia in Vienna

There occurred in Vienna several cases of rabies recently which were traced to injuries caused by stray dogs. The animals were killed, but before this was done quite a number of other dogs had been bitten, and there is no way of telling at present which dogs are infected. Therefore the board of public health has issued a warning to the population to be on the lookout; details are given as to how dogs may become infected and what symptoms in the behavior of animals are suspicious. The people are instructed to have every wound carefully attended to in the special "rabies" department of a certain Vienna hospital. Details are published of the results of treatment (by injections) of cases of rabies in this hospital, showing that during the last year more than 700 cases from the whole of the empire have been successfully treated with only one death, which was due to gross negligence on the part of the patient. Altogether in Vienna we are comparatively free from this disease, owing to the severe restrictions on the keeping of dogs, the constant use of a muzzle and the destruction threatening every dog caught in Vienna without a muzzle.

ROME LETTER

(From Our Regular Correspondent)

Rome, Jan. 22, 1913.

The Army Medical Service in Africa

In a colonial war, such as the recent Italo-Turkish conflict, the importance of medical assistance is augmented by the frequency of cases of infectious native diseases, such as are scarcely known in Europe. Due praise must be given to our government for realizing the necessity for sufficient medical help, and every acknowledgment is also due to the military medical authorities, to the Red Cross, and to the sanitary inspectors.

WORK OF SANITATION

When the Italians landed in Libya the existing sanitary conditions aroused the worst possible fears. There was indescribable filth and negligence everywhere, and cholera and small-pox were raging among those of the inhabitants left behind, consisting chiefly of beggars and aged folk. The necessity of combating this state of affairs was most urgent in order to protect the doubly valuable lives and health of our soldiers. The Arabs merely threw the bodies of the cholera victims into the streets; the water of the wells was infected; in many places no water at all was to be obtained; there was no trace of sanitary inspection or any control over the food and drink offered for sale. Whenever possible, new wells were immediately sunk, the old ones were purified, and when the local supply was insufficient or entirely lacking, excellent water was transported from the Serino at Naples. The police supervision of sanitary conditions, and the regulations for public health and hygiene such as exist in all Italian communes were instituted. Numerous dispensaries, especially for eye diseases and female complaints, were established, and also naval medical inspection and a naval hospital. By degrees some order was brought into the lives of the natives, and they became accustomed to report cases of infectious disease, and to obtain permission to bury their dead. All inhabitants, whether they wished it or not, were inoculated, and a hospital for civilians was also established. Dirty lymph, etc., was collected and burnt, and all materials still serviceable were disinfected. The native population was placed under the surveillance of special physicians, and persons suffering from infectious diseases were gradually discovered and isolated.

The commonest diseases of the natives are trachoma, malaria, typhus, recurrent fever, dysentery and skin diseases due to deficient cleanliness. The strenuous exertions of the physicians and of the sanitary officers, helped by the large supply of necessities sent from Italy, were crowned with success; to-day we can look at the result obtained with satisfaction. Many foreign journals which have not been accustomed to spoil us with praise, such as the London *Times* and the *Lancet*, have acknowledged that we have entirely transformed the sanitary conditions of Libya.

CARE OF THE WOUNDED

Not only did the government spare no means, but also private charity was active in the work, especially in caring for the sick and wounded soldiers. Every man contributed his share either of money or personal help. Noticeable, too, was the help given by women, from humble work-women to women in fashionable society.

At the beginning of the war two steamers were sent out by the government with orders to collect the sick and wounded soldiers and to bring them back to Italy as soon as their condition allowed, in order to relieve the African hospitals. During the first months of the war when we had very little territory, these two ships coasted backward and forward, collecting the wounded after each battle, and thus preventing the accumulation of a number of sick in the rear of the army. The Italian Red Cross also fitted out a hospital ship, with twenty-five volunteer nurses each doing a month's service on board. Among the women of high rank who served their country in this way there was even a member of the royal family, the Duchess of Aosta, who worked on equal terms with the other nurses. No one was allowed to address her as "Royal Highness"; she insisted on being called "Signora Aosta." Naturally these examples helped to make the service popular.

CHARACTER OF WOUNDS MADE BY PROJECTILES

Weapons of the most various models were used by the Arabs and Turks, but those with large caliber bullets (11 mm. by 14.4 mm.) were in the majority. Observation of the wounds caused by these projectiles showed severe and extensive anatomic lesions. The large bullets of the Turks and Arabs penetrating crookedly into the bodies caused irregular, mangled wounds. It is true that the greater inclination in the course of a projectile would theoretically mean an advantage to the enemy, because the force is lessened. But the conditions of the fight in Libya (at least during the first months) were more favorable to the employment of such weapons, on account of the first battles being fought at close quarters. Accurate knowledge of the lay of the land and incredible boldness enabled the enemy, creeping through hollow places like snakes, to crawl close up to the Italian positions. Fired from so short a range, the shots had sufficient force to mangle the bodies of the wounded; they complicated the simplest wounds, which showed extraordinary mangling and contusions, so that the progress of healing could not be begun until all infected tissue had been eliminated. Consequently it took the wounds a long time to heal. The scars of these wounds are exceptionally long and irregular, and when on the face are most disfiguring. Another serious feature of the shots was that they often tore and carried into the wound pieces of clothing, and from this septic poisoning often followed. A bad result of the injuries made by these shots was also the free and frequently mortal bleeding of wounds even from small barrels. If on the contrary the small-caliber Italian shots inflicted wounds even with large barrels the blood was forced to collect in the deep tissues, and there formed large coagulations, which, pressing on the injured artery, forced the bleeding to stop. This fact was frequently noticed in the Russo-Japanese war, in which both armies were supplied with weapons of small caliber and large power.

Wounds made by the small-caliber, large-power shots showed, on the contrary, slight contusion of the sides and bottom; the sides were smooth and could be easily cleaned and attended to, and healing was quick and sure. Even when the bullet went through the muscles the healing did not take more than about ten days. Even wounds in the thorax and the abdomen healed quickly; the small holes the bullets drilled in their entry and exit were covered in a short time with a brownish crust, and under this natural closure the healing was quite aseptic. Again, while the Arabo-Turkish shots, if they hit the head, exploded, shattering the skull and carrying the splinters into the substance of the brain, so that the unfortunate men thus wounded were brought dying into the hospital, the results of our shots were far slighter. For example, in a night attack, the Sheik Isa Ben Gituil of the tribe of Hassu was taken prisoner, having a wound in the left wall of the cranium. The bullet had remained in the bone of the skull. Healing followed a natural, smooth, aseptic course, and the man was completely cured. The natives are right in calling the small-caliber arms "weapons which do not kill."

ENDURANCE AND OTHER CHARACTERISTICS OF THE ENEMY

As in all similar cases, one must of course take into consideration the extraordinary strength of physical resistance of the enemy, and the incredible ease and quickness with which these half-wild tribes are healed. Their sensitiveness is far less than that of more civilized peoples. For example, a Bedouin who had been hit by a grenade was brought for immediate aid into the surgical ward of the hospital. A splinter from the grenade had torn the abdomen, and another splinter had carried off the right hand. The intestines had to be sewn up in several places, and the remaining part of the forearm amputated. The wounded man followed these surgical operations with interest, gave no sign of pain, and even from time to time thanked the operator. After the application of the bandages he insisted on being taken to his home, where with the utmost unconcern and an excellent appetite he consumed a quantity of dates. A European, as the physician said in his report, would probably have died under the knife, and certainly would have been brought through only with great difficulty. Our physicians, moreover, have earned from the native population universal sympathy and respect in return for the willing and ready help which they gave even in cases of ordinary illness. The Arab calls our doctor "the chief of all" and says that the *Achim* (doctor) comes directly after Allah. The Arab women seek help confidently from the dispensaries, even without the escort of their husbands, and thank the doctors warmly for their assistance, saying "May Allah grant thee healing of the soul, as thou givest us healing of the body." Thus our physicians in this purely humanitarian work also effect a political mission, in helping to gain the sympathy of the natives.

Unfortunately these good results cannot be gained without many victims, for the nature of the fight ordains that the ambulance corps suffer many more losses than would be the case in a European war. Some of our colleagues fell while doing their duty on the field of battle. They lost their lives where they had given all their strength to help the unfortunate wounded. Their noble office did not protect them from the battle-fury of the enemy. One of them was killed in so barbarous a manner that my hand trembles when I think of him, and I wonder how long he waited for death, as he lay, nailed to a cross, on the ground. Many sorely wounded never ceased up to their last moment to try to ease the suffering of those who lay stricken around them. Like every war this one also has not only caused wounds, but wakened to life strength and virtue; but the moral and scientific organization of our military medical corps has far surpassed our own hopes, and filled us with a just pride and gratitude to those brave men who offered themselves as victims, in the conviction of doing nothing more than their duty.

Association News

THE MINNEAPOLIS SESSION

Special Trains to the Annual Session of the American Medical Association

There will be as usual special trains to carry the members, their families and friends to the next annual session of the American Medical Association at Minneapolis, June 17-20. To make the trip in such company is one of the privileges associated with the meeting. These special trains—and also special cars attached to regular trains—will be sent from several points in the United States. Several will go from Chicago, as a central point, and as the main gateway from the East, the South and a large part of the central territory. It is interesting to note in this connection that some competent and widely traveled observers declare that the train-service between Chicago and Minneapolis is not surpassed in comfort and elegance by the service between any other two cities in the world. Whether or not this be strictly true, at least it is a fact that the competition between the seven roads which run from Chicago to the Twin Cities is such as to ensure the passengers splendid train-service and all modern conveniences.

By arrangement with the Association's Committee on Transportation and Place of Session, the C. B. & Q. Railway—the Burlington Route—will run the American Medical Special. We note below a few details concerning this train, and other special trains will receive mention from week to week in The Journal. In the near future there will be a list of Minneapolis hotels and rates published, so that members may secure accommodations early. Excursions to Glacier Park, Yellowstone Park, etc. will also be taken up.

The American Medical Special will leave Chicago on the Burlington Route at 8:30 p. m., Monday, June 16, and will arrive in Minneapolis at 8:30 a. m., Tuesday, June 17. The equipment will include compartment and drawing-room cars, dining-cars, buffet club car and an observation car. The last-mentioned is to provide extra opportunity for observing the beautiful scenery which characterizes the upper Mississippi, the east bank of which is closely followed by the Burlington Route for almost 300 miles. Any one interested is invited to address any representative of the Burlington Route, asking for a special Mississippi River folder, which describes the beauties of the trip in detail. Reservations on this train should be made through Dr. J. R. Pennington, chairman of the Committee on Transportation and Place of Session, Room 1112, 31 North State Street, Chicago, or through any Burlington Route representative. Members are requested to make reservations as far in advance as possible, so that the committee may be able to order a sufficient number of high-grade cars for the comfort of all.

Marriages

George Oliver Coffin, M.D., Kansas City, Mo., to Miss Ida Stocking of Goff's, Kan., at Liberty, Mo., January 29.

Hayes H. Dutton, M.D., Paragon, Ind., to Miss Ida Reid of Lewisville, Ind., at Martinsville, Ind., January 25.

Roy K. Goddard, M.D., to Miss Bonnie Stevenson, both of Mounds, Okla., at Sapulpa, Okla., January 22.

Arnold A. Samoroni, M.D., Schenectady, N. Y., to Miss Ilna Montesi of Brooklyn, January 29.

Charles William Groetsch, M.D., to Miss Louise Buhler, both of New Orleans, February 1.

Myron C. Baker, M.D., U. S. Navy, to Miss Helen McKee, at Vallejo, Cal., January 14.

Frederick A. Kohn, M.D., to Miss Tilda Ehrman, both of Chicago, January 27.

Enoch Mather, M.D., to Miss Anna M. Briscoe, both of Detroit, January 25.

Deaths

Daniel B. Cliffe, M.D. University of Louisville, Ky., 1842; for nearly fifty years president of the Nashville and Decatur Railroad; in 1860 professor of anatomy in Shelby Medical College, Nashville; surgeon in the Confederate Service throughout the Civil War; a director and later vice-president and president of the National Bank of Franklin, Tenn.; died at his home in that city, January 22, from pneumonia, aged 90.

James Percival Tuttle, M.D. University of Pennsylvania, Philadelphia, 1881; a member of the American Medical Association, New York Academy of Medicine and American Proctologic Society; first lieutenant Medical Reserve Corps, U. S. Army; professor emeritus of rectal surgery in the New York Policlinic Medical School; died at his home in New York City, January 31, from diabetes, aged 56.

Albert Clinton Aldrich, M.D. Harvard Medical School, 1883; formerly a member of the American Medical Association; a member of the Board of Health of Somerville, Mass., and assistant physician at the State Prison, Charlestown; was stricken with paralysis while making a professional call in Winchester, January 29, and died a few minutes later, aged 55.

Helen Paschall Proctor, M.D. Women's Medical College of Pennsylvania, Philadelphia, 1905; a member of the Medical Society of the State of Pennsylvania; physician to the gynecologic department of the College Hospital; died at her home in Philadelphia, January 23, from rupture of an ovarian cyst, complicating labor, aged 41.

John Owens Hughes, M.D. Rush Medical College, 1867; one of the oldest practitioners of northwest Chicago and a resident of Norwood Park; a veteran of the Civil War and a member of the Illinois State Medical Society; died suddenly while making a professional call near his home, February 5, from heart disease, aged 75.

Ephriam M. Epstein, M.D. College of Physicians and Surgeons, New York City, 1859; first president of the University of South Dakota, Vermillion; formerly a practitioner of West Liberty, W. Va., and instructor in science in Bethany College; died at his home in Chicago, January 26, from senile debility, aged 84.

George H. Sanderson, M.D. Missouri Medical College, St. Louis, 1886; a member of the State Medical Association of Texas; for many years health officer of San Saba County and local surgeon for the Gulf, Colorado and Santa Fe Railroad; died at his home in San Saba, January 25, from peritonitis, aged 51.

Robert Parker Mars Ames, M.D. Jefferson Medical College, 1880; for several years an official of the U. S. P. H. Service; a member of the American Medical Association; later a practitioner of Springfield, Mass.; died in the Wesson Memorial Hospital in that city, January 25, from diabetes, aged 56.

Wade Allison Lewis, M.D. Western Reserve University, Cleveland, O., 1904; formerly assistant physician of the National Tube Company at Lorain, O.; died at his home in Amherst, O., January 17, from acute congestion of the lungs, superinduced by whooping-cough, aged 29.

Daniel William Hayes, M.D. Medical School of Maine, Brunswick, 1897; of Brownsville Junction, Me.; a member of the Maine Medical Association; local surgeon of the Canadian Pacific Railway; was instantly killed in a collision between trains at Onawa, January 21, aged 42.

Wilbur Fisk Litch, M.D. Jefferson Medical College, 1865; a member of the American Medical Association; dean of the faculty and professor of materia medica and therapeutics in the Pennsylvania College of Dental Surgery; died at his home in Ardmore, Pa., Dec. 25, 1912, aged 72.

Jesse Mercer Pace, M.D. Tulane University, New Orleans, 1858; professor of diseases of children in the Southwestern University Medical College, Dallas, Tex.; one of the oldest and most prominent practitioners of Dallas; died at his home, January 28, aged 76.

Sparrow T. Gregg, M.D. Jefferson Medical College, 1887; for many years secretary of the Belmont County (O.) Medical Association and local surgeon of the Baltimore and Ohio System; died at his home in Mount Union, Ia., January 22, aged 54.

Alfred G. Abdelal, M.D. University of Montpellier, France, 1852; a veteran of the Civil and Franco-Prussian Wars; for many years a practitioner of Lawrence, Kan.; died at his home in Kansas City, Mo., January 25, from senile debility, aged 80.

Colwell D. Hale, M.D. Cleveland University of Medicine and Surgery, 1877; one of the founders of the Syracuse (N. Y.) Homeopathic Hospital; died at the home of his daughter in Syracuse, January 21, from cerebral hemorrhage, aged 71.

Alfred Irving Morse, M.D. Tufts College Medical School, Boston, 1910; a recent appointee in the U. S. P. H. S.; died in the Homeopathic Hospital, Boston, January 29, from septicemia, contracted while in discharge of his duties, aged 26.

George Washington Jenckes, M.D. Harvard Medical School, 1854; a member of the Rhode Island Medical Society and president emeritus of the Woonsocket Hospital; died at his home in Woonsocket, January 27, from senile debility, aged 83.

Walker Dannals Engle, M.D. Western Pennsylvania Medical College, Pittsburgh, 1901; a member of the American Medical Association; died at his home in Aliquippa, Pa., January 16, from septicemia, due to an operation wound, aged 39.

George Harper Donaldson, M.D. Missouri Medical College, St. Louis, 1875; a member of the American Medical Association and a Confederate veteran; died at his home in Kansas City, Mo., January 23, from heart disease, aged 66.

William T. Black, M.D. Pennsylvania Medical College, Gettysburg, 1857; surgeon of Volunteers during the Civil War and thereafter a practitioner of Calais, Me.; died at his home, January 14, from pneumonia, aged 81.

William Patty, M.D. Eclectic Medical Institute, Cincinnati, 1866; a retired practitioner of Greenville, O.; for many years a practitioner of Pleasant Hill; died at his home, January 23, from cerebral hemorrhage, aged 84.

Berthold L. Lewin, M.D. University of Bonn, Germany, 1883; of Cleveland; who had recently returned from Germany; was found dead in his apartment, January 23, from the effects of an overdose of morphin, aged 53.

Louis B. Balliet, M.D. University of Pennsylvania, Philadelphia, 1854; the oldest practitioner of Lehigh County, Pa.; died suddenly at his home in Allentown, January 28, from senile debility, aged 80.

Isaac Henry Foust (license, North Carolina, 1898); a member of the Medical Society of the State of North Carolina; died suddenly at his home in Salisbury, January 21, from heart disease, aged 64.

James Findlay Loree, Jr., M.D. Denver and Gross Medical College, Denver, Colo., 1909; formerly of Ann Arbor, Mich.; died at his home in Boise, Ida., January 25, from pneumonia, aged 27.

James Fleet Booth, M.D. Atlanta (Ga.) School of Medicine, 1906; was shot and killed by his wife as the outcome of a quarrel at their home in Lake Providence, La., January 23, aged 32.

Charles Rollin Austin, M.D. Medical College of Ohio, Cincinnati, 1894; postmaster of Byesville, O.; who disappeared January 15, was found drowned in Will's Creek, January 17, aged 41.

George Warren Abney, M.D. University of South Carolina, Columbia, 1874; for several years local surgeon of the Plant System; died at his home in Jacksonville, Fla., January 18, aged 60.

Charles L. Thompson, M.D. Hahnemann Medical College, Chicago, 1882; a member of the staff of the Hackley Hospital, Muskegon, Mich., died at his home in that city, January 26, aged 63.

George Belding Smith, M.D. New York University, New York City, 1881; a member of the American Medical Association; died at his home in Anacortes, Wash., about January 19, aged 56.

Charles Edwin Cummings, M.D. Bellevue Hospital Medical College, 1883; local examiner in Seattle for the Fraternal Order of Eagles; died in that city, about Dec. 6, 1912, aged 53.

J. Emmett Wimp, M.D. Kentucky School of Medicine, Louisville, 1890; died at his home in Louisville, January 23, from tuberculosis, following an operation for appendicitis, aged 52.

Franklin J. Magee, M.D. Hahnemann Medical College, Chicago, 1881; a veteran of the Civil War; formerly of Santa Clara and San Jose, Cal.; died recently in Eugene City, Ore.

Thomas John Farleigh, M.D. New York University, New York City, 1875; of Bay View, Wash.; died in the Burlington (Wash.) Hospital, Dec. 10, 1912, from pneumonia, aged 63.

Horace J. Emery, M.D. Queens University, Kingston, Ont., 1884; a member of the American Medical Association; died at his home in Spokane, Wash., January 14, aged 54.

John T. Cross, M.D. College of Physicians and Surgeons, Keokuk, Ia., 1865; a pharmacist for many years; died at his home in Farmington, Ia., January 28, aged 71.

Charles T. Brockway, M.D. St. Louis College of Physicians and Surgeons, 1893; health officer of Brookston, Ind.; died in St. Elizabeth's Hospital, January 12, aged 49.

Alfred Leubbers, M.D. Marion-Sims College of Medicine, St. Louis, 1896; of University City, St. Louis; died at his home, January 27, from nephritis, aged 46.

William Herschel Brown (license, Texas, 1907); formerly a member of the American Medical Association; died at his home in Coffeyville, Texas, Dec. 28, 1912.

William Clanton, M.D. University of Pennsylvania, Philadelphia, 1855; died at his home in Pickens, Miss., January 10, from pneumonia, aged 81.

Franklin L. Snell (license, Michigan, 1900); a practitioner since 1875 and a veteran of the Civil War; died at his home in Kalamo, January 26.

Ames Messer Jackson, M.D. Dartmouth Medical School, Hanover, N. H., 1873; died at his home in Fall River, Mass., December 25, aged 72.

Samuel N. Metzler, M.D. Cincinnati College of Medicine and Surgery, 1877; died at his home in Indianapolis, about Dec. 31, 1912, aged 63.

Eugene Elam Brown, M.D. Hospital College of Medicine, Louisville, Ky., 1882; died at his home in Martinez, Cal., January 13, aged 55.

Edgar C. Quinby, M.D. Cleveland University of Medicine and Surgery, 1881; died at his home in Titusville, Pa., about January 25, aged 56.

Hannah Russell Bennett (license, Wisconsin, 1899); died at the home of her step-son in Monroe, Wis., January 22, from acute bronchitis.

W. Riley Wood (license, Tennessee, 1889); died at his home near Lexington, Tenn., about January 17, from pneumonia, aged 62.

Louis Pfandhoefer, M.D. University of Buffalo, N. Y., 1886; died at his home in Falls City, Ore., January 9, from pneumonia, aged 60.

Francis Hodgson Orme, M.D. New York University, New York City, 1854; died at his home in Atlanta, Ga., January 28, aged 78.

Robert D. E. Follweiler, M.D. Baltimore University School of Medicine, 1898; died at his home in Allentown, Pa., January 27, aged 38.

Charles A. Hillweg, M.D. Hahnemann Medical College, Chicago, 1878; died at his home in Corning, Ia., about January 26, aged 56.

Charles Ryker, M.D. Cincinnati College of Medicine and Surgery, 1870; died at his home in Manville, Ind., January 18, aged 77.

John T. Flanagan, M.D. University of Louisville, Ky., 1880; died at his home in Bosworth, Mo., January 16.

M. Z. Totten (license, Arkansas, 1903); died at his home in Varner, January 26, from pneumonia, aged 57.

The Propaganda for Reform

In This Department Appear Reports of the Council on Pharmacy and Chemistry and of the Association Laboratory, Together with Other Matter Tending to Aid Intelligent Prescribing and to Oppose Medical Fraud on the Public and on the Profession

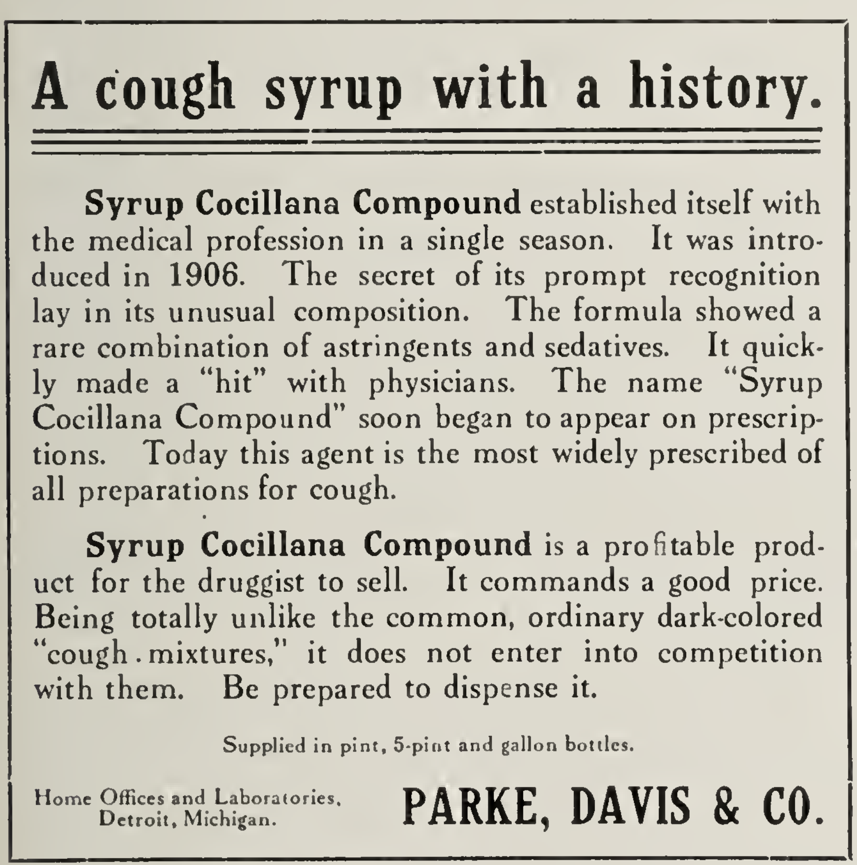
SYRUP COCILLANA COMPOUND

The following letter was received from Dr. George P. Tolman, Watsonville, Cal.:

"*To the Editor:*—The enclosed advertisement was underscored and mailed to me by my druggist. The properties of cocillana are similar to ipecac. The dose of the fluidextract is from 10 to 20 minims. Each fluidounce of the extraordinary (!) dark-colored cough marvel of P. D. & Co. contains 40 minims of the tincture. If the tincture of cocillana is 10 per cent. (the average tincture strength) you can see that to get a minimal dose of the drug you would have to take 2½ fluidounces of the syrup.

"Query: Can we still hang on to the old-fashioned cough mixtures freshly compounded by our druggists or shall we put our shoulders to the wheel and help P. D. & Co. save the nation and make a few dollars for the druggist?"

The following is a reproduction of the advertisement referred to:



A cough syrup with a history.

Syrup Cocillana Compound established itself with the medical profession in a single season. It was introduced in 1906. The secret of its prompt recognition lay in its unusual composition. The formula showed a rare combination of astringents and sedatives. It quickly made a "hit" with physicians. The name "Syrup Cocillana Compound" soon began to appear on prescriptions. Today this agent is the most widely prescribed of all preparations for cough.

Syrup Cocillana Compound is a profitable product for the druggist to sell. It commands a good price. Being totally unlike the common, ordinary dark-colored "cough mixtures," it does not enter into competition with them. Be prepared to dispense it.

Supplied in pint, 5-pint and gallon bottles.

Home Offices and Laboratories,
Detroit, Michigan.

PARKE, DAVIS & CO.

"The secret of its prompt recognition lay in its unusual composition." Nay; its prompt recognition lay in liberal and persistent advertising. "It quickly made a 'hit' with physicians." —because too many physicians, like other human beings, are susceptible to the psychology of advertising. Here is the "unusual composition," as given by the manufacturers:

> "Tinct. Euphorbia pilulifera, 120 mins.; Syrup Wild Lettuce, 120 mins.; Tinct. Cocillana, 40 mins.; Syrup Squill Compound, 24 mins.; Cascarin (P. D. & Co.), 8 grs.; Heroin hydrochloride, 8-24 gr.; Menthol, 8-100 gr."

As we have said before[1] Parke, Davis & Co. should be proud of this "elegant specialty." It would be hard to find a better specimen of a shotgun prescription; not only does the prescription contain eight ingredients, but one of these ingredients (compound syrup of squill) itself contains three.

As our correspondent correctly states, the drug from which the name (not the action) of the preparation is derived comes from Bolivia and has properties similar—but evidently inferior—to ipecac. That it possesses but little therapeutic value is perhaps best evidenced by the fact that, in spite of the propaganda made for it by Parke, Davis & Co., neither the drug nor any preparation of it is listed, so far as we know, by any other large pharmaceutical house, with one exception. Besides cocillana the preparation contains two other obsolete drugs, wild lettuce and euphorbia pilulifera. The activity of the "cough syrup," it is needless to say, depends in the main on the drug which is more or less buried in the published formula: heroin hydrochlorid. At one time Parke, Davis & Co. admitted that the preparation owed its chief value to heroin. In a letter to the Council on Pharmacy and Chemistry the firm said:

> "The physiologic action of this syrup is that which would be suggested by the constituents. Because of its activity the most prominent action would be that characteristic of heroin hydrochlorid."

Without doubt the important ingredient, from the point of view of therapeutic potency, is the heroin; and it is this drug doubtless, that makes the mixture a good "repeater." Syrup Cocillana Compound is a nostrum sailing under false colors. Whether its continued use is due to its mysterious, meaningless, misleading name or merely to insistent and persistent advertising methods of Parke, Davis & Co. is a question. Neither explanation is any credit to the medical profession which tolerates it, or to the physician who prescribes it.

"MAIGNEN PULV."

One of the "side-shows" which interested the throng on the Board Walk at the last meeting of the American Medical Association at Atlantic City was the exhibition of a "wonderful" antiseptic, germicide and cure-all whose virtues (?) were demonstrated by means of the microscope. An investigation showed that the individual in charge took a drop from a bottle containing water, hay and some living infusoria, placed it under the microscope on a slide and then allowed a solution of the "wonderful" remedy to run under the slide, when, *mirabile dictu*, the poor delicate, harmless infusoria shriveled up into formless masses. The whole thing was so absurd and the fake so transparent that the subject was dismissed without further thought by physicians, even though the "show" had been set up close to the Exhibition Hall with the evident intent of attracting the medical profession. It appears, however, that the "remedy" is being exploited to physicians in earnest, and queries are being received from physicians regarding this palpable humbug. For this reason we present the following brief discussion of the preparation:

Maignen Pulv. is exploited by J. P. Maignen, Philadelphia, and we are told is "prepared for the physicians by the chemists of the Maignen Institute." An advertising circular tells us that Maignen powder is:

> ". . . a combination of harmless mineral salts, whose individual bactericide power is low in the scale of antiseptics, but whose collective power is very high, by reason of the reactions which take place between the different salts in a moist environment."

The use of this powder is recommended for a long list of diseases and for application in various ways to lesions of the skin and subcutaneous tissues and to the various mucous membranes of the body. The circular gives a report of the Lederle Laboratories of New York which shows the material to possess a germicidal power 3.75 times as great as that of phenol! The circular says:

> "In ordinary Stomach Troubles give the patient, whenever distressed, a cup of hot water with half the amount of powder lifted on a dime. This will correct the acidity, stop the production of toxins, and bring the mucous membrane to normal."

What are the harmless mineral salts from the interaction of which a powerful germicidal effect is obtained? Analysis made in our chemical laboratory showed the powder to be apparently a mixture, consisting largely of calcium oxid or hydroxid and sodium carbonate, which on treatment with water results in a mixture containing calcium carbonate and the strongly alkaline sodium hydroxid.

Thus this "discovery" makes use of the well-known operation of leaching a mixture of ashes and lime to procure lye, except that in this case sodium carbonate is used instead of the potassium carbonate of the ashes. The germicidal powers of strong alkalies have long been known, but the inconvenience of their application to tissues and mucous membranes has prevented their use. That they will be of service when sufficiently diluted not to irritate the tissues is improbable, for the antiseptic power of such solution is slight and the disinfectant value practically nil.

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[1] The Journal A. M. A., March 18, 1911, p. 834.

The recommendation for internal use is absurd when we consider that the dose called for ("half the amount of powder lifted on a dime") corresponds approximately to an amount of alkali sufficient to neutralize the acid in 100 c.c. of ordinary stomach contents. This quantity is less than that present after an ordinary meal. If the patient should happen to have just that amount in the stomach, his symptoms from acidity would be relieved, but he would have neither hydrochloric acid nor alkali to prevent fermentation; but usually the amount of stomach contents is much greater than this and the acid would be only partially neutralized by the medicine, which, having lost its alkalinity, has also lost its disinfecting power. The other claims made for this wonderful powder present a similar disregard of the conditions under which it is to be applied.

It is evident that neutralization with an acid will completely abolish the germicidal power of this preparation. As soon as it is taken into the acid stomach it has no more power to destroy germs than so much salt. In view of this it would appear that the medical profession will have to look elsewhere than to Maignen Pulv. for a treatment of such diseases and ailments as diphtheria, laryngitis, whooping-cough, stomatitis, tonsillitis, mastitis, intestinal catarrh, cholera, typhoid fever, cholera morbus, enteric fever, dysentery, leprosy, tuberculosis, conjunctivitis, ophthalmia neonatorum, anthrax, epithelioma and gastric catarrh, for all of which it is recommended.

"AN EXAMPLE OF ETHICS FOR DOCTORS"

The *Sun* (New York) said editorially, February 2:

"Ethics is regarded as a sine qua non in medicine, whereas in business it is sometimes supposed to be more honored in the breach than the observance. That the doctor may obtain an object-lesson in ethics from a business firm is demonstrated in a recently issued circular of a leading mail-order house, in which this statement is made: 'We have decided to restrict our line of goods to those officially approved by the Council on Pharmacy [and three other official authorities mentioned by title]. Thus the highest quality as well as absolute uniformity are assured for these official preparations. We believe that the publications named contain all that is valuable in the field of medicine. If any more than the simple home remedies listed are needed we are frankly of opinion that they should consult their family physician rather than waste time and money in experimenting with drugs. In our opinion the evils chargeable to patent medicines are likely to continue so long as these products have free access to the channels of publicity.'

"What a homily this is on the present growing practice of physicians to prescribe proprietary secret (alias patent) medicines for their unsuspecting patients! The *Sun* has called attention to this evil, characterizing it as a menace to the good repute of the doctor. We have pointed out that the latter's dependence on the statement of ingredients on the label may bring bitter fruit to his patient and himself, that a proprietary drug preparation may be easily copied by the patient and by him bought without his prescription or even transferred to a friend, as is often done. In this manner the doctor loses patients, and the sick, whether their illness be real or imaginary, may be damaged by medicines taken without diagnosis or medical supervision.

"That the proprietary drug combinations are advertised at large expense in the regular medical journals with few exceptions is proof that their use by physicians is increasing. There is only one explanation for the avoidance of official preparations by physicians, a practice which even the business firm referred to points out as indefensible in ethics: indolence and desire to dismiss the case as speedily as possible. The ingredients of a physician's prescription should be written calmly in Latin terms so that the layman may not injure himself by its surreptitious use. It is the course of safety to dismiss any physician who dashes off a prescription for X & Co.'s Tonic or Dingalen, Propothin (these are fictitions terms) or other fancy proprietary drug. Neither the legitimate druggist nor the patient will be injured by this course."

AUBERGIER'S LACTUCARIUM—A PROTEST AND A REPLY

In The Journal, Nov. 9, 1912, under the above heading, we published some facts relative to this preparation. We have received a nine-page communication from Comar & Co. of Paris, the promoters of Aubergier's Syrup of Lactucarium, in which they take issue with some of the statements in our article. The company claims that a possible reason for the difficulty experienced by Mr. Louis Emmanuel in trying to make the Syrup of Lactucarium from the crude drug is that he did not use the same variety of Lactucarium that it employs. Furthermore, it says that the presence of morphin in the product was acknowledged before the passage of the Food and Drugs Act. On more careful investigation, we find that this is true—that the presence of "a certain proportion of extract of opium" in the preparation was mentioned even before the federal Food and Drugs Act compelled the morphin content to be published on the label. Technically, then, The Journal was incorrect in making the implication that the medical profession was not apprised of the fact that Aubergier's Syrup of Lactucarium contained morphin; practically it was right. The information that Comar & Co. gave to physicians was buried in its advertising "literature" so that it is fair to assume that not one physician in ten thousand knew—previous to the Food and Drugs Act—that Aubergier's Syrup of Lactucarium contained morphin.

Correspondence

Opinions Desired on the Treatment of Puerperal Infection

To the Editor:—At the session of the American Medical Association at Atlantic City a committee was appointed to collect the opinions of representative obstetricians, gynecologists and general practitioners on this question: Should the puerperal uterus be emptied of ovular remnants in the presence of infection, and if so, when? The object of the committee is to obtain information which will enable it to formulate rules for the treatment of septic abortion and post-partum infection with retained placental fragments.

The chairman will, on request, send a printed blank to any general practitioner in order to receive his opinion on eight questions. The committee is most interested, however, in the first three questions, which are as follows:

1. A primipara with septic abortion, at three months, fever two days, the hemorrhage negligible, the ovum intact: What would you do?
2. A primipara with septic abortion, at three months, fever two days, hemorrhage negligible, the fetus expelled, placenta retained: What would you do?
3. A primipara, fourth day after full-term delivery, positive evidences of uterine infection, no hemorrhage, retention of ovular remnants suspected: What would you do?

The committee will be glad to have answers to these three questions from as many general practitioners as are willing to assist.

Barton Cooke Hirst, M.D.
Robert L. Dickinson, M.D.
Joseph B. De Lee, M.D., Chairman,
5028 Ellis Avenue, Chicago.

Getting Together in Kansas—An Example to Emulate

To the Editor:—At the spring meeting of the medical society of a certain county in southwest Kansas, suggestion was made that one of the members of the society should be a candidate for the legislature, in order that the interests of physicians might be safeguarded by representatives from among the profession. This was determined because the interests of physicians were menaced by the last legislature and were also seriously threatened through the activities of the chiropractors and the League for Medical Freedom in the legislature which was to be chosen and is now in session.

After considerable discussion, it was decided that Dr. R. T. Nichols of Liberal (the county seat) should be the person to make the race. Dr. Nichols' popularity among the people had been attested by the fact of his election as mayor, and he had shown marked executive ability as well as much forcefulness of character in the conduct of the city's business.

Notwithstanding that the physician-candidate was a Democrat, while most of the members of the society were Republicans (Seward County is strongly Republican), they stood together "as one man" and succeeded in electing him. But the story does not end here: The doctors agreed not only that they would work for his election, which they did most heartily, but also that they would turn back all of his patients on his return from the legislature and pay him a per diem bonus as well while he was in attendance at the capital.

Dr. Nichols made his maiden speech the other day in the House, defeating the schemes of the enemies of the Kansas Food and Drugs Law by causing the untimely death of House Bill 76. This bill called for the reorganization of the State Board of Health, replacing the majority of the physicians on the board with laymen who are interested in the manufacture and sale of food and drugs. Incidentally, it might be remarked that the present Democratic governor (who won his election by a majority of 26 votes) was elected by the physicians of Kansas, 85 per cent. of whom voted for him as against the Republican candidate—the publisher of the Topeka *Capital* and a large number of other publications which carry nostrum advertisements. Dr. Nichols is ably assisted by two other physicians, one of whom ran on a platform of public health education, disregarding the platform of his own political party.

Is it not about time that the physicians of the country should emulate the example set by the Seward County Medical Society, and "get together"?

S. J. Crumbine, M.D., Topeka, Kan.

Medical Sectarianism

To the Editor:—You printed in your issue of Feb. 1, 1913, a paper by Dr. John Benjamin Nichols, entitled "Medical Sectarianism," which appeals so strongly to every one engaged in the practice of scientific medicine that I cannot refrain from expressing some faint appreciation of the author's admirable treatment of this vexing subject. I say "vexing" because the attitude assumed by even intelligent and cultured laymen in the consideration of this question is so hopelessly unfair and illogical that it is difficult for a physician to retain his equanimity in discussing the matter with them. Usually the advocate of scientific medicine finds so much to irritate him in the arguments of those who champion the sectaries that he grows hysteric and does harm rather than benefit to the truth.

To me it appears so desirable that all practitioners of scientific medicine acquire a true understanding of the burning subject of medical sectarianism that I venture to suggest to The Journal that it print Dr. Nichols' article in pamphlet form and scatter it broadcast among the practitioners in the United States.

J. Dennis Arnold, M.D., San Francisco.

Queries and Minor Notes

Anonymous Communications will not be noticed. Every letter must contain the writer's name and address, but these will be omitted, on request.

CALORIC FEEDING

To the Editor:—Please give some information on practical caloric feeding. W. S. T.

Answer.—The principle of caloric feeding is simply to determine the caloric value of the food, counting 4 calories for every gram of solid protein or carbohydrate and 9 calories for every gram of fat. This calculation is easily made when the composition of the food in fats, carbohydrates and proteins is known. For practical directions on this matter refer to the following articles; that by Levy, though it does not treat particularly of calories, is the most easily applied practical method of feeding infants.

Teimer, T.: Calorimetric Method of Infant-Feeding, *Arch. Pediat.*, January, 1909.

Ladd, M.: Calorie Value of Modified Milk in Its Relation to Infant-Feeding, *Arch. Pediat.*, March, 1908.

Ludlum, W. D.: Calorimetry in Infant-Feeding, *Long Island Med. Jour.*, September, 1909.

Bowditch, H. J.: A Convenient Method for Determining Calorie Values of Formulas Based on Percentage Feeding of Infants, The Journal, Oct. 16, 1909, p. 1265.

Lackner, E.: Heubner's System of Infant-Feeding Expressed in Calories and Energy Units, The Journal, Oct. 16, 1909, p. 1267.

Blauner, S. A.: The Caloric Method of Infant-Feeding, *New York Med. Jour.*, May 14, 1910.

Chapin, H. D.: Limitations of Caloric Method of Infant-Feeding, *Med. Record*, May 28, 1910.

Levy, D. J.: Simple Methods in Infant-Feeding, The Journal, June 22, 1912, p. 1925.

Hess, J. H.: A Study of the Caloric Needs of Premature Infants, *Am. Jour. Dis. of Child.*, November, 1911.

Howland, J.: The Fundamental Requirements of Our Infants' Nutrition, *Am. Jour. Dis. of Child.*, July, 1911.

TENOPLASTY IN CONTRACTURES OF TENDONS

To the Editor:—In the treatment of poliomyelitis with contractures of the hamstring muscles and resulting foot deformity, is it advisable to do a tenotomy and produce a stiff joint at the knee? If so, what is the ultimate result? Should the operation be done at an early age or not until the child is more developed? G. W. T.

Answer.—Contractures of tendons are amenable to treatment by tenoplasty, lengthening the tendons. Deformities, the result of tendon contractures, are relieved in that way, and in some cases, if necessary, by the transplantation of a tendon or a portion of a tendon. If carried out properly, such treatment does not result in stiff joints. In the case of paralysis, the tendon of the paralyzed muscle may be transplanted to a fully functionating muscle tendon, even of an opposing group, as for instance, an extensor tendon may be converted into a flexor tendon by proper transplantation. Practically all, or at least most, of the lost muscle power may be restored by tendon lengthening and tendon transplantation. These operations have been very successful in the treatment of the paralysis following anterior poliomyelitis. As to the age of the child before it is operated on, that is an open question. Some surgeons operate at any age, as soon as the deformity has become established; others will not operate on a child until it is at least 8 years of age.

In the following articles the subject is ably discussed:

Davis, G. G.: Surgical Treatment of Poliomyelitis, *Pennsylvania Med. Jour.*, December, 1911.

Allison, N.: Surgical Treatment of Paralysis Following Anterior Poliomyelitis, *Jour. Missouri State Med. Assn.*, January, 1912.

Allison, N.: Artificial Tendons and Ligaments in Surgical Treatment of Paralysis, *Am. Jour. Surg.*, January, 1912.

Lewis, D. D.: Surgical Aspects of Poliomyelitis, *Illinois Med. Jour.*, July, 1912.

Vulpius, O.: Tendon Transplantation in Infantile Spinal Paralysis, *Deutsch. med. Wchnschr.*, Sept. 5, 1912.

Peltesohn, S.: Surgical Treatment of Poliomyelitis, *Deutsch. med. Wchnschr.*, Oct. 24, 1912.

Stoffel, A.: Treatment of Spastic Conditions, *Therap. Monatsh.*, December, 1912; abstr., The Journal, Feb. 8, 1913, p. 486.

PREDETERMINATION OF SEX

To the Editor:—On page 328 of The Journal, Jan. 25, 1913, Weill has an article on the development of sex (*Monatsschr. f. Geburtsh. u. Gynäk.*, December, 1912, xxxvi). If he told how to control sex of offspring at will, I wish you would abstract it fully.

J. A. B., Hartshorne, Okla.

Answer.—The essential point in Weill's theory is the hypothesis that sex in offspring is the outcome of a contest between the spermatozoon and the ovum; if the spermatozoon is successful, the resultant offspring is a male, while if the ovum is successful the offspring is a female. The contest may be decided one way or the other, he believes, by the influence of diet, an excess of nourishment favoring the production of a female and a deficiency the production of a male. This he accounts for by the law of physics that the force of a moving body equals the mass multiplied by the velocity. The mass of the ovum is nearly 10,000 times that of the spermatozoon, while the velocity of the latter is nearly 500 times that of the former. Abundant food, especially plasm-forming, albumin-rich food, increases the size of both elements, and this tends to decide the contest in favor of the ovum, since the velocity of the spermatozoon is thereby retarded while the increase in its mass does not suffice to change the overwhelming preponderance in mass of the female element. An extra nourishing diet thus tends to turn the scale at conception in favor of a girl baby and a scanty diet in favor of a boy. Among the arguments he cites to support this theory are that in times of financial stress, after a war, etc., male children are born in preponderant numbers; also that in polygamous countries 150 girls are born to each 100 boys, owing to the sexual exhaustion of the male procreator. Weill declares further that experience and breeding experiments have brilliantly confirmed his deductions.

The following references on the predetermination of sex may be found of interest:

The Determination of Sex, Correspondence, The Journal, May 2, 1908, p. 1441.

Blackman, M. W.: Theorics of Sex Determination Resting on a Cytologic Basis, *Cleveland Med. Jour.*, April, 1908; abstr., The Journal, May 30, 1908, p. 1866.

Recent Research on the Determination and Heredity of Sex, Miscellany, The Journal, March 13, 1909, p. 914.

Schöner, Otto: Predetermination of Sex of Offspring Before Conception and Determination of the Sex During Pregnancy, *Beitr. z. Geburtsh. u. Gynäk.*, Leipsic, 1909, xiv, 341; abstr., The Journal, Dec. 11, 1909, p. 2042. Predetermination of Sex, ibid., 1912, xvii, 137; abstr., The Journal, July 13, 1912, p. 150.

McConnel, D.: Determination of Sex in Human Species, *California State Jour. Med.*, September, 1911; abstr., The Journal, Sept. 23, 1911, p. 1079.

SECRETARIES OF SURGICAL, GYNECOLOGIC AND OBSTETRIC SOCIETIES

To the Editor:—Please send me the names and addresses of the different secretaries of our principal surgical, gynecologic and obstetric societies. I wish this information in order to do some statistical work, and could likely find it in the directory, yet you should have later data on the subject.

Charles E. Barnett, M.D., Fort Wayne, Ind.

Answer.—Following is a list of the secretaries of some of the principal American surgical, gynecologic and obstetric societies:

American Association of Obstetricians and Gynecologists, E. Gustav Zinke, 4 West Seventh Street, Cincinnati.

American Association of Railway Surgeons, Louis J. Mitchell, 132 North Wabash Avenue, Chicago.

Clinical Congress of Surgeons of North America, Franklin H. Martin, 31 North State Street, Chicago.

American Gynecological Society, Le Roy Broun, 148 West 77th Street, New York.

American Surgical Association, Robert G. Le Conte, 1530 Locust Street, Philadelphia.

Association of Military Surgeons of the United States, S. C. Stanton, 535 Dearborn Avenue, Chicago.

Congress of American Physicians and Surgeons of North America, W. R. Steiner, 4 Trinity Street, Hartford, Conn.

Southern Surgical and Gynecological Association, W. D. Haggard, Jr., 148 Eighth Avenue, North, Nashville, Tenn.

Western Surgical Association, Arthur T. Mann, Donaldson Building, Minneapolis.

SYPHILIS AS A CAUSE OF LOCOMOTOR ATAXIA

To the Editor:—Will you kindly inform me through the pages of The Journal what percentage of cases of locomotor ataxia is due to syphilis? Robert B. Dempsly, M.D., Vallejo, Cal.

Answer.—No positive facts are available that would make it possible to state definitely the percentage of cases of locomotor ataxia due to syphilis. The usual answer to the question, based on the opinions of the majority of authorities, would be 90 per cent. The extreme view—that held by Moebius, Brissaud and Babinski—is that syphilis is responsible in every case. Moebius expresses his opinion in the extreme statement: "Keine Tabes ohne Syphilis." While the general opinion of those who may be regarded as authorities on the subject is that tabes does not occur without syphilis, our positive knowledge on the subject does not warrant a definite statement to this effect.

ACTION OF HORSE-CHESTNUT—BOOKS ON CLINICAL MICROSCOPY

To the Editor:—1. Please give me the action of buck-bean (horse-chestnut) with antidote.

2. What is the best book on clinical microscopy?

E. G. Lyons, M.D., Lake Cormorant, Miss.

Answer.—1. It is not clear to what plant our inquirer refers. Buck-bean, *Menyanthes trifoliata*, is not usually considered poisonous, although the ingestion of large amounts is said to produce emesis. Horse-chestnut, buckeye, *Aesculus hippocastanum*, is commonly regarded as poisonous, although few authentic cases of poisoning have been reported. The bark and seeds contain a bitter, crystallizable, sternutatory glucosid, argyrescin. The alcoholic solution of argyrescin has been stated to be a specific for spasmodic contractions of the veins, and a tincture of the seed has been used for neuralgia of the viscera; but neither use is sanctioned by discriminating physicians. Poisoning by horse-chestnut is so rare that no routine method of treatment is recommended. Emesis or stomach lavage would probably be found serviceable, followed by stimulation if indicated.

2. Perhaps the most serviceable books on clinical microscopy will be those which are usually known as works on clinical diagnosis, of which we give a list:

Wood: Clinical and Microscopic Diagnosis, New York, D. Appleton & Co., $5.

Simon: Clinical Diagnosis, Philadelphia, Lea & Febiger, $5.

Emerson: Clinical Diagnosis, Philadelphia, J. B. Lippincott Company, $5.

Boston: Clinical Diagnosis, Philadelphia, W. B. Saunders Company, $4.

Webster: Diagnostic Methods, Philadelphia, P. Blakiston's Son & Co., $4.50.

The following are devoted especially to microscopy:

Cross and Cole: Modern Microscopy, Chicago Medical Book Company, Honoré and Congress Sts., Ed. 4, $2.

Carpenter: Microscope and Its Revelations, Philadelphia, P. Blakiston's Son & Co., $8.

ACTION OF QUININ

To the Editor:—I am able to add a little first-hand information to your reply to the query of Dr. Mauldin in The Journal, Jan. 11, 1913, p. 147, on the action of quinin and urea hydrochlorid.

Quinin used about the ear, irrespective of the amount used, is not attended by ringing. I judge this from the use of it in radical mastoid work. The time of contact when the drug is used as a gargle is too short to permit the production of anesthesia. The seat of pain is too deep to be influenced by any external anesthetic. Injected into the tissues quinin permits a painless incision of the abscess. It is readily absorbed from inflamed mucous membranes when it can be brought into direct contact for a sufficiently long time. I have used it for some years as the anesthetic of choice in all intranasal operations. It is applied in cotton tampons in the usual manner. A 5 per cent. solution is used. The tampons are changed from time to time, since mucus tends to collect more rapidly than when cocain is used. From ten to twenty minutes are required to produce anesthesia. After a satisfactory anesthesia is produced the vessels can then be contracted by the use of epinephrin. If the epinephrin is used with the quinin the absorption of the latter is delayed.

Its absorbability from inflamed surfaces is well illustrated by its use in dermatitis exfoliativa. Dr. French M. Smith of Lyndon, Kan., reports gratifying results from its use in this disease. I have no doubt that it will work as well in like skin affections.

Quinin does not injure the cornea, but it causes an unpleasant initial smarting and a hyperemia. Dilatation of the pupil is not produced. Quinin is in every way less desirable than cocain for use in the eye. Arthur E. Hertzler, M.D., Kansas City, Mo.

THE WORK OF ALEXIS CARREL

To the Editor:—Some time last year there appeared in The Journal an article by Dr. Alexis Carrel on his remarkable work in tissue-grafting, organ transplantation, etc., which won the Nobel prize. Of course, every one has heard of it now through the newspapers and lay magazines, but I would like something more in detail. Please give me the reference to his article.

W. G. Morgan, M.D., Nodaway, Iowa.

Answer.—The following articles by Dr. Carrel have appeared in The Journal since January, 1912:

Production of Antibodies by Tissues Living Outside of the Organism, Feb. 17, 1912, p. 477.

Preservation of Tissues and Its Application in Surgery, Aug. 17, 1912, p. 523.

Visceral Organisms, Dec. 14, 1912, p. 2105.

COUNTRY WATER-SUPPLY AND SEWAGE DISPOSAL

To the Editor:—Please refer me to some up-to-date books on water-supply and sewage disposal in country houses in which it is desired to install modern plumbing.

J. M. Taylor, M.D., Boise, Idaho.

Answer.—The following may be referred to:

Gerhard, W. P.: Water-Supply and Sewage Disposal of Country Homes, published by Van Nostrand Co., New York. Price, $2.

Booker, W. H.: Residential Sewage Disposal Plants, *Texas State Board of Health Bulletin*, September, 1912.

Fuller, G. W.: Sewage Disposal, published by McGraw-Hill Book Co., New York. Price, $6. (Reviewed editorially in The Journal, Aug. 3, 1912, page 372.)

SYNCYTIAL CELLS EVIDENCE OF PREGNANCY

To the Editor:—1. Is the presence of syncytial cells or syncytial tissue in material obtained from uterine curettage medicolegal proof of a previously existing pregnancy?

2. From a medicolegal standpoint, what importance is attached to the presence of portions of the syncytium in the material, when the question is to be decided as to whether or not a criminal abortion has been performed? L. W. Howe, M.D., Coldwater, Mich.

Answer.—1. Yes.

2. The discovery of such material would, in our opinion, have no bearing in deciding whether abortion had been natural or criminal.

DOES FILTRATION OF WATER AVERT DANGER OF TYPHOID?

To the Editor:—A town of 2,000 population gets its water from a general well 80 feet deep. Under this town there seems to be a lake, for wherever the ground is pierced to the depth of 80 feet water is found. There are 40 feet of tight clay and 40 feet of sand. Several of the families of the town are boring down to the sand and are putting in privies. Is this safe? Or, to put it in another way, can or does filtration remove the germs of typhoid fever?

W. S. N.

Answer.—The information given is hardly sufficient to permit a direct answer. It is well established that properly controlled filtration through sand will remove typhoid bacilli. But under the conditions described, adequate control is not possible. No statement is made as to the distance between points where sewage is discharged and water is taken. Distance, of course, would be an important factor. Possibly underground channels might, after a time, be established, which would convey sewage pretty directly to the source of the water-supply. As a general principle, the admission of sewage to the sand layer would seem unwise. We suggest an examination of the local conditions by a competent sanitary engineer.

"TUBERCULAR" AND "TUBERCULOUS"

To the Editor:—Please explain the distinction between the words "tubercular" and "tuberculous," and give the correct usage.

Theodor Satersmoen, M.D., Pelican Rapids, Minn.

Answer.—The word "tubercular" means "nodular," and may be applied to any nodular condition, either pathologic or normal, as a tubercular condition of bone or skin, tubercular leprosy, etc., whether or not it involves the specific germ of tuberculosis. The word "tuberculous" is correctly used in describing any condition, nodular or diffuse, due to a process initiated by the specific tubercle bacillus. While the words "tubercular" and "tuberculous" are used indiscriminately by some writers, especially in the sense which belongs to "tuberculous," we believe that the distinction is a useful one and should be preserved. Proper usage would also not employ "tuberculous hospital," etc., but "tuberculosis hospital" or "hospital for tuberculosis."

CAUSE AND TREATMENT OF BAKER'S ITCH

To the Editor:—In The Journal, Dec. 7, 1912, p. 2043, under the heading "Occupational Skin Diseases," I note the mention of baker's itch. I have a patient, a young baker, otherwise apparently in perfect health, who is subject to a rash during the mixing operation. It resembles a fine urticaria; very itchy, small wheals appear on the arms and chest. When the patient leaves the warm room, they disappear in a few minutes. Can you give me the cause and some suggestions as to treatment?

W. G. McCulloch, M.D., Orono, Canada.

Answer.—Somewhat similar conditions are described in works on skin diseases and are classed under the head of eczema. Thus, Stelwagon lists among the class of eczemas known as trade eczemas baker's itch or eczema from flour and yeast. We can suggest only the ordinary treatment of eczema, the removal of irritating causes, and, if necessary, the cessation, at least temporarily, of the causative occupation.

GERMAN MEDICAL DICTIONARIES

To the Editor:—Where can the best German-English dictionary be purchased? Please give me any other pointers that would be of service to a physician wishing to obtain a good reading knowledge of German medical literature.

William E. Stevens, M.D., San Francisco.

Answer.—In The Journal, March 14, 1908, p. 902, and March 20, 1909, p. 980, is given information concerning three or four German-English dictionaries. In addition, the following may be referred to:

Flügel-Schmidt-Tanger: A Dictionary of the English and German Languages, in two volumes, published by George Westermann, Brunswick, Germany. Price, $16.50.
Lewis, B.: The Medical Vademecum in German and English. P. Blakiston's Son & Co., Philadelphia. Price, $5. (Reviewed in The Journal, July 30, 1910, p. 425.)
Lewin: German-English Medical Dialogue. Klinkhardt, Leipsic.
Medical German, J. H. Vail & Co., New York. Price, $1.75.

CORRECTION IN ARTICLE ON "EARLY PARESIS"

To the Editor:—I observe that I made a substantial error in my article on "Early Paresis" (The Journal, Feb. 1, 1913). In describing Noguchi's test (page 355) I meant: "If to 0.1 c.c. of cerebrospinal fluid 0.5 c.c. of 10 per cent. butyric acid are added," etc., but not "5 c.c. of 10 per cent. butyric acid."

Alfred Gordon, M.D., Philadelphia.

Medical Economics

This Department Embodies the Subjects of Post-Graduate Work, Contract Practice, Legislation, Medical Defense, and Other Medicolegal and Economic Questions of Interest to Physicians

LEGISLATIVE NOTES

Reports received from state legislatures during the past week show a considerable amount of activity along public health lines. A summary by states follows:

ARKANSAS

The most important measure before the legislature is a bill creating a State Department of Health. The opposition is advancing the usual arguments against such a measure.

CALIFORNIA

An original plan for the study of eugenics is outlined in a bill introduced into the Senate, which provides for the marriage, under the control of the state, of twenty-five selected couples, who shall be maintained on a state farm, where they and their offspring can be reared under ideal conditions. The bill appropriates $100,000 for the purchase and equipment of a thousand-acre farm on which the twenty-five families are to live.

COLORADO

A bill restricting marriage has been introduced in the House. It forbids the marriage of imbeciles, idiots, persons mentally affected, habitual criminals, drunkards and drug habitués; also those suffering from transmissible diseases. The bill also forbids the intermarriage of white persons with negroes or Mongolians. A bill amending the medical practice act, and an osteopathic bill are also in the House.

IDAHO

H. B. 44 is a bill regulating marriage. It prohibits marriage between white persons and negroes, mulattoes or Mongolians, as well as the marriage of the insane, feeble-minded or imbecile or persons affected with epilepsy or venereal diseases, drunkards, morphin habitués, or persons divorced less than six months. H. B. 83 strengthens the board of health law. H. B. 84 makes minor changes in the vital statistics law.

ILLINOIS

S. B. 18 provides for a state sanatorium for tuberculosis, and appropriates $400,000 for its construction. This bill is in accordance with the recommendation of the State Board of Health, as well as with that of retiring Governor Deneen.

INDIANA

Bills have been introduced regulating the practice of dentistry, the sale of habit-forming drugs, establishing inebriate departments in county workhouses, providing for the registration of nurses, encouraging the destruction of rats, abolishing public drinking-cups, regulating the sanitation of steam passenger coaches, interurban and street cars, and regulating the ventilation of public buildings.

KANSAS

A joint resolution has been introduced, authorizing the regulation of a sanatorium for the study and treatment of cancer, and appropriating $50,000 for this purpose. A chiropractic bill and an osteopathic bill have been reported favorably by the judiciary committee. H. B. 3 amends the vital statistics law providing for more local registrars. S. B. 48, establishing a board of registration for nurses, has passed both houses.

MAINE

Bills have been introduced, creating a State Board of Charities, and regulating medical expert testimony. A bill has also been introduced, making it a misdemeanor for any undeserving person to seek charitable medical and surgical services.

MICHIGAN

Bills have been introduced, placing the control of the Detroit Board of Health in the hands of the governor, extending the authority of the State Board of Health by giving it power to recommend the removal of municipal health officers who fail to do their duty, appropriating $50,000 to hire ten sanitary experts to make a sanitary survey of the state, requiring medical examinations as a condition for marriage licenses, and giving municipalities the power to establish farms for inebriates.

MINNESOTA

Bills have been introduced giving counties the power to establish sanatoriums for tuberculosis, giving any county, municipality or school district the right to employ a physician to give his entire time to medical supervision of the schools, prohibiting public drinking-cups and roller-towels, providing for a state tuberculosis commission and providing a board of health for Minneapolis.

MISSOURI

H. B. 283 regulates the practice of optometry. S. B. 135 creates the office of medical supervisor for state hospitals for the insane. S. B. 149 regulates the practice of optometry. S. B. 172 requires reports on occupational diseases. S. B. 239 provides for the prevention of smoke and injurious gases. S. B. 253 provides for the sanitation of hotels, and rooming- and boarding-houses. S. B. 262 authorizes the establishment of public tuberculosis hospital districts and of public tuberculosis hospitals therein.

NEBRASKA

A bill has been introduced to prevent the increase of the insane, feeble-minded and criminals.

NEVADA

Assembly Bill 7 provides for the examination of school children by teachers and physicians, subject to the rules of the State Board of Health.

NEW HAMPSHIRE

H. B. 308 authorizes the State Board of Health to purchase antitoxin and to establish stations for its free distribution.

NEW JERSEY

Bills have been introduced providing for a more rigid meat inspection, for the control of rabies, for the regulation of the temperature of refrigerator cars carrying milk, for the broadening of the functions of the Bureau of Vital Statistics and for an increased appropriation for health purposes.

NEW YORK

Bills have been introduced regulating the building of tuberculosis hospitals in cities, amending the law regarding midwives, providing for a hospital pension fund for the physicians or hospital employees disabled in the performance of duty, and regulating the sale of habit-forming drugs.

NORTH DAKOTA

A bill regulating marriage has been introduced into the Senate.

OHIO

Bills have been introduced providing for free antitoxin for the treatment of diphtheria, for an appropriation of $3,000 a year for two years for a preliminary survey of occupational diseases, and for a board of "naturopathic physicians."

OKLAHOMA

Bills have been introduced in the House requiring a certificate of health as a condition for a marriage license. Another bill provides for the appointment of two women on each of the boards of control of educational, penal and charitable institutions.

OREGON

Bills have been introduced in the legislature dealing with factory inspection, inspection of schools, regulation of nursing and the sale of habit-forming drugs, and forbidding roller-towels and spitting in public places. The sterilization bill has passed the House.

PENNSYLVANIA

Bills have been introduced forbidding the sale of cigarets, amending the medical practice act and providing for county tuberculosis hospitals; also a bill enlarging the administrative powers of the state board. The bill amending the medical practice act provides for five instead of four years' study in medicine, the additional year to be spent in hospitals.

NORTH CAROLINA

In his inaugural address, Gov. Locke Craig strongly recommended a law registering births and deaths. A bill, closely following the model bill, has been introduced in the legislature and has passed to second reading in the House. A bill has been introduced raising the standard of medical education in the state.

SOUTH DAKOTA

S. B. 13 provides a bureau for child and animal protection. S. B. 50 appropriates $6,000 for this purpose. S. B. 40 raises the age of consent to 18. S. B. 15 provides for a jury trial before commitment to an insane asylum. S. B. 61 provides that persons acquitted of criminal charges on the ground of insanity shall be confined until their sanity is proved. S. B. 34 establishes an optometry board. S. B. 39 amends the pure food law.

TEXAS

S. B. 17 provides for an optometry board. S. B. 77 regulates the sale of habit-forming drugs. Other bills provide for a state board of charities, sterilization of criminals, and an appropriation of $250,000 for the establishment of a negro insane asylum, and for the transfer of the state quarantine service to the federal government.

UTAH

H. B. 42 provides for the sterilization of criminals, insane, etc. S. B. 3 is a bill regulating marriage. S. B. 39, a pure food bill, has passed the Senate by a unanimous vote. S. B. 82 amends the medical practice act, defining the practice of medicine so as to exclude from the restrictions of the law all those who use any "spiritual, mechanical, electrical or wholly external means, without pretending to have a knowledge of the science of medicine." H. B. 42 creates a state board of eugenics. It was drafted and introduced by a woman physician who is a member of the lower house. S. B. 107 creates an optometry board.

VERMONT

A bill providing for the sterilization of criminals and defectives has passed both houses, and is in the governor's hands.

WASHINGTON

H. B. 218 amends the medical practice act. H. B. 152 creates a board of health examiners composed of "two osteopaths, two mechanotherapists, two suggestivetherapists, two chiropractors and one physicultopath." H. B. 131 amends the medical practice act by providing for a single board which shall issue three forms of certificates: a certificate for the practice of medicine, a certificate for the practice of osteopathy and a certificate authorizing the holder to practice any other system not covered by the two previous certificates. S. B. 38 provides for the sterilization of criminals and defectives. S. B. 3 authorizes counties to provide and maintain tuberculosis hospitals. H. B. 38 amends the medical practice act. H. B. 17 amends the state pharmacy law.

WISCONSIN

Bills have been introduced providing that the health commissioners in the various cities must be physicians, and that their appointment must be approved by the State Board of Health, providing for a board of optometry examiners, and providing for the treatment of tuberculosis patients on the State Forestry Reserve.

WYOMING

S. B. 26 amends the food and dairy law. S. B. 19 provides for a State Board of Health. S. B. 6 amends the pure food law. S. B. 25 provides for the inspection of all places where food products are manufactured, kept, or sold, and also regulates the production and sale of milk and bread.

A HANDFUL OF PAMPHLETS

Much of the information regarding present-day problems is to be found, not in the large volumes in the libraries or in the special articles in current periodical literature, but in the reports and pamphlets issued by various organizations and institutions. This is illustrated by a half dozen pamphlets, recently received at about the same time, and covering a wide range of subjects.

The first is the December *Bulletin* of the American Association for Labor Legislation. This contains a statement of the legislative program adopted by that organization, including the following items, on which it intends to concentrate its efforts until they are secured: one day of rest in seven; prevention of lead-poisoning; reporting of accidents and diseases; workmen's compensation; investigation of industrial hygiene; protection for working-women; enforcement of labor laws. The *Bulletin* contains a large amount of condensed information on these seven subjects with maps, charts and tables showing the exact condition of legislation thereon in each state.

The second pamphlet is Monograph 1 of the Children's Bureau which, quite appropriately, is devoted to birth registration, being a strong argument for adequate and uniform birth registration throughout the United States. In addition to a summary of the present condition of state legislation on this subject, the pamphlet contains the text of the model law, drafted by the committee of the American Medical Association and endorsed by practically all the national organizations interested in vital statistics.

Another pamphlet is the catalogue of the educational museum at Clark University, covering the department of school hygiene. This contains an introductory statement of the objects of the museum, and an outline of the plan on which it is organized, giving under each heading a summary of the material to be found in the museum.

The fourth book contains the proceedings of the sixth annual meeting of the Association of Life-Insurance Presidents. Besides discussion on such subjects as the financial management of insurance companies, agricultural credits, farm loans and railroad securities, the proceedings include a most interesting program on "prolonging the lives of policy holders," in which are discussed the importance of pure water, the prevention of typhoid, the value of vital statistics, and the report of the Committee on Health with a number of important recommendations.

Another pamphlet is a state board bulletin, the October-December *Bulletin* of the Michigan State Department of Health. This contains a preliminary report of a eugenic survey of Michigan, made by a special investigator and covering a year's work investigating the heredity, distribution and extent of feeble-mindedness in the state of Michigan. It is copiously illustrated with charts and photographs.

Another and a most interesting monograph is the report of the Special Committee on Methods of Sex Education, issued by the American Federation for Sex Hygiene. This report shows the results of the submission of thirteen propositions to a large number of teachers, physicians,, college and university officials and sociologists. Both the personal opinions expressed in the replies and the conclusions summarized in the report will be of interest to those engaged in studying this important problem.

The last pamphlet in this lot was issued by the National Association for the Study and Prevention of Tuberculosis. It is by Prof. Irving Fisher, and is entitled "A Revised Estimate of the Economic Cost of Tuberculosis." In it Fisher endeavors to estimate the money loss caused by tuberculosis in the United States. Fisher concludes that there are each year 155,000 deaths from tuberculosis in the United States, and that the annual total cost of this disease is $570,000,000.

Pamphlets such as these are not generally listed in book-dealers' or publishers' catalogues, while the increasing number of organizations makes it difficult for those interested to keep track of the work being done by each individual organization. The value of such material is unquestioned, and the need of some kind of a clearing-house seems evident.

Medical Education and State Boards of Registration

COMING EXAMINATIONS

CONNECTICUT: Regular, City Hall, New Haven, March 11. Sec., Dr. Charles A. Tuttle, 196 York St.; Homeopathic, New Haven, March 11. Sec., Dr. Edwin C. M. Hall, 82 Grand Ave.; Eclectic, New Haven, March 11. Sec., Dr. Thomas S. Hodge, 19 Main St., Torrington.

IOWA: Lincoln School Building, Des Moines, March 4-6. Sec., Dr. Guilford H. Sumner, State House.

MAINE: City Hall, Portland, March 11-12. Sec., Dr. Frank W. Searle, 776 Congress Street.

MASSACHUSETTS: State House, Boston, March 11-13. Sec., Dr. Edwin B. Harvey, Room 159, State House.

MISSOURI: St. Louis, February 24-26. Sec., Dr. Frank B. Hiller, State House, Jefferson City.

WYOMING: State House, Cheyenne, March 5-7. Sec., Dr. A. B. Tonkin, Riverton.

Rhode Island January Report

Dr. Gardner T. Swarts, secretary of the Rhode Island State Board of Health, reports the written examination held at the State House, Providence, Jan. 2, 1913. The number of subjects examined in was 7; total number of questions asked, 70; percentage required to pass, 80. The total number of candidates examined was 5, all of whom passed. The following colleges were represented:

PASSED

College	Year Grad.	Per Cent.
Harvard Medical School	(1910)	90
Cornell University Medical College	(1909)	92.2
Syracuse University Medical College	(1911)	88.8
Jefferson Medical College	(1901)	86.7
Laval University, Montreal	(1905)	82.3

Maryland December Report

Dr. J. McPherson Scott, secretary of the Maryland Board of Medical Examiners, reports the written examination held at Baltimore, Dec. 10, 1912. The number of subjects examined in was 9; total number of questions asked, 90; percentage required to pass, 75. The total number of candidates examined was 66, of whom 44 passed and 22 failed. Nine candidates were licensed through reciprocity. The following colleges were represented:

PASSED

College	Year Grad.	Per Cent.
Howard University, Washington, D. C.	(1911)	83
George Washington University	(1912)	83
Baltimore Medical College	(1911) 78; (1912)	81, 81
Johns Hopkins University	(1909)* (1911)	80
University of Maryland	(1911) 83, 84; (1912)	75, 77, 78, 79, 81, 83, 84.
College of Physicians and Surgeons, Baltimore	(1912)	75, 76, 78, 80, 80, 82, 84, 85.
Maryland Medical College	(1907) 78; (1910) 75; (1912)	76, 77, 79, 80, 81.
University and Bellevue Hospital Medical College	(1905)	85
Jefferson Medical College	(1912)	75, 82
Temple University	(1912)	76
Medico-Chirurgical College, Philadelphia	(1910) 79; (1911) 83; (1912)	80
University of Pennsylvania	(1912)	78, 83, 84, 88
University College of Medicine, Richmond	(1912)	75
University of Lausanne, Switzerland	(1904)*	

FAILED

College	Year Grad.	Per Cent.
Howard University, Washington, D. C.	(1912)	67
George Washington University	(1911)	62
Georgetown University	(1911)†	
University of Maryland	(1911)	73
Baltimore Medical College	(1912)†	
College of Physicians and Surgeons, Baltimore	(1912)	67
Maryland Medical College	(1910)† (1911) 68; (1912)	54, 62, 72, 73; (1912, 4)†
Ohio Medical University	(1903)	60
Jefferson Medical College	(1902)	63
Woman's Medical College of Pennsylvania	(1910)†	
Medico-Chirurgical College, Philadelphia	(1912)	68, 70
Meharry Medical College	(1912)	55

LICENSED THROUGH RECIPROCITY

College	Year Grad.	Reciprocity with
George Washington University	(1907)	Virginia
Maryland Medical College	(1903) (1911) (1912)	W. Virginia
University of Maryland	(1908) N. Carolina; (1911)	S. Carolina
College of Physicians and Surgeons, Baltimore	(1906)	Texas
Starling Medical College	(1898)	Ohio
Jefferson Medical College	(1904)	Delaware

* Licensed by special examination, Dec 14, 1912.

† No grades given.

The following questions were asked:

ANATOMY

1. Describe upper extremity of the femur, including attachments of muscles. 2. Name (a) ligaments of elbow-joint and (b) bones entering into formation of radiocarpal joint. 3. Make drawing of outer surface of cerebral hemisphere showing position of lobes and chief fissures and convolutions. 4. After ligation of common carotid artery, how is collateral circulation established? 5. What anatomic structures pass through the sphenoid fissure (foramen lacerum anterius)? 6. Origin, course and distribution of facial nerve? 7. What structures are found between the layers of the broad ligament (ligamentum latum uteri)? 8. Describe the male urethra. 9. What glands are in the stomach? 10. Attachments, action and nerve-supply of the following muscles: rectus femoris, pronator quadratus, psoas magnus, triceps (extensor cubiti).

PHYSIOLOGY

1. State into what general classes foods are divided. Give example of each. 2. What is the function of each class of food in nutrition? 3. Name the secretions of the body and the functions of each. Name the excretions of the body. 4. What are the sources of animal heat? Mention some of the conditions affecting heat production. 5. Describe the functions of the spinal nerves. 6. What are the channels of absorption? Mention the facts and conditions that favor absorption and those that retard it. 7. Give the composition, reaction, uses and specific gravity of the blood, and the causes of the variation in specific gravity. 8. What do you understand by blood-pressure? State the cause of blood-pressure in the arteries, capillaries and veins. 9. Describe the function of the mucous membrane of the respiratory tract and the changes produced in the air and blood by respiration. 10. What is the physiologic function of the liver? State the origin, nature and destination of glycogen.

CHEMISTRY

1. Define: reagents, oxidation, precipitate, combustion and valence, and give an example of each. 2. (a) What is a base? (b) What is an acid? (c) What is a salt? (d) What is an alkaloid? (e) What is an alcohol? 3. Give one chemical test for the following when occurring in urine: (a) sugar, (b) bile, (c) albumin, (d) blood, (e) diacetic acid. 4. Give the chemical formula of each of the following: (a) hydrogen peroxid, (b) hydrocyanic acid, (c) calomel, (d) arsenious oxid, (e) benzene. 5. State the names and the general chemical and physical properties of the "halogens." 6. Complete the following equations: $Mg+H_2SO_4=..$; $NH_3+HCl=..$; $CO_2+Ca(OH)_2=..$; $BaO_2+H_2SO_4=..$; $CuO+2HNO_3=.$ 7. (a) What are amalgams? (b) What are indicators? (c) What are alexins? (d) What are ptomains? (e) What is an atom? 8. Give the chemical formula, properties and uses of magnesium sulphate. 9. Under what circumstances are the syllables "mono," "di," "tri," "tetra" and "penta" used in chemical nomenclature? Give examples. 10. (a) Give a chemical antidote for mercuric chlorid. (b) Give two tests for organic matter in water. (c) What is ozone? (d) What is the average composition of cow's milk?

PATHOLOGY

1. Describe the changes occurring in cirrhosis of the liver. 2. Describe the mode of formation of tube-casts, and mention their significance. 3. *Oxyuris vermicularis:* Describe it and give its habits. 4. Mention the pathologic changes and associated conditions present in rachitis. 5. What changes are induced by chronic phosphorus poisoning? 6. Outline briefly the method which you would pursue in order to have the pathogenicity of a certain organism found in the blood of an animal in pure culture at autopsy. 7. Mention two or more pathologic conditions which would permit the spontaneous fracture of a long bone, and describe one of them. 8. Describe the changes occurring in an inflamed area which cause swelling and redness. 9. Mention the abdominal lesions present in the third week of an ordinary case of typhoid fever, and describe the conditions which precede a perforation. 10. What is the theory in regard to the action of the antitetanic vaccine? In what way does this differ in action from diphtheria antitoxin?

MATERIA MEDICA

1. Define tincture, fluidextract, decoction and infusion. What is the ordinary relative strength of a tincture to a fluidextract? 2. Opium: How obtained, official preparations and doses. 3. What is meant by "incompatibles"? Name some. What are the kinds of incompatibility? 4. Mercury: Name five official preparations and some of the incompatibles. 5. Name and describe six methods of introducing medicine into the system. 6. What is the difference between an expectorant and an emetic? Name three of each and the doses for a child 3 years old. 7. Name three circulatory stimulants, circulatory depressants, antispasmodics, emetics, carminatives and diuretics, and give doses of each. 8. What is the average adult dose of the following: tincture nux vomica, tincture veratrum, tincture aconite, morphin sulphate, tincture opium, Fowler's solution, nitroglycerin and cocain? 9. Chloral hydrate: Preparation and dose. 10. Potassium: Give six official preparations, doses and incompatibles.

THERAPEUTICS

1. Write a prescription in Latin, without abbreviation, containing three ingredients or more which you would use in acute pharyngitis, and give directions for administration. 2. Write a prescription in Latin, without abbreviation, which you would use in acute rheumatic arthritis, and give directions for administration. 3. What is a prescription? Name its constituent parts. 4. Define therapeutic, chemical and pharmaceutical incompatibility, and give an example of each. 5. Give the physiologic action and therapeutics of amyl nitrite. 6. Chloral hydrate: Its physiologic action and therapy. 7. Ergotum: Physiologic action and therapy in parturition. 8. Give the therapeutics of aconitum. 9. Write a prescription for an emulsion, and give indications for its use. 10. Give the dose of spartein per os, and state its therapy.

PRACTICE

1. Define: (a) Kernig's sign; (b) Ludwig's angina; (c) Koplik's sign; (d) pyelitis; (e) endocarditis. 2. Define: (a) cholelithiasis; (b) chorea major; (c) empyema; (d) pertussis; (e) Babinski's sign. 3. Differentiate: rubeola and scarlatina. 4. Name the symptoms of Graves' disease. 5. How would you diagnose a case of infantile paralysis? 6. Name the most important diseases occurring in the right inguinal region? 7. Name the types of chronic nephritis. Differentiate each type. 8. Give treatment of pharyngeal diphtheria. 9. Give treatment of influenza. 10. Give treatment of infantile paralysis.

SURGERY

1. What are the indications for enucleation of the eyeball? Describe an operation. 2. Symptomatology and treatment of acute catarrhal otitis media. 3. Differentiate between pernicious anemia and carcinoma of the stomach. 4. Give symptoms and treatment of coxalgia. 5. What technic and treatment would you employ for a punctured wound about the ankle caused by a pitchfork? 6. Give cause, symptoms, diagnosis, operative and postoperative treatment of rupture of the bladder. 7. Discuss the cardinal symptoms of brain tumor. 8. What is the significance of blood in the stools? 9. Give the symptoms and physical signs of carcinoma of the breast. 10. What are the causes and symptoms of intestinal obstruction?

OBSTETRICS

1. What should be learned at the first examination in a case of labor? 2. Name the occipital presentations. 3. What is placenta praevia, and how treated? What is dystocia? 4. What is version, and how many kinds of version are there? 5. How is the cord tied and dressed? 6. Describe the method of resuscitation when the child is apparently still-born. 7. What changes in the fetal circulation occur at birth? 8. Describe the deviations of the uterus from the normal position. 9. Give the etiology and treatment of erosion of the cervix. 10. Describe the operation cesarean section.

Medicolegal

What is Not an Illness, Consulting a Physician, or Confinement to House

(Poole vs. Grand Circle, Women of Woodcraft (Cal.), 123 Pac. R. 349)

The District Court of Appeal of California, Second District, holds that "illness," as used in an application for life insurance, must be construed as something more than a mere indisposition, due to a temporary cold, accompanied by a painful menstrual period. Nor should statements of the applicant that she had not consulted a physician or been confined to the house by illness since childhood be considered untrue because she had been visited once by a physician when she had such a temporary cold and was in bed. Illness relates to matters which have a sensible, appreciable form, and applies ordinarily to matters of a substantial character, and not to a slight and temporary indisposition, speedily forgotten. Remaining in the house for a few hours, or abstaining from the labors of one's usual calling, owing to a temporary cold or headache, cannot be construed as "confinement to the house by illness." A reasonable construction of the question about having consulted a physician implies that it should be interpreted as relating to a consultation as to some disease or illness with which the applicant was or had been afflicted, not to some feeling of trivial discomfort or temporary indisposition, not affecting the general health. The right of a beneficiary to recover on an insurance policy, the application for which contains a statement that the applicant has not consulted a physician since childhood, should not be defeated by evidence that years before the date of his application he consulted a physician as to a headache, due to an overlibation at a banquet, and was advised to visit a soda fountain and drink a bromo-seltzer.

Services Rendered Injured Employee for Which Surgeon is Entitled to Recover—Second Operation

(Hood vs. Gerrick and another (Wash.), 125 Pac. R. 956)

The Supreme Court of Washington affirms a judgment for the services of the plaintiff rendered subsequent to the time of a purported hiring by one of the defendants, and for the services of nurses subsequent to that time. The court says that an employee of the defendants, a foreman superintending the construction of a railroad bridge, met with a very serious accident. His right leg was crushed from the knee down, requiring immediate amputation. His left leg between the knee and the ankle, his right arm between the elbow and the shoulder, his right clavicle, and two of his ribs were broken. He also received an injury to the spine, severe contusions on various parts of the body, and a severe scalp wound. Neither of the defendants was present at the place at the time of the accident, and some person in no way connected with them called the defendant to attend the injured man. He responded to the call, rendered medical and surgical aid, procured temporary hospital quarters, and engaged the services of a professional nurse. Some five days after the accident one of the defendants appeared at the place where the injured man was being cared for, and, according to the plaintiff, made an arrangement for his future care. The plaintiff testified that he explained the desperate nature of the man's injuries, the necessity of keeping a nurse with him at all hours of the day and night, the number of nurses that would be required for that purpose, and the cost of their services; that said defendant, knowing these facts, arranged with the plaintiff to continue the care and treatment of the injured man, employ such assistants as he found necessary, and promised that the defendant firm would pay the expenses thereof. The plaintiff continued his treatment until the man left the hospital, rendering bills to the defendants for his services, a small part only of which were paid. The defendants denied liability for any part of the services; but the trial judge, sitting without a jury, rendered a judgment for the plaintiff for the value of his services subsequent to the alleged hiring by the defendant mentioned, and for the services of the nurses subsequent to that time, though the plaintiff sued for the services of himself and the nurses he employed for the entire period of service. That was the judgment affirmed.

It was objected that a charge of $125, made for a second operation on the man's broken leg, was not within the terms of the contract proven; but the Supreme Court thinks that it was. The contract of hire was general; it was to furnish the injured man with such medical and surgical treatment as, in the judgment of the plaintiff, was necessary for his recovery; and if the plaintiff found it necessary to perform another operation on his leg, and the proofs showed it was so necessary, the plaintiff had the same right to perform and recover for that service that he had for any other medical or surgical service rendered the man.

Restricts to Attending Physicians Opinions on Insanity

(Commonwealth vs. Spencer (Mass.), 99 N. E. R. 266)

The Supreme Judicial Court of Massachusetts says that, whatever may be the practice elsewhere, it has long been settled in that state that, with the exception of the subscribing witnesses to a will, persons having no peculiar skill or professional experience can testify only to facts within their knowledge from which a condition of mind may be inferred, and are not permitted to state whether in their opinion, though derived from personal observation, a certain person was sane or insane at a particular time. As to attending or family physicians, the rule is somewhat relaxed. It is the duty of such a physician to make himself acquainted with the peculiarities, bodily and mental, of his patient, and he has the experience resulting from the performance of such duty. He therefore is permitted to testify from his own observation to the patient's mental capacity. But such a physician comes under the rule as to experts, and when he is offered as a witness it is the duty of the presiding justice to decide on his qualifications as such physician in the first instance. Nor should witnesses be permitted to testify as to how the actions of a defendant compared with those of the insane people whom they have seen.

Examination May Be Basis of Opinion as to Chastity But Not Veracity

(State vs. Aenspacker (La.), 58 So. R. 520)

The Supreme Court of Louisiana holds that a physical examination may serve as a basis for an expert opinion as to chastity, but not as to veracity. Consequently, in a prosecution for perjury alleged to have been committed in another case in which a man was charged with the crime against nature on a little girl, there was no error in refusing to allow the coroner, who had made a physical examination of the girl alleged to have been the pathic in that case, to answer the question: "In your opinion medically, and from your examination of the girl in question, is she what is known as a degenerate child or a perverted child?" her veracity only, and not her chastity, being in issue.

Book Notices

ANESTHETICS AND THEIR ADMINISTRATION. A Text-Book for Medical and Dental Practitioners and Students. By Sir Frederick W. Hewitt, M.V.O., M.A., M.D., Physician-Anesthetist to St. George's Hospital. Fourth Edition. Cloth. Price, $5 net. Pp. 676, with 71 illustrations. New York: Macmillan Company, 1912.

Aside from the general revision to which this book has been subjected, two entirely new chapters have been added, one on local and regional anesthesia and the other on the medicolegal aspects of surgical anesthesia in general. The entire subject is presented admirably, and the discussion is comprehensive and to the point. Indications and contra-indications, methods of procedure and apparatus that may be employed are detailed clearly and concisely. Each chapter contains a mine of information, and questions are presented from all sides. It is impossible in a review to point out all the good features of this book, but the best one, perhaps, is the fact that the author refrains from making any positive statement which, although warranted by his extensive experience with anesthetics, might prove harmful if applied dogmatically by some less experienced anesthetizer. The anesthetist must be an experienced, well-trained person; this is made evident by a perusal of this book. Hewitt speaks more enthusiastically of the open-ether method, or perhalation system of etherization, as he calls it, than he did in the previous editions. Nitrous oxid, he says, is the safest anesthetic known, and when administered with a proper percentage of oxygen, in order to eliminate the asphyxial element, its inhalation is practically free from risk to life. Ethyl chlorid, he says, should be administered only by a thoroughly competent anesthetist, one who is fully conversant with all the principles of etherization. Nitrous oxid and ether are the choice of anesthetics for ordinary surgical practice, the former for short, the latter for longer operations. The C. E. mixture seems to be Hewitt's choice for a large number of cases in major surgery. The C. E.-ether sequence is mentioned often in preference to nitrous oxid-ether; but Hewitt always emphasizes the fact that experience and knowledge are the two essentials in making anesthesia safe. Chloroform, he says, is never safe, even in the hands of an expert. Ether is always reasonably safe and devoid of risk when given by an expert. The anesthetist, however, should always be an expert so that he will choose the proper anesthetic for each case and give it well.

A TEXT-BOOK ON THE PATHOGENIC BACTERIA AND PROTOZOA. For Students of Medicine and Physicians. By Joseph McFarland, M.D., Professor of Pathology and Bacteriology in the Medico-Chirurgical College, Philadelphia. Seventh Edition. Cloth. Price, $3.50 net. Pp. 878, with 293 illustrations. Philadelphia: W. B. Saunders Company, 1912.

The author has departed from his original intention to limit this work to a consideration of pathogenic bacteria, and includes now the protozoa of importance in human medicine. While this has increased the number of pages slightly, it has also added to the value of the book, which is in its seventh edition. The text has been completely revised, but one wonders why the subject of vaccine therapy and the preparation of vaccines does not receive greater attention. This subject surely is of sufficient importance to warrant the allotment of the space necessary to describe the preparation and use of the various vaccines employed in medicine. The reader receives meager information on the subject when naturally his desire to be informed is great. How can a vaccine be prepared, not only in the well-appointed laboratory but by any intelligent up-to-date practitioner of medicine? That, however, is a weak point not only in this book but in most text-books on bacteriology.

GOUVERNEUR HOSPITAL, NEW YORK. Report of the Tuberculosis Clinic from Its Establishment, 1903 to 1910. Paper. 1912.

This report represents an analysis of the 2,155 patients presenting themselves for treatment at the tuberculosis clinic of Gouverneur Hospital during a period of seven years, with the exception of four patients whose records are not available. Of these, 1,232 were diagnosed as positive tuberculous cases, 519 were dismissed after study as not being tuberculous, and in 400 no diagnosis could be attached to the record. The analysis of these cases is set forth in numerous tables covering almost every aspect of conditions influencing tuberculosis, including race, habits, earnings, housing, contact, etc., a close study of which should prove valuable to those directly engaged in dealing with tuberculosis as a sociologic problem. On the clinical side, taking into consideration the expense and the immense amount of time, labor and care involved, the results will be viewed with an amount of satisfaction in proportion, perhaps, to the degree of optimism and enthusiasm of the one who studies the figures. About 7 per cent. of the entire number of positive cases reached an "apparent cure" or an "arrest" and about 32 per cent. were "improved" or better. Excluding the 33 per cent. of patients who came to the clinic only one month or less, the percentages are considerably better in the first stage, show up fairly well in the second stage and not so well, of course, in the third stage, the figures depending, as might be expected, on the length of time the patients were under supervision.

Diseases of the Mouth. For Physicians, Dentists, Medical and Dental Students. By Prof. Dr. F. Zinsser, Director of the Department of Dermatology at the City Hospital, Lindenburg. Translated and Edited by John Bethune Stein, M.D., Professor of Physiology at the New York College of Dentistry. Cloth. Price, $7. Pp. 268, with 73 illustrations. New York: Rebman Company, 1912.

In this work the various clinical manifestations of syphilis in the mouth are described and illustrated. Teaching this subject has always been a difficult matter for the reason that clinical material is found not alone in dental clinics, but scattered about in clinics of laryngology, surgery, internal medicine and pediatrics, as well. The teacher as a result has had to fall back on oral descriptions in many cases, always an unsatisfactory expedient. Zinsser, by his large experience in the clinic and in practice, has been able to collect a varied assortment of manifestations of this disease, which he places at the disposal of the teacher and the student in a most satisfactory manner. The introduction is devoted to syphilis in general, its effects on the different tissues of the body, and its after-manifestations. Then primary, secondary and tertiary syphilis of the mouth are considered in turn, and finally diseases of the mouth similar to those of secondary and tertiary syphilis are differentiated. The illustrations are finely executed and are lifelike.

Surgery and Diseases of the Mouth and Jaws. A Practical Treatise on the Surgery and Diseases of the Mouth and Allied Structures. By Vilray Papin Blair, A.M., M.D., Professor of Oral Surgery in the Washington University Dental School. Cloth. Price, $5. Pp. 638, with 384 illustrations. St. Louis: C. V. Mosby Company, 1912.

After considering anatomy, the author discusses inflammation, infections, tumors and cysts peculiar to the face and jaws. Hemorrhage and shock, both of which are difficult to handle when extensive operations on these structures are undertaken, make it necessary to dwell at length on the details of procedure. Wounds and injuries to the soft parts are analyzed in detail for the benefit of the student. Fractures of the jaws with the methods of modern surgery are described, and dislocations receive their share of attention. Deformities of the jaws and irregularities of the teeth are considered only in a general way. Some of the operations for the correction of the deformities of the jaw are rather visionary and have not been tested sufficiently to warrant their description and recommendation in a text-book.

Laboratory Methods, with Special Reference to the Needs of the General Practitioner. By B. G. R. Williams, M.D., and E. G. C. Williams, M.D., with an Introduction by Victor C. Vaughan, M.D., LL.D. Cloth. Price, $2. Pp. 204. St. Louis: C. V. Mosby Company, 1912.

This is a book for the general practitioner, who is "not usually prepared to make, on account of lack of extensive apparatus and other conveniences, elaborate chemical tests and examinations." The aim of the authors has been to simplify apparatus and technic to the end that the more essential tests may easily be applied. It is clearly pointed out that ordinary household articles or those purchasable at any hardware store serve quite as well as more expensive apparatus, so that an excellent working laboratory may be installed at low cost.

The subject-matter is divided into eighteen chapters, which cover a much wider range than is usual in such books. Practically every field is discussed which may come within the scope of the general work. The tests outlined are, necessarily, the more simple ones but are, nevertheless, adequate for routine work. The more extensive and unusual tests are left for the more fully equipped laboratory. The fallacies of the various methods are pointed out, while the proper interpretation of the results is clearly outlined and emphasized.

This book may be freely commended to those who may desire a working guide to the more usual laboratory methods. The style is clear and concise, and the general make-up of the book is excellent.

The Treatment of Diseases of the Skin. By W. Knowsley Sibley, M.A., M.D., B.C., Physician to St. John's Hospital for Diseases of the Skin, London. Cloth. Price, $1.40 net. Pp. 280, with illustrations. New York: Longmans, Green & Co., 1912.

One takes up a book like this with keen hopes. There is so much in the way of treatment that might be done better that one is always eager to see what original work a writer on therapeutics has to offer. This volume does not justify the eagerness. It is a small book on dermatology in which treatment is covered about as in any of the standard text-books. The first part, fifty-one pages, is devoted to a general statement of methods of treatment. Twenty-six pages are given to the therapeutic applications of hyperemia, which is the most interesting thing that the book has to offer; in the remaining twenty-five pages are considered—of course so inadequately as to be of almost no value to student or expert—*x*-rays, electrolysis, ionic medication, high-frequency currents, carbon dioxid snow, vaccines and diet. Diseases of the skin are considered alphabetically—acne, actinomycosis, ainhum, alopecia—a plan that avoids all the difficulties of classification, but surely does not help to a rational understanding of the natural associations of groups of skin diseases.

Consumption in General Practice. By H. Hyslop Thomson, M.D., D.P.H., Medical Superintendent, Liverpool Sanatorium. Cloth. Price, $4.50. Pp. 335. New York: Oxford University Press, 1912.

This is an excellent discussion of diagnosis, prognosis and treatment of the disease in the light of the newest developments. The first chapters devoted to diagnosis, while they contain nothing new, describe fully present methods of diagnosis and judicially weigh the value of each.

The second part of the book, devoted to prognosis, is especially good and unusually complete. Approximately eighty pages are devoted to this subject. As it deals with the question of greatest interest to every patient, too much space is not devoted to it. The author writes well, clearly and without repetition. The book will be found especially valuable to many readers because of these chapters on prognosis. The value and need of dispensary treatment is discussed and the need and advantage pointed out of farm colonies for many who are dismissed from sanatoriums apparently cured but who need outdoor employment and usually cannot find it.

The Bacteriology of Surface Waters in the Tropics. By William Wesley Clemesha, M.D., D.P.H., Sanitary Commissioner, Bengal. Cloth. Price, 7/8 rupees. Pp. 161. Calcutta: Thacker, Spink & Co., 1912.

To water bacteriologists this will prove an interesting treatise. The natural conditions in the tropics are so different from those in colder climates that important differences in the bacterial content of surface waters would be expected. The author has made the most thorough study of tropical conditions in this respect that has ever been undertaken. There are many details of technical interest, one of Major Clemesha's most important conclusions relating to the variation in resistance of different varieties of the *Bacillus coli* type under aquatic conditions. The non-dulcite fermenting forms, for example are classed by the author as not indicative of recent pollution. On the other hand, the typical *B. coli*, fermenting dextrose, lactose and dulcite but not saccharose, dies off so rapidly in water that its presence is thought to be a particularly good index of contamination. The book, as a whole, contains information of great value to the water analyst.

Practical Electrotherapeutics and *X*-Ray Therapy. With Chapters on Phototherapy, *X*-Ray in Eye Surgery, *X*-Ray in Dentistry, and Medicolegal Aspect of the *X*-Ray. By J. M. Martin, M.D., Professor of Electro-Therapeutics and *X*-Ray Methods in the Medical Department of Baylor University. Cloth. Price, $4. Pp. 446, with 219 illustrations. St. Louis: C. V. Mosby Company, 1912.

The author has undertaken to cover in a practical way the entire subject of electricity and *x*-rays as applied to medicine. It is a rather ambitious attempt, which he has carried out with satisfactory results. He knows well the theoretic side of his subjects, and evidently has a first-hand knowledge of the practice. He is somewhat optimistic—not rampantly so—but is evidently honest and anxious to make a fair statement. The book is well balanced, and can be recommended as a text-book on both electrotherapeutics and *x*-ray therapeutics.

Nutritional Physiology. By Percy Goldthwait Stiles, Assistant Professor of Physiology in Simmons College. Cloth. Price, $1.25 net. Pp. 271, with illustrations. Philadelphia: W. B. Saunders Company, 1912.

This is a small work viewing physiology from the point of view of the relation of living beings to the transformation of energy exhibited by the chemical and physical changes occurring in them. There is little of morphology, and the relations of the circulation and respiration are dealt with briefly. The nervous system is briefly described, but the organs of special sense are merely noticed. There are two excellent chapters on the hygiene of nutrition and a separate chapter on alcohol. The book is evidently intended as an elementary presentation of the general subject of nutrition, and this purpose defines its limitations. While primarily suitable to the general student of science, it will form pleasant reading for the leisure moments of the physician.

Blood-Pressure Technic Simplified. W. H. Cowing, M.D. Cloth. Price, $1 net. Pp. 119. Rochester, N. Y.: Taylor Instrument Company, 1912.

This book is put out by the Taylor Instrument Company, and naturally presents the advantages of the special instrument they sell. It is made up largely of quotations of papers which have been written on the various aspects of blood-pressure. The book is creditable to the author and publisher and, altogether, presents a fair account of the subject, which ought to be serviceable to the general practitioner.

Society Proceedings

NEW YORK ACADEMY OF MEDICINE

SECTION ON PEDIATRICS

Meeting held Dec. 12, 1912

Dr. William Shannon in the Chair

Protein Milk As Corrective of Digestive Disturbances

Drs. Herbert B. Wilcox and Miner C. Hill: Observers have differed widely in their methods of preparation of protein milk which has given widely divergent fat percentages and caloric values to the mixture. Our experience has to do with a protein milk made from skim-milk having a fat content of less than 1 per cent. The value of protein milk depends on its use as a corrective, and it is not to be considered as a fit means of prolonged nourishment, its period of usefulness being limited to the first seven or ten days of the dietetic treatment. In any acute digestive disturbances, low fats and sugars are certainly indicated, while higher percentages of proteins than were formerly believed advisable are now known to be well borne and actively beneficial. Protein milk seems to be better adapted to the early stages of such digestive disturbances than any other food preparation, but as the severity of the condition lessens the tolerance for and the need of more fat and carbohydrates increase, while the high protein is needed less as a neutralizer of fatty and carbohydrate fermentation. Its prolonged continuance brings about a needlessly heavy drain on the nitrogen metabolism.

There is no objection to the use of protein milk in combination with other foods. We have combined it with benefit with plain milk mixtures, breast-milk, and some solid foods. Our experience leads to the belief that the continuance of protein milk over many weeks is unnecessary and often injurious. Protein milk is best given without a preliminary course of treatment with tea or cereal decoctions. It is efficacious in all acute and chronic infections of the gastro-intestinal tract. It is equally suited to fermentative and putrefactive processes. It is better given in combination with other foods than alone, except for a short initial period. Children taking the protein milk can without danger be quickly swung over to plain milk mixtures.

From May, 1911, to November, 1912, 261 children were given protein milk for a variety of digestive disturbances. These children varied in age from prematurity to nine years. In many instances, before the protein milk diet was instituted, plain milk mixtures were tried for comparison. Clinically the cases treated were divided into three broad groups as follows: 1. Acute infections of the gastro-intestinal tract evidenced by vomiting, bad stools and fever. 2. Apparently non-infectious indigestions due to previous nutritional abuse. 3. Simple diarrheas, namely, those cases in which the infants could not be given food strong enough to increase body-weight without accompanying gastric or intestinal overactivity. In general, it may be said that protein milk is better suited to children over rather than under 3 months of age. The number of cures of children over 3 months of age was 20 per cent. greater than that of the very young. The improvement resulting from the use of protein milk in acute intestinal infections, as evidenced by fever and frequent bloody mucous stools, was more striking than in any other condition. In forty-four cases of severe intestinal infections of longer duration which we failed to correct by plain milk modifications, 70 per cent. were cured when changed to protein milk. With the initial use of protein milk in 198 intestinal cases, many of which were of a severe type, 73 per cent. of cures were effected.

Protein milk has also proved of value as a means of controlling vomiting. While there were very few patients having gastric symptoms unassociated with evidences of intestinal derangement, in seventy-four instances vomiting was the predominating symptom; of these thirty were put at once on plain milk modifications and 80 per cent. did well. The 20 per cent. failing to respond to this treatment promptly recovered when put on the protein milk. The remaining forty-four were put on protein milk at once, and good results were obtained in 82 per cent. of the cases. The indication for protein milk seemed equally clear whether the indigestion depended on fat or carbohydrate incapacity primarily, and it also seemed to be indicated whether the indigestion was due to bacterial fermentation or to putrefaction. Whether it was the fat or sugar that was at fault, an incapacity for both usually soon obtained. If fermentation predominated, the low fats and sugars tended to retard it, and the high protein, whether chemically or mechanically, seemed to be active in neutralizing this fermentation, in aiding the digestion of other food elements, and in restoring the balance of intestinal flora. If putrefaction existed, protein milk furnished enough sugar to inhibit the pure proteolytic activities of the bacteria by turning the facultative organisms into fermentative activity. Protein milk is not a general panacea nor can it be considered the only means of controlling digestive abnormalities. It has been our experience, however, that those indigestions which do not respond to the usual means of treatment will respond much more readily to this method. Formerly every child entering the hospital with digestive disturbance was given an initial dose of castor oil; now only the very severe cases receive this drastic initiation. There is reason to believe that diarrheas due to the gas bacillus, the *Bacillus dysentericus* and other bacteria may as logically—and more easily—be corrected by protein milk as by purely bacterial starvation methods. The reason is found in the fact that these inhabitants of the intestinal tract are more or less facultative in their biochemical activities, and anything like a pure culture of any one group is a rare intestinal finding.

The buttermilk which we used was made from pasteurized milk containing 1.75 per cent. fat, to which was added 1 ounce of buttermilk per quart of the pasteurized milk. This was allowed to stand for twelve hours at a temperature of from 70 to 80 F., being thoroughly beaten at intervals of two or three hours and then placed on ice until needed. Each day the buttermilk was made from that of the preceding day, a smaller amount of stock being needed as time went on. The amount of stock used was determined by the degree of acidity required. To make the junket, 2 quarts of pasteurized milk and two junket tablets were used. After standing twenty minutes at a temperature of 100 F., the precipitated casein was strained through gauze, washed in water, and forced several times through a fine sieve with a potato masher. The sieving was facilitated by adding buttermilk to the curd, and was continued until the curd was thoroughly broken up into fine flakes. To 1 quart of buttermilk was added 1 quart of water and 1 grain of saccharin, and the whole added to the curd and beaten to form a suspension. In feeding there should be a large hole in the nipple, and the bottle should be shaken every two or three minutes.

As soon as the digestive condition showed some improvement, malt-sugar was added, the dextrin maltose being preferable as it could be added in greater quantities with less danger of gastric or intestinal irritability than the other forms of malt-sugar that had been used in these cases. The aim in treatment was to make the period in which the protein milk alone was used as short as possible. It was found that better results were obtained from the addition of malt and some plain milk than by providing all the calories needed with malt alone, and thus raising the carbohydrate percentage higher than was safe or desirable. The time necessary for the entire correction period averaged twelve days. The child was then turned over to the dispensary for further direction. The apparent effect of protein milk was such as to stimulate the absorption of other food so that gains were noted in many cases in which they were not looked for. It was not to be expected that young children would gain in weight when taking less than 30 calories per kilogram on the usual milk diets, yet many of their cases had done so. In no case was there noticed any untoward result from mixing protein milk and plain milk feedings. Protein milk was used with benefit in combination with cane-sugar, milk-sugar and malt-sugar, plain milk and breast-milk. In twelve infants suffering from severe nutritional disturbances, after breast-milk was resorted to without any improvement, protein milk alternating with the breast-feedings was tried, and the stabilizing effect of the protein milk was immediately apparent.

The Double Function of Fats and Carbohydrates in Nutrition and Their Nutritive Properties

DR. HENRY DWIGHT CHAPIN: Fats and carbohydrates are generally classified as foods whose function is merely to supply heat and energy, and it is customary to express their nutritive value in calories. In calculating human dietaries it has become the common practice to work out the number of calories of the different components of a feeding and by adding them together determine the nutritive value of the food, on the assumption that the nutritive value of the different food elements varies directly with the amount of heat they would yield when burned outside the body. Body heat, however, is a by-product. If the animal organism demanded food primarily for the heat it yields, such methods would be exceedingly useful and accurate, but food is not utilized in this manner. It has to be digested, assimilated, carried to the muscles, organs and tissues before it can be of value to the body or before it can be burned. It has never been shown that the animal organism uses heat derived from food, except to maintain the body temperature, and in the summer little or no food is required for this purpose; yet food is required under such conditions. An infant uses just as much milk in the tropics as elsewhere. The heat above that needed to maintain body temperature is excreted. It is evident that the fats and carbohydrates are not required primarily for the heat they yield, and that the heat excreted is not the measure of the food needed for growth. Body heat is produced by the expenditure of energy. When a human being is awake and sitting up or standing, more muscles are brought into activity and heat production increases proportionately, while during sleep there is a suspension of external activity, and the production of heat by the internal organs is at a minimum. When severe muscular exertion is made, heat production increases at a tremendous rate, being over nine times as great as during sleep. Heat production is not dependent on the size of the body or on its weight, but on the amount of activity of the body organs. The energy of the body is derived from the combination of oxygen of the air with the assimilated fat and carbohydrates and a part of the protein of the food. When energy is expended in the body it is changed into heat, and then becomes a waste product which must be excreted. The energy content of the food cannot be measured directly, as the expenditure of a definite amount of energy always liberates a definite quantity of heat; potential energy can be measured indirectly by the heat of combustion of the food.

The amount of heat produced during digestion and assimilation depends on the digestibility of the food, that is, the amount of energy needed to bring about its digestion. Available energy may be defined as the total energy minus that lost in the excreta and in the gases, and net energy as available energy minus the cost of digestion and of preparing the food for use. Hence physiologic food value and calorie value are not identical. It has often been observed in practice that certain foods in small quantities are more nutritious than larger quantities of other food having the same caloric value. The food needed for growth is not shown by the heat produced in the body. Each new cell contains fat and carbohydrate, and there must be more of these substances in the food than the heat excreted shows has been burned; therefore the heat excreted cannot be used as a standard for determining the quantity of fats and carbohydrates needed in the food when growth is taking place. Carbohydrates are primarily suppliers of energy and secondarily of heat. Babcock has recently shown that they have another function, which is to supply water to the cells in a manner that controls cell nutrition and growth. The digestion of carbohydrates consists in converting them into dextrose, the sugar of the blood, and this is brought about by the digestive enzymes adding two parts of water to cellulose, starch, glucose and dextrin, and one part of water to cane-sugar, maltose and milk-sugar. The assimilation of carbohydrates consists of converting into glycogen, which is insoluble, the portions not needed for immediate use, and the process consists of removing two parts of water from dextrose. The method of producing growth and nutrition in the cell consists essentially of dehydration and hydration.

As oxygen and hydrogen are present in carbohydrates in the proportions that neutralize each other and form water, the carbon is the only portion of the carbohydrate which can combine with the oxygen from the air and be available as an energy-producer. When fat is completely oxidized in the cell it is changed into carbon dioxid gas and water, the water produced weighing more than the original fat. There is a difference between fats and carbohydrates in the way in which this water is produced. In the carbohydrates it is merely split off from the carbon, while in the case of fats it is actually produced in the cells by the oxidation of the hydrogen of the fat. As producers of energy the fats and carbohydrates are interchangeable, but as water producers in the cell they have unlike properties.

Cell nutrition depends on metabolic water, that is, the water chemically produced from the food. If the cells are to obtain nourishment from the blood, the cell contents must be of less concentration than the blood or the soluble contents of the cell would flow to the blood and the cells would be starved. When dextrose or fat is oxidized in the cell the carbon is removed as a gas; the water split off from the carbon of the dextrose, or produced by oxidation of the hydrogen of the fat, is left behind to dilute the contents of the cell. The blood is now more concentrated than the cell fluids, and its nutriment flows toward the cell. As fats, when oxidized in the cell, dilute the cell contents almost twice as much as the same quantity of carbohydrates, and thus stimulate a more rapid flow of nutriment to the cells, it is not difficult to see why cod-liver oil, butter and cream are so useful in tuberculosis as constructives. They are not needed for their energy, as patients needing these foods, instead of being abnormally active, are kept as quiet as possible.

Cow's milk contains 4 or 5 per cent. of carbohydrates; two-thirds of the caloric value lies in the fat and one-third in the carbohydrates. The fat will produce over 2 ounces of metabolic water to dilute the cell fluids, and the sugar about 1½ ounces of metabolic water to 50 ounces of milk.

The chick in the egg is not expending bodily energy, and its body heat is maintained by the hen or the incubator so that it needs little food to meet its energy and heat demands, and yet the hen's egg contains nearly 23 per cent. fat but no carbohydrates, and the fat contains less carbon than other fats. When it is remembered that growth consists of enlargement and division of the cells, which calls for rapid assimilation of nutriment, it will be seen that a substance with great capacity for producing metabolic water and thus causing a rapid flow of nutriment to the cells is just what is needed in milk and eggs. It is supplied as fat.

Metabolic water is all that some animals require. The imbibed water of other animals is needed mostly as a vehicle to carry off waste products by changing them into latent heat when the amount of heat produced is too great to be carried off by radiation, and for removing protein waste when in a soluble form as urea. Metabolic water would probably be sufficient for all animal needs were it not for the elimination of poisonous substances resulting from protein degeneration.

It is quite evident that an overemphasis has been placed on the caloric value of foods, particularly as far as the nutrition of infants and growing children is concerned. Infants need little food for energy except as this is expended in digestion and assimilation of foods. Their natural food is highly specialized in composition and in digestive properties, and is peculiarly suited to their needs. Milks of various animals vary in composition and digestive properties directly with the variation in type of the animal. A proper estimation of foods, in a last analysis, depends on digestive suitability and capacity to produce true growth and proper development.

DISCUSSION

Dr. B. Raymond Hoobler: From the figures submitted it is shown that in cases of several children fed on protein milk the nitrogen intake was considerably higher than usually is fed to children of the same age. Though the intake was higher the absorption was excellent, 95 per cent. being absorbed, which is the same as in a normal child. The retention of nitrogen gradually increased from day to day until supposedly the nitrogen need of the infant was fully met. Then the retention remained at a level, being sufficient to meet the protein need for growth. The results obtained by me in the feeding of large quantities of protein, as gathered from experiments made under the supervision of Dr. Holt and published in the *American Journal of Diseases of Children*, November, 1912, had a distinct bearing on the various factors which cause the stools to change from the frequent, green watery stools of the diarrheal type at the beginning of the protein milk feeding to the smooth, pasty, yellow stools which appear after from four to six days' feeding of protein milk. There is a marked lowering of the acidity of the stools and a marked reduction in the free fatty acids present in the stools. The amount of fat in the form of soluble or insoluble soaps is much increased. The amount of water lost from the body through the stools is greatly reduced, and the retention of mineral salts greatly increased.

Prof. Graham Lusk: The same factors relative to maintenance, repair and growth that appear in the adult are present in the infant. The baby at the breast takes food containing calories sufficient for its maintenance and about 15 per cent. more; the latter is added to the body for growth. The child's own instinct leads him to take nourishment sufficient to accomplish this result. This instinct belongs to the race. In the extended experiments of the Remsen Board it is astonishing to find how the quantity of bread taken by each individual daily was practically constant, usually not varying more than 20 gm. for the individual. Here, as in infancy, instinct furnishes the guide for nutrition. If the baby is not nourished in the natural fashion it is a matter of luck whether he receives sufficient nourishment to cause him to grow properly. Protein is made up of a great many structural units called amino-acids. These amino-acids are as many in number as the letters of the alphabet, and their possible arrangement as manifold as the words of the dictionary. The protein is broken up in the intestinal tract into these several amino-acids and enters the blood in the form of amino-acids. These served to build up the varying portions of the machinery of the cells. Even in babyhood there is wear and tear on the protein constituents of the cells, as is manifested by the waste of nitrogen in the urine of the infant when protein starvation occurs. It is therefore necessary to administer sufficient protein to repair this wear-and-tear quota which has been destroyed, and in addition to give enough to furnish new protein building-stones for the constructive growth which is inherent in the protoplasm of the young of all species. As to the carbohydrates, there is no question but that carbohydrate may supplant fat in the nutrition of children if that be deemed necessary. Fat, on the contrary, cannot supplant carbohydrate entirely because, under circumstances of exclusive fat-protein dietary, acidosis appears.

It is necessary to consider the caloric requirement of the infant when a proper dietary is to be devised, and this should contain during the first three months 90 calories per kilogram of body weight. In experiments which Dr. John Howland made in our laboratory it has been seen that an infant may eliminate 15 calories hour after hour, after taking a usual milk mixture. Food itself in ordinary quantities may increase metabolism somewhat. The addition of protein so that the protein content of the milk is doubled causes an increase in the heat production of the child from 15 calories per hour to 19 calories per hour. This increase of heat production is due to the specific dynamic action of protein. I have recently shown that this is due to the stimulation of the protoplasm through the action of certain amino-acids.

It has been stated that the heat value of foods is largely lost through work expended on the digestion of the food. One should remember, however, that the breaking down of protein into amino-acids or of fat into fatty acid and glycerin in the intestine, is not accompanied by the evolution of heat. Furthermore, if agar-agar be given there is no increase in metabolism, notwithstanding a great activity on the part of the intestinal tract. Cathartics which strongly stimulate the intestinal tract have no effect at all on the heat production of the organism, as Benedict has shown.

Dr. H. D. Chapin: As an instance showing the importance of metabolic water, I have estimated that if a man of 70 kg. net weight should produce a hundred calories of heat per hour, and those hundred calories of heat were derived exclusively from carbohydrate, then in the oxidation of this carbohydrate, 0.24 gm. of water would be produced each minute. That would mean the production of 3 mg. of water per kilogram of body-weight, or three parts of water per million parts of body-weight. Since the volume of blood circulates at least once per minute, bearing perhaps food brought from the intestines, it hardly seems possible that metabolic water amounting to 3 mg. per kilogram can in any way be influential in the exchange of food between the blood and the tissues. It seems as though the osmotic pressure of the foodstuffs within the blood would be the determining factor in their passage from the blood-stream to the cell.

Dr. Samuel S. Adams, Washington, D. C.: I have had a wide experience with these cases. At the Children's Hospital in Washington we have tried various treatments for gastroenteric diseases, and have come to the conclusion that the severe heat and intense humidity influence the varying mortality among infants. The Finkelstein method was followed, but the results were not such as to lead us to continue it long. There was great difficulty in inducing the babies to take the food The records showed that children with badly deranged digestion, taking from 18 to 24 ounces of milk mixtures, when given the protein milk took only 4, 5 or 8 ounces in twenty-four hours. The mortality was very high and the treatment had to be abandoned. The cases were not selected. I believe that we are soon going to obtain better results with these cases, but we are about as far from solving the problem of infant-feeding to-day as we were years ago.

Dr. John Lovett Morse, Boston: It is not clear to me why the same kind of food should affect one sort of bacteria in one way and another sort in another way; that is, why it should antagonize fermentation in one case and putrefaction in another. In these cases of dysentery caused by the gas bacillus or allied organisms, it should do good; but it ought to be harmful in those caused by the dysentery bacilli which produce toxic substances from proteins.

Dr. L. E. LaFetra: I have used the protein milk for three seasons. The result of this experience in severe dysentery with mucus and blood in the stools, whether the result of fermentative changes or not, led me to believe that protein milk is the best means of dietetic treatment with which I am acquainted. One is often struck with the rapid improvement that follows its use. In nine out of ten cases of infants with high fever, improvement will be very striking after the administration of protein milk for three days. The living Bulgarian lactic acid bacilli must have part of the credit for the improvement in the true dysenteric and putrefactive cases. Protein milk increases the tolerance for other foods; this is a point that should be emphasized. At Bellevue Hospital, in several instances in which even breast milk could not be taken without diarrhea, the substitution of low-fat protein milk for two or three nursings daily arrested the diarrhea, and the breast feeding could be resumed later. The protein milk may be given with advantage in combination with other foods. I agree with Dr. Wilcox that the preparation of the protein milk for therapeutic purposes should be made from skimmed milk.

Dr. Godfrey R. Pisek: Finkelstein's feeding should be regarded only as a therapeutic measure. Using it three or four days, one could then return to the breast or other feeding and obtain good results in a large number of cases. What Dr. Wilcox says compares well with the experience of those who have used the protein milk for a number of years. A very important step is switching to skimmed milk after the bowel condition has improved.

Referring to what Dr. Chapin says about metabolic water, if we cannot put this to practical application at once it does not lessen its value in infant-feeding. Use for this knowledge may be found that will change our present ideas. We can compare this action in the cells to that of a float feed in the carbureter, allowing the tissues to take up or to repulse this metabolic water according to their needs.

Dr. Rowland G. Freeman: Finkelstein's milk has a limited application. It possesses the advantage of containing lactic acid bacilli in a form more palatable than buttermilk, while its disadvantages are that it contains too much fat for many cases of diarrhea, less sugar than most children can digest, and that it discards the lactalbumin of the whey, which is the most easily digested protein, especially for children under 3 months of age, for whom this milk has been recommended. Modification of the original receipt by using skimmed milk or adding sugar will eliminate some of these objections. It is particularly valuable in cases of offensive stools, but often better results may be obtained by feeding lactic acid bacilli in another form and then using a modification particularly adapted to the case. The estimation of caloric values is most important as a guide against underfeeding.

Dr. Charles G. Kerley: In my experience protein milk has proved a useful addition to the diet of children with diarrhea. It can be digested before skimmed milk will be tolerated, and is of use in supplying substantial nourishment when it is much needed. It is my conviction that sugar and milk-fat are accountable for not a few of the disorders of older children, conditions brought about by defective oxidation of carbohydrates and fats. These disorders have a peculiar tendency to become cyclic and are represented in cyclic vomiting, recurrent bronchitis, eczema and periodic so-called bilious attacks.

Current Medical Literature

AMERICAN

Titles marked with an asterisk (*) are abstracted below.

American Journal of Diseases of Children, Chicago

February, V, No. 2, pp. 89-204

1 *Surgery of Thymus Gland: Thymectomy; Report of Fifty Operated Cases. C. A. Parker, Chicago.
2 Angioma of Larynx, Especially Its Relation to Chronic Laryngitis. J. Phillips and H. O. Ruh, Cleveland.
3 Osteogenesis Imperfecta; Report of Case. H. Schwarz and M. H. Bass, New York.
4 Congenital Atresia of Esophagus; Report of Three Cases. J. Brennemann, Chicago.
5 Reduction of Infant Mortality in New York. S. J. Baker, New York.

1. **Surgery of Thymus Gland.**—Attention is directed by Parker to the fact that many sudden deaths in infants have been caused by an enlarged thymus-producing obstruction of the trachea. Frequently this is the sole factor responsible for the compression, but at times enlarged tracheobronchial glands or spasm of the glottis are contributing factors in producing the fatal result. Compression of the trachea is shown at autopsy by the presence of a flattened trachea associated with the enlarged thymus, and is revealed *intra vitam* by the bronchoscope, showing the narrowed lumen of the organ, the symptoms referable to which being completely relieved by thymectomy. The diminished caliber has also been demonstrated by intubation, only a long tube sufficing to keep the trachea open and immediate and permanent relief following removal of the gland.

Two general types of cases are observed, the continuous type in which the symptoms usually date from birth or soon after with permanent dyspnea usually present, and the intermittent type, usually of later development, in which there are longer or shorter intervals free from symptoms. The three most important symptoms in either type are permanent dyspnea, recurring suffocative attacks and stridor. All three of these frequently occur together, when their presence is an imperative indication for immediate operation. The presence of either one of the first two symptoms is an equally imperative indication for operation. Stridor alone is not an indication for thymectomy.

The treatment is essentially surgical. Operative treatment —thymectomy—is as necessary and effective in tracheal obstruction from the thymus enlargement as tracheotomy or intubation are for obstruction higher up. It is frequently an emergency operation. Although the accumulating evidence is strongly suggestive that the thymus gland is absolutely necessary to life and normal development in the earlier stages of growth, its operative removal in the young human subject, as far as present evidence has shown, is not fraught with the slightest untoward metabolic disturbances. This is probably due to the fact that it is never completely removed and that the remaining portion quickly reproduces the tissues of the organ. It may also be in man, as in the lower animals, that after a certain period of growth its function is taken up by other organs, as the thyroid and spleen, and its complete removal, if it were possible, would have no baleful influence on the organism. Of seventeen recorded deaths in literature that occurred in thymectomized children, four followed a complicating tracheotomy and one an unclosed wound with drainage and infection. Four were due to infection from septic tracheobronchial glands. In one there was a preliminary bronchoscopy and in another there had been several unsuccessful attempts at tubage immediately preceding the operation. In three cases with incomplete histories the operator expressly stated that the deaths were not due to the operation itself. One was in a severe case of Little's disease. And, finally in two cases the deaths occurred several weeks after operation from causes remote from if not entirely separate from the operative procedure. In no case was the operation immediately fatal. Intracapsular thymectomy is the only type of operation now employed. The vertical median incision terminating about 1 cm. below the upper border of the sternum is the skin incision usually employed. This is the one used in Veau's operation. The low transverse incision has been successfully employed in a few cases. General anesthesia is usually well borne when competently given. The operation is easily and safely performed.

American Journal of Insanity, Baltimore

January, LXIX, No. 3, pp. 469-642

6 Three-Quarters of a Century of Institutional Care of the Insane in United States. H. M. Hurd, Baltimore.
7 *Occupation for Insane. C. F. Haviland, Kings Park, N. Y.
8 Relation of Certain Psychoses to Neuroses. C. L. Carlisle, Kings Park, N. Y.
9 *Some Psychologic Observations in Insane. M. E. Witte, Clarinda, Iowa.
10 Legitimate Use of Psychic Influences in Treatment of Sick. H. C. Eyman, Massillon, Ohio.
11 Rôle of Nervous System as Affecting Symptomatology of Disease and Influence of Disturbance in Its Functions on Morbidity. H. A. Tomlinson, St. Peter, Minn.
12 *Nature of Metastatic Tumors of Thyroid. A. Meyer, Baltimore.
13 Case of Pellagra in Maine; Recent Work on Etiology of Disease. H. W. Miller, Augusta, Me.
14 Analysis of Psychosexual Anesthesia in Case of Psychopathic Personality. M. J. Karpas, New York.
15 Jury Law for Commitment of Insane in Illinois (1867-1893): Also Later Developments in Lunacy Legislation. R. Dewey, Wauwatosa, Wis.
16 *Heredity in Epilepsy. E. Flood and M. Collins, Palmar, Mass.
17 Forms of Mental Disease in Cases Showing No Gross Lesions in Brain at Autopsy. C. G. McGaffin, Taunton, Mass.
18 Treatment of Insane in British Columbia. C. E. Doherty, New Westminster, B. C.
19 Insanity Among Indians. H. R. Hummer, Canton, S. Dak.
20 *Ocular Symptoms in General Paralysis of Insane. H. T. Child, Kankakee, Ill.

7. **Occupation for Insane.**—Haviland summarizes his article as follows: The therapeutic value of occupation of the insane is axiomatic and is based on sound psychologic laws. Former haphazard occupations should be replaced by graded, systematized plans of work under a coordinating head. Occupational reeducation, as emphasized in special classes, should likewise be a feature of ordinary routine hospital work. The supervision of occupational reeducation is distinctly medical work. The form of occupation should be adapted to patients' capacity, should not be monotonous, and, so far as possible, should be creative. Successful reeducation means primary interest, and to induce this, methods must be flexible and vary with the individual. Recreation should accompany occupation, the latter never being regarded as an end in itself. Success of work depends more on character of instructors than character of patients. Despite necessity of trained specialists for occupational instruction, with inculcation of proper spirit, it is possible to develop most of them from the regular force of a hospital. Special occupational classes require no expensive equipment and can be made practically self-supporting. While New York state hospitals are doing more than ever before in occupational training, it is possible to still further extend the work by using attendants as assistants to regular instructors and introducing occupational training as ward work. While many cases are incurable, despite any form of treatment, the industrious are thereby less burdensome and lead happier lives. Occupation for insane patients has great economic value, but this must ever remain subsidiary to therapeutic aspect.

9. **Psychologic Observations in Insane.**—There is no doubt in Witte's mind that the organic sensations, arising mostly in and conveyed in part at least by the symptomatic, play a fundamental rôle in the production of feelings, as well as in the construction of personality. Constantly day and night messages of good, bad, or indifferent import are sent to the brain, and these produce changes in the lower basal ganglia, as well as cortical neurones. Ordinarily and in health, the result of this continuous bombardment remains below the threshold of consciousness, but it influences, nevertheless, our moods and fluctuating feelings, which are based thereon. The subconscious regions of our mind also extend down into and involve the great seats of organic life—ultimately the difference between the optimist and the pessimist, a Leibnitz or a Schopenhauer, for instance, is one of supra and subdiaphragmatic adequacy, or perhaps of efficiency of the sympathetic. Feeling is a primary and fundamental ability of the mind. The ability to realize pleasure and pain and to react accordingly, has been the one guiding and protecting principle of life.

12. **Nature of Metastatic Tumors of Thyroid.**—The summary of the case cited by Meyer is as follows: In a woman with a moderate left-sided struma of the thyroid, there developed a tumor of the skull, a tumor of the femur causing infraction and an invasion of the bronchial and inguinal glands. The tumor of the thyroid also increased during the last year of her life, but it was not infiltrating as is characteristic for the struma maligna; it respected the covering membranes of the thyroid; the lymph-nodes, too, were not adherent; the tumor of the skull was limited between the endothelium of the dura and the periosteum of the skull, but it pervaded the dura and bone and produced uneven hyperostoses on the inside and long fish-bone-like processes from the outside of the skull into the elevated periosteum. The tumor of the femur was distinctly infiltrating, as it penetrated through the bone between the muscle bundles. In its nature, the thyroid itself suggested a condition of adenomatosis in the apparently normal part, and adenocarcinosis in the tumor of the middle and left lobe with central fibrosis and partial calcification. The tumor of the skull showed to a great extent normal thyroid structure and only within the dura atypical arrangement of the cell elements. The tumor of the femur and the metastasis in the bronchial gland have the type of adenocarcinoma, beside normal thyroid structure with typical vesicles and colloid. In short, certain parts of the metastatic tumors, especially that of the skull, showed more typical thyroid structure than even the normal right lobe of the thyroid.

16. **Heredity in Epilepsy.**—The material for this study is taken by Flood and Collins from the pedigrees of seventy-eight of the patients at the Monson State Hospital. In connection with these, there are some pedigrees of allied families, making ninety pedigrees on file. A few of the pedigrees are somewhat incomplete, but a large number of them have been extended so far that a single one may furnish sufficient data for the study of the family history of from two to five cases of epilepsy. The results of the study, so far, are summed up as follows:

> 1. We have no conclusive evidence that alcoholism in the parents is a cause of epilepsy in the children, although alcoholism is often associated with epilepsy. It may be regarded as a concomitant of epilepsy and an additional evidence of nervous weakness. 2. Feeble-mindedness is also associated with epilepsy, and there is some evidence that it is caused by the same defect that caused the epilepsy. 3. Fitting the material to the two hypotheses, first that epilepsy is a recessive trait that is inherited only as epilepsy, and second, that epilepsy, feeble-mindedness and insanity are due to the same defect which may appear in the form of any one of them, there is no striking evidence in favor of one to the exclusion of the other. The truth probably lies somewhere between the two. 4. While we are not in a position to say at present whether every case of epilepsy is inherited or to say in what proportion of cases it is inherited, we can say that in a large proportion of cases there is some nervous defect on both sides of the family. These defects may be epilepsy, feeble-mindedness, insanity, extreme nervousness, migrain, alcoholism, sexual immorality and lack of moral sense.

The ultimate purpose of the study of the inheritance of epilepsy is to learn what are the expectations in regard to the condition of offspring in epileptic families.

20. **Ocular Symptoms in General Paralysis.**—Certain pupillary changes were found by Child in general paralysis which, he says, can be determined by careful observation. Among those most prominent are fixed, dilated pupils, irregular pupils and the variation in time pursuit and velocity reaction. That certain anatomic changes are also present has an important bearing.

Arkansas Medical Society Journal, Little Rock

January, IX, No. 8, pp. 181-204

21 Rôle of Appendix in Indigestion. J. P. Runyan, Little Rock.
22 Public Health. W. A. Evans, Chicago.

Boston Medical and Surgical Journal

January 30, CLXVIII, No. 5, pp. 149-182

23 *Seventy-Six Operations in Which Lane Bone-Plates Were Used. W. Bartlett, St. Louis.
24 *Unilateral Hematuria in Chronic Nephritis. P. E. Truesdale, Fall River, Mass.
25 *Speech Disorder: Neglect Lisping: Case and Treatment W. B. Swift, Boston.
26 Clinical Studies on Feeding in Infantile Malnutrition. C. H Dunn, Boston.
27 Intraventricular Hemorrhage of New-Born. A. C. Eastman Springfield, Mass.
28 Toxicity of Bile, with Report of Unusual Case. W. E Ladd, Boston.

23. **Operations in Which Lane Bone Plates Were Used.** In the seventy-six patients in which Bartlett used the Lane

bone plate, the following bones were broken: clavicle, 7; humerus, 17; radius, 1; radius and ulna, 3; ulna, 4; femur, 17; tibia, 15; tibia and fibula, 9; fibula alone, 3. He has traced half of these patients for periods ranging from two to twenty-nine months after operation. The other thirty-eight are known to have left the hospital alive and most of them in better shape than when they entered. Many walked out in full health, without dressing, splint or crutch, but some were removed in the original cast and dressing at the end of one or more weeks.

Among the thirty-eight which have been traced, there were twenty-two simple and sixteen compound fractures. Of the latter, twelve were fresh or granulating when the plate was introduced, while four were suppurating at the time of operation. Of these thirty-eight patients, thirteen are known to have had their plates removed. Four plates had to be taken out in simple fractures and nine in compound. Seven of these thirty-eight results are considered failures by Bartlett. The results of Bartlett's clinical and laboratory work incline him to the belief that extreme discrimination will be the rule in choosing future subjects for open fracture operations.

24. **Unilateral Hematuria in Chronic Nephritis.**—Truesdale's investigations seem to indicate that hematuria as an early sign of unilateral chronic nephritis is more common than is generally supposed, and the removal of the kidney under these circumstances affords an opportunity for the study of this disease in the period of its earliest manifestation.

25. **Speech Disorder.**—Swift cites the case of a girl of 8, who after a severe meningitis and diagnosis of feeble-mindedness, was operated on for adenoids and tonsils, and given exercises to improve her speech defect—known as neglect lisping—by a method of enforced mechanical attention and in a few weeks could say a poem distinctly.

Bulletin of Manila Medical Society

November, IV, No. 11, pp. 179-192

29 Laboratory Notes on Bacillus of Dysentery. C. A. Butler, U. S. Navy.

Indiana State Medical Association Journal, Fort Wayne

January, VI, No. 1, pp. 1-54

30 Year's Progress in Medicine. C. P. Emerson, Indianapolis.

31 Year's Progress in Surgery. B. Van Sweringen, Fort Wayne.

32 Year's Progress in Pathology and Bacteriology. B. W. Rhamy, Fort Wayne.

33 Year's Progress in Oto-Laryngology J. F. Barnhill, Indianapolis.

34 Year's Progress in Ophthalmology W. F. Hughes, Indianapolis.

35 Year's Work of Indiana State Board of Health. W. F. King, Indianapolis.

36 Our Association's Activities. A. C. Kimberlin, Indianapolis.

Journal of Nervous and Mental Disease, Lancaster, Pa.

January, XL, No. 1, pp. 1-71

37 Retardation and Constitutional Inferiority in Connection with Education and Crime. J. J. Thomas, Boston.

38 *Localized Encephalitis of Left Motor Cortical Region with Epilepsia Continua. S. Krumhholz, Chicago.

38. **Encephalitis with Epilepsia Continua.**—With the exception of one general epileptic seizure, Krumholz' patient presented clonic convulsions of separate muscle groups which continued with equal frequency for twenty days until fatal termination. The patient was a 14-year-old girl, apparently of normal constitution, except for a slight suggestion of infantilism. After a few days of uncertain prodromals, she became ill with epilepsia continua, without any known cause. This singular symptom stood out preeminently throughout the disease and persisted until fatal termination. As a whole, fever played no rôle in the disease, the patient having presented only at rare times a slight elevation of temperature. The fever, which occurred toward the end, Krumholz does not consider characteristic of the disease, as its course did not differ from fever in fatal cases of status epilepticus. With the exception of taches cerebrales, symptoms of meningeal irritation were absent. The cerebrospinal fluid having proved negative, the diagnosis of meningitis or meningo-encephalitis was excluded.

The presence of a tumor in the lower third of the motor cortical region, or pseudotumor cerebrae (Nonne), was excluded on account of the absence of pressure symptoms, negative ophthalmoscopic finding, etc., which also, to a great extent, ruled against cerebral tubercle; besides, this patient presented no symptoms of tuberculosis, such as glandular enlargements, caseous cicatrices, ocular fundus changes, pulmonary involvement, etc. Likewise there were no symptoms to support the diagnosis of cerebral syphilis or metasyphilis, Wassermann reaction in serum and in spinal fluid being negative. Finally, an irregular form of idiopathic epilepsy had to be excluded, because the general picture of the disease did not conform with such diagnosis, especially since the tendency of the convulsions to become generalized was extremely slight. The patient developed only one general epileptic seizure, otherwise retaining strictly the jacksonian type of convulsions for days and weeks.

There was, to a certain degree, a tendency to gradual generalization of the convulsions, but this tendency is unusually slow. This slowness, this sameness of rhythm and stability of frequency, Krumholz says, distinguishes this case from the convulsions of idiopathic epilepsy and places it in that category of epilepsia continua which occurs in Lissauer's paralysis; in encephalitis hemorrhagica; in some cases of cerebral syphilis; in rare cases of cysticercus and in isolated cases of pachymeningitis hemorrhagica. Therefore Krumholz believes that it was a case of circumscribed, acute, non-suppurative encephalitis affecting chiefly the lower third of the motor region of the left hemisphere, beginning at the operculum Rolandi and extending up to about the foot of the second frontal convolution. The conclusion as to the character of the encephalitic process was substantiated by autopsy.

Summarizing, Krumholz points out that although the history of the case reveals no etiologic factor for the disease, the pathologic anatomy bears the finger-marks of a toxic agent. The acute cerebral changes are characteristic of encephalitis hemorrhagica. The vehement gliomatous proliferation of the left motor cortical region renders the lesion singular in character. It is probable that this vehement sclerotic process in the motor cortical region is an essential factor in the production of the convulsions. The character of the clonisms, their gradual extension to the adjacent cortical centers and the slowness of their tendency toward generalization made the character of the pathologic process comprehensive. The presence of the frontal type of the head and conjugate eye-movements assisted considerably in the localization of the lesion and the direction of its route.

Lancet-Clinic, Cincinnati

January 25, CIX, No. 4, pp. 87-112

39 Biologic Interpretation and Surgical Aspects in Painful Indigestion. G. W. Crile, Cleveland.

40 Stomach from Standpoint of General Practitioner, the Specialists and Surgeon. C. G. Stockton, Buffalo.

41 Cannula-Forceps for Blood-Vessel Anastomosis. J. W. Price, Louisville, Ky.

Michigan State Medical Society Journal, Battle Creek

January, XII, No. 1, pp. 1-66

42 Michigan Medical Law. L. W. Smith, Ionia.

43 Narrow Nose. R. E. Mercer, Detroit.

44 Treatment of Acute Appendicitis. C. D. Brooks, Detroit.

45 Pneumonia. W. L. Griffin, Shelby.

46 Conduct of Normal Labor. C. E. Boys, Kalamazoo.

47 Salvarsan; Its Use to Oculist and Laryngologist. R. C. Fraser, Port Huron.

New Orleans Medical and Surgical Journal

January, LXV, No. 7, pp. 489-558

48 Elements of Dermatology. I. Dyer, New Orleans.

49 *Paratyphoid Cholecystitis, with Report of Case. J. B. Guthrie, New Orleans.

50 Dietetics, Simplified for General Practitioner. F. E Lamothe, New Orleans.

51 *Recurrent Vomiting. J. A. Storck, New Orleans.

52 Influenza: Gastro-Intestinal. L. J. Menville, Houma, La.

53 Advancement of Obstetrics; Its Relation to Gynecology. E. D. Martin, New Orleans.

49 and 51. Abstracted in The Journal, May 18, 1912, pp. 1538 and 1539.

New York Medical Journal

February 1, XCVII, No. 5, pp. 217-268

54 Curability of Cancer of Cervix of Uterus. L. Broun, New York.

55 Newer Teachings of Diseases of Gastro-Intestinal Canal M. I. Knapp, New York.

56 Medical Education; Unsolved Problem. I. Dyer, New Orleans.

57 *Typhoid; Its Milk-Free Treatment. W. N Johnson and C. C. Watt, Germantown, Pa.

58 Pulmonary Tuberculosis and Peripheral Nervous System. J. L. Pomeroy, Monrovia, Cal.

59 Scarlet Fever. W. L. Somerset, New York.
60 Prescribing Glasses. D. F. Harbridge, Philadelphia.
61 *Meatotomy. E. G. Ballenger and O. F. Elder, Atlanta, Ga.
62 Case of Apoplectic Malaria. B. Kaufman, Maryville, Cal.

57. **Milk-Free Diet in Typhoid.**—The dietetic treatment on which the greatest reliance was placed by Johnson and Watt for the results obtained in sixty-five cases, and which in their opinion was responsible for the very low percentage of diarrhea, distention, hemorrhages and no perforations, consisted of broths, soups, gruels, gelatin, eggs, sugar of milk and butter. Milk was absolutely eliminated, except in the convalescent stage. Great reliance was placed on gelatin, which was given almost *ad libitum*. About 50 grams of gelatin, or about 1.5 ounce, are necessary. This amount in 1 quart of water gives a 5 per cent. solution, and can be flavored with lemon, vanilla, orange or sherry and sweetened with sugar of milk and be given in divided doses during the day, between other feedings. Gelatin lessens the tendency to hemorrhage, in their opinion, and was largely accountable for the freedom in these cases from this serious complication. If venous thrombosis occurs, gelatin should be stopped. The gruels (barley, rice and oatmeal) may be made of different consistence. It is well to begin with a thin gruel (strained) and note the effect and gradually thicken it if well borne. For barley gruel, thin, use one tablespoonful of Robinson's barley flour to 1 pint of water; boil three-quarters of an hour; for thick gruel use two tablespoonsful of the flour. For rice and oatmeal gruel, use the same proportions as for the barley. Strain all. For adults, add to the gruels the yolks of four eggs, which contain considerable fat, and 4 drams of milk sugar. For children use two yolks of eggs and half the quantity of milk sugar. A pat of butter may be added to the gruel.

During convalescence the same dietetic treatment was observed, except thickening of the gruels, until the tenth day; then two soft-boiled eggs were allowed, and if no rise in temperature occurred, milk toast was allowed the next day in addition to the eggs. Gradually soft diet was allowed, and at the end of the week, if no relapse occurred and convalescence was maintained, the patients were well on their way to full house diet, meat and vegetables. No feedings were allowed at night, with a very few exceptions among the very sick, when little could be taken at a time. In this way much-needed rest was obtained by the patients. They were all roused during the day from 6 a. m. until 9 p. m., if dozing. The spirit was inculcated that they were all cooperating in their own cure. All the water (cold, but not iced) was given which they wanted. After each feeding 5 to 10 drops of dilute hydrochloric acid were given in the water.

Medicinal treatment, outside of routine treatment, was employed symptomatically. For hemorrhage, no food was allowed except gelatin; opium and lead internally and ice to the abdomen. For distention, same diet and oil of turpentine in doses of 2 to 5 drops in emulsion; passing of rectal tube and enteroclysis with salt solution, allowing two hours for 1 quart and one hour for 1 pint and given three or four times a day. For nephritis, abundance of water and potassium citrate. For diarrhea, gelatin alone or with gruels made very thin; bismuth, opium and lead. Constipation required enemas, simple or high compound, consisting of magnesium sulphate, 1 ounce; glycerin, 2 ounces; turpentine, 2 drams, and water 1 pint, and irrigation of bowels. The routine treatment consisted of cold spongings, lasting from fifteen to thirty minutes, and given every three hours if temperature was 102.5 F. or over, by axilla. In the case of new patients the temperature of the water at first was 85 F., gradually reducing it as the patients became accustomed to it to 75 F. and 65 F. and lower, even to ice water if it was well borne and caused no chill. In children the temperature of the water was on an average about 10 degrees higher than for adults, and no ice water.

Hexamethylenamin was given to adults in doses of 5 grains four times daily, and to children, 2 to 3 grains at same intervals. There were only four deaths in the series, which the authors consider were inevitable from the start; that is, from the date of admission. All the doomed patients were highly toxemic, and had been cared for at home for a greater or less length of time in a very poor and haphazard manner. Two were post-puerperal patients, and in one the stage of invasion began a very few days after termination of labor, and, added to this, was the grief caused by the death of her baby. In the third fatal case a septic thrombosis occurred in the left median basilic vein and right popliteal, causing moist gangrene of both extremities. The fourth and last case occurred in a colored boy, aged 5 years, of tuberculous history, in whom basilar meningitis developed, whether of a typhoid, tuberculous or mixed infection was not determined.

61. **Meatotomy.**—Painful urination after meatotomy and the necessity for subsequent instrumentation to prevent the cut surfaces from growing together, was prevented by the authors by cauterizing the incised area with a saturated solution of nitrate of silver in concentrated carbolic acid.

New York State Journal of Medicine, New York

January, XIII, No. 1, pp. 1-60

63 Public Health Work in Cities. F. E. Fronczak, Buffalo.
64 National Department of Health and National League for Medical Freedom, or Organized Medicine vs. Organized Quackery. W. J. Robinson, New York.
65 Public Health Education Among Women. C. R. Lattin, Buffalo.
66 Public Health and Child. L. Kerr, Brooklyn.
67 Pollution of Harbor Waters of New York, Especially Referring to Bearing on Health. L. R. Williams, New York.
68 Owen Bill. R. E. Connell, Washington, D. C.
69 Milk as Factor in Promotion of Public Health. G. R. Pisek, New York.
70 Advisability of Amending Articles II and III of Public Health Law. W. B. Hainbidge, Ogdensburg.
71 Water Pollution and Typhoid. H. R. Hopkins, Buffalo.
72 Epidemiology of Typhoid. T. Horton, New York.
73 Surgical Treatment of Prolapse of Uterus. C. C. Barrows, New York.
74 Uterine Fibroids Complicating Pregnancy. R. Waldo, New York.
75 Early Diagnosis of Extra-Uterine Pregnancy. R. H. Fowler, Brooklyn.
76 Uterine Fibroids. W. H. Coe, Auburn.
77 Possible Helps in Control of Black and White Plagues. J. Roby, Rochester.

Old Dominion Journal of Medicine and Surgery, Richmond, Va.

January, XVI, No. 1, pp. 1-47

78 Ankylosis of Spine. A. McGlennan, Baltimore.
79 Advantages of Simple Endoscopic Tube. A. G. Brenizer, Charlotte, N. C.
80 Five Patients Operated On Second Time for Extra-Uterine Pregnancy. S. McGuire, Richmond, Va.

Ophthalmic Record, Chicago

January, XXII, No. 1, pp. 1-58

81 Case of Unusual Atrophy of Chorioid. B. Chance, Philadelphia.
82 Dentistry and Optometry; A Parallel. W. H. Crisp, Denver.
83 *Atrophy of Optic Nerve Following Injection of Olive Oil and Lanolin for Removal of Wrinkles. W. A. Fisher, Chicago.
84 Case of Injury in Which Six Pieces of Steel Were Discovered in an Enucleated Eye, Only One Piece Being Found by Roentgen-Ray. F. Allport, Chicago.
85 Glaucoma. J. W. Good, Winnipeg, Manitoba.

83. **Atrophy of Optic Nerve.** The history of Fisher's case is as follows: Equal parts of olive oil and lanolin were injected under the skin for the removal of a wrinkle or frown between the eyes, no irritation occurring after this injection. About seven weeks after the first injection a second one of the same kind was given which produced so great a reaction that the patient was unable to leave the doctor's office until four hours after the injection. The patient says she felt as if the lower eyelid had been closed or pushed up and a great deal of swelling around the point of injection. She first noticed the loss of vision five days after the injection, and from that time the blindness was complete. The swelling at the point of injection persisted about two weeks, but the feeling that the lower lid was being pushed up lasted only several days. The patient says that there was much swelling on the inner side of the unaffected eye, inner canthus feeling like a cord, but there was no swelling on the left side. When she observed the loss of vision of the left eye she also noticed a swelling of the inside of the right eye. The condition of the eyes two months after the second injection was as follows: Right fundus perfectly normal; vision 20/20; fields normal. The left eye presents a picture of optic atrophy. The pupil of the left eye does not contract when the light is thrown into it, but does contract when light is thrown into the right eye. The nerve head is white, the edges are sharply cut and well defined and the arteries are contracted; other than this the ophthalmoscopic

findings are normal. Six months previous to the loss of sight vision was 20/20 in each eye.

Ophthalmology, Seattle, Wash.

January, IX, No. 2, pp. 153-319

86 Foreign Bodies Within Eye or Orbit. W. K. Rogers, Columbus, Ohio.
87 Operative Treatment of Keratokonus. Grunert, Bremen, Germany.
88 Heredity in Relation to Eye. G. F. Libby, Denver.
89 Roentgenography of Foreign Bodies in Eyeball. G. H. Stover, Denver.
90 Colored Glasses for Hunting and as Protection Against Snow and Other Light. F. Schanz, Dresden, Germany.
91 Visual Symptoms of Accessory Sinus Disease. P. Friedenberg, New York.
92 New Antiglaucomatous Operations. L. Dor, Lyons, France.

Philippine Journal of Science, Manila

August, VII, No. 4, pp. 271-422

93 *Etiology of Beriberi. R. P. Strong and B. C. Crowell, Manila, P. I.
94 *Idem. E. B. Vedder, U. S. Army.

93. **Etiology of Beriberi.**—The object of the authors' study was to determine definitely, if possible, whether beriberi, as it occurs in the Philippine Islands, is an infectious disease or whether it is one which has its origin in disturbances in metabolism, brought about by the prolonged use of polished rice as a staple article of diet. The experiments were carried out in Bilibid prison, in which institution the hygienic conditions may be said to be almost ideal. The subjects on which their experiments were performed were entirely isolated, and no case of beriberi had been known to occur among them since their confinement. A number of prisoners, under sentence of death, were selected, and the nature of the proposed experiments carefully explained to them in their own dialect. Twenty-nine of the number volunteered. The volunteers were divided into four groups. The food used was weighed for each meal and cooked outside of the prison in a special kitchen by a special cook, in a clean manner and under very careful supervision. At first it was divided by weight, but it soon became possible to estimate sufficiently accurately the division into equal parts. Each man's food was put into a special dinner pail marked with his number and so served to him. A record was taken at the close of each meal of the amount eaten by each man; it was estimated in fractions of the amount served and expressed in grams. The rice was served hot; it was, of course, always freshly cooked for each meal, as were all the articles of the diet, consisting of bacon, onions, lard, bananas, sugar, bread and starch.

It is evident that among the individuals comprising the experiments beriberi was produced only by means of the diet, and that the disease has, therefore, a true dietetic causation. It is further evident from the experiments that beriberi develops owing to the absence of some substance or substances in the diet necessary for the normal physiologic processes of the body. Without the supply of such substances in the food, beriberi results. Such a substance or such substances are evidently present in red rice and in rice polishings, and also in small amount in the alcoholic extract of rice polishings, and when these articles are added to what would appear to be an otherwise physiologically proper diet, they usually prevent the development of the symptoms of the disease. In some instances, however, even when these substances are constituents of the diet, when the diet is without variation and composed of very few articles and the individual suffers from loss of appetite and the assimilative functions appear to be poor and he loses markedly in weight, symptoms of beriberi may develop in such individuals. However, such symptoms may be dispersed by causing a variation in the diet by the addition of other nutritious substances to it. It is also evident from the experiments that the disease is certainly not an infectious one in the sense in which the term is usually employed. The rigid isolation of the prisoners undergoing the test would seem to exclude the possibility of the introduction of an infectious agent through any other individual or by the introduction of any article. And although the individuals of the groups all mingled freely together, there was no tendency of the disease to spread. It is also noteworthy that the cases of beriberi developed under the most favorable hygienic conditions with exception in regard to diet. It is not probable that the infection could have been introduced with the food, since this was all freshly cooked, and at a temperature at which only a spore-bearing organism would survive. The food was also eaten a very short time after being cooked. Moreover, if the infection had been introduced with the food, the incidence of the disease should have been the same in all of the groups, which it was not. No fermentation of the rice employed occurred either before or after it was cooked, so that it would appear that the action of such bacteria as have been described by Kohlbrügge and Bréaudat could be excluded.

It has been suggested that a diet of white rice predisposes to the disease, since it furnishes a better medium for the development of the specific organism which resides in the intestine of the host, and that the red rice or extract of polishings forms a preventive for the development of such a specific organism. There is no definite evidence of such an hypothesis, and, moreover, the results obtained in the experiment would argue against it, since in two instances, at least, distinct symptoms of beriberi were present in individuals who had received these substances in the diet. It cannot be claimed with reason that the resistance of the individuals having been lowered by weakness and loss of weight, the specific organism residing in the intestine of the individual was able to increase and multiply and produce the disease; for in several instances in which the loss of weight of the individuals was marked and their general condition poor, as was manifested by the occurrence of erosions in and at the angles of the mouth, sore tongue and conjunctivitis, no symptoms of beriberi developed.

Indeed, from the experiments there is no evidence of any nature which suggests that beriberi is an infectious disease, and, on the contrary, the evidence is definite that beriberi in the Philippine Islands is due to the prolonged consumption of a diet which lacks certain substances necessary for the normal physiologic needs of the human body. That the disease encountered was true beriberi was confirmed definitely by the lesions encountered in the pathologic study.

As to the definite chemical nature of the substance or substances in the food whose presence prevents the development of beriberi, the authors hold that further investigations are necessary, but from a practical standpoint as we are cognizant of the etiology of the disease, its cure and prevention is a simple problem. For the prevention and cure of beriberi in man, all that is necessary is that he shall be supplied with a liberal nutritious diet suitable to the physiologic needs of the body. Recent researches have thrown much light on the question of the nature of the protective substance in the diet. Nevertheless, the opinions are not yet in accord in regard to its exact chemical nature, which still appears to be unknown. Although it seems quite definite that a rice containing 0.4 per cent. of phosphorus will prevent the appearance of polyneuritis in fowls, nevertheless, from the authors' experiments, it is evident that beriberi in man may be produced by rice containing 0.37 per cent of phosphorus pentoxid when it forms the staple article of a little varied diet. Therefore, the question arises as to whether the margin of safety is sufficient between such a rice and that containing only 0.4 per cent. of this substance. Since it has been generally admitted that the higher the phosphorus content of rice the less is the liability of that rice to produce beriberi, and since Fraser and Stanton found as an average result of all their examinations that unpolished rice contained 0.54 per cent. of phosphorus pentoxid and Aron found that unpolished rice in the Philippine Islands contains 0.557 per cent. of phosphorus pentoxid and freshly husked rice 0.455 per cent., the authors emphasize that before legislation is enacted it would seem to be advisable to consider carefully the question of the amount of phosphorus pentoxid which a rice should legally be required to contain in order for it to be regarded as an unpolished rice and to be exempt from taxation in the Philippine Islands.

94. **Idem.**—In Vedder's experiments the administration of large amounts of alcohol has failed to produce neuritis in fowls. He found that fowls develop polyneuritis when fed on a diet containing a sufficiency of all the alimentary principles, providing no one of the ingredients of this diet contains the neuritis-preventing substance. The neuritis-preventing sub-

stance is therefore not volatile, but is destroyed by heat. It is not an inorganic salt and is probably not an alkaloid. Since it has been shown that this substance is not a fat, proteid, inorganic salt, or alkaloid, it seems probable that it is an organic base as claimed by Funk.

Vermont Medical Monthly, Burlington

January, XIX, No. 1, pp. 1-26

95 Etiology of Infectious Diseases. J. F. Anderson, Washington, D. C.

FOREIGN

Titles marked with an asterisk (*) are abstracted below. Single case reports and trials of new drugs are usually omitted.

British Medical Journal, London

January 18, I, No. 2716, pp. 101-148

1 *Pericolitis. T. Carwardine.
2 Drainage of Abdomen Under Various Conditions of Inflammation. A. E. Barker.
3 *Appendicostomy in Place of Colostomy for Relief of Obstruction Caused by Irremovable Cancer of Rectum and Colon. W. G. Spencer.
4 Gangrene of Vermiform Appendix and Coil of Small Intestine: Operation: Recovery. J. D. Malcolm.
5 Two Cases of Gangrenous Appendicitis with Unusual Histories. G. S. Hughes.
6 Metabolic Utility of Rectal Feeding. N. Mutch and J. H. Ryffel.
7 Renal Calculus in Childhood. R. Ollerensaw.
8 *Qualitative and Quantitative Effect Observed on Polymorph Neutrophil Leukocytes in Treatment of Tuberculosis by Tuberculin. E. H. Black.
9 Suspension Laryngoscopy. E. D. Davis.
10 Recovery After Taking Eight and Three-Quarter Grains of Corrosive Sublimate. A. L. Fuller.

1. **Pericolitis.**—Pericolitis, according to Carwardine, is a frequent accompaniment of inflammatory affections of the appendix and gall-bladder. Its persistence as bands and adhesions may give rise to symptoms after the successful treatment of the original focus, particularly in appendicitis. In wandering kidney it is now demonstrated that pericolitis may coexist with encysted intraperitoneal collections of fluid. In the surgery of the right loin, Carwardine says, more attention will doubtless be paid to this associated condition by more complete examination of the region at the time of operation; and, by extended observation, the pathology of vague pains and afterpains will be more fully understood.

3. **Appendicostomy in Cancer of Rectum and Colon.** In cases of cancer of the rectum and colon too far advanced for excision, Spencer says, colostomy, in particular left inguinal colostomy, is often an operation in excess of the requirements; and that in such cases appendicostomy can afford sufficient relief, while avoiding the great discomfort and disability provoked by colostomy. There is no sufficient evidence that colostomy checks the progress of the cancer itself and it does not prevent pain from setting in when the pelvic nerves become involved. Left inguinal colostomy is especially indicated for inoperable cancer of the lower part of the rectum: when the disease is situated higher up appendicostomy may be substituted. Even when the colostomy has been performed in a completely successful way, yet the irregular escape of gas and feces, excited by any unusual incident, is the cause of grave discomfort. The patient, if a man, finds himself unable to dispense with the services of a nurse and when the advance is slow the continuous attendance of a nurse becomes very trying.

Spencer has successfully employed appendicostomy, opening just at the funnel-like junction with the cecum as seen when the appendix is drawn out. Into this is inserted a winged-rubber catheter, or a glass cannula with a flange which is fixed by turning in the margins as described in the gastrostomy method known by the names of Kader and Senn. Such a fistula will close spontaneously if the tube be soon left out, say after ten days. If a tube is kept in, a valvular fistula becomes established. If after, say three months, the catheter is then omitted to be regularly passed, the fistula will tend to scab or skin over, but is readily reopened. By attaching rubber tubing and a funnel to the outer end of the catheter fluid may be run in or gas and fecal fluid siphoned off at will, without moving the patient or his dressings. When the distention has been once relieved, an ounce or two of olive oil, shaken up in a pint of soap and water, and run in early in the morning, will induce a motion per rectum in an hour or so, sufficient for the next twenty-four hours. If olive oil is not sufficient, a dram or more of castor oil or magnesium sulphate may be added, but excess excites repeated motions and has to be avoided. Scybala are got rid of by increasing the amount of soap and water run in. When the motions are thus regulated there is but rarely any escape of gas or fecal fluid by the fistula and the patient can get about with a pad and bandage over the fistula, without fear of having to change it or of any fecal odor being perceptible. Should he find later on, as in the few, that the bowels can be regulated by aperients and the catheter is no longer passed, the fistula will scab over and then no dressing at all is required.

The cases in which Spencer has performed appendicostomy divide themselves into three classes: 1. Patients with acute intestinal obstruction who survived only a few days. 2. Patients who lived for months while the disease pursued its course to the end. 3. Patients who returned to active life. During this period he has performed left inguinal colostomy in two cases for inoperable cancer involving the lower third of the rectum and in two other cases certainly suffering from inoperable cancer he advised that there were no sufficient indications for any operation at that time.

8. **Effect of Tuberculin on Neutrophil Polymorphs.**—In certain cases of tuberculous disease, Black says, tuberculin treatment increases both the quality and quantity of the leukocytes. Further, since it has been shown that the more mature polymorph neutrophils are of greater phagocytic activity and also that the relative proportion of these is increased by tuberculin treatment, as is likewise the total number of leukocytes per cubic millimeter, the total result must be to increase the resistance of the whole body organism against the infection.

Dublin Journal of Medical Science

January, III, No. 493, pp. 1-80

11 Roentgen Rays in Medical Diagnosis. W. G. Harvey.
12 *Interesting Complications of an Hysterectomy. A. Smith.
13 Carbuncles Cured by Colloid Mercury. G. A. Stephens.

12. **Complications of Hysterectomy.**—Four months ago Smith saw a patient, whose symptoms, owing to age and unpleasant vaginal discharges, suggested malignancy. Under ether he was able to satisfy himself that the cause of her trouble was multiple fibromata of the uterus without any evidence of malignancy. A subtotal hysterectomy was successfully performed. The operation over, Smith proceeded to make the peritoneal toilet and felt his finger pricked by some sharp instrument. On investigating the cause he found the point of a needle sticking through the wall of a small intestine. To prevent the possibility of leakage a purse-string suture of fine catgut was inserted so as to encircle the needle opening into the intestine, the end being tightened together as the needle was being withdrawn. He searched further, and found more needles, some lying in the omentum away from any coil of intestine. Others were found projecting through the wall of the intestine, but covered by a smooth covering as if a diverticulum had been made from the intestinal wall. Others had perforated the intestine, but a protective omental adhesion surrounded the needle. The appendix which dipped into the pelvis almost to the floor, was hypertrophied and markedly congested. On palpation a hard body could be felt. It was removed. A skiagram of the appendix showed two needles and one pin lying parallel to each other, the heads being down. All the needles, ten in number, were tarnished by H_2S. They were extremely brittle and of the same size.

Nothing untoward happened until the end of the third week. Preparations were being made for the patient to get up. On the morning of the appointed day, while stooling, the patient was seized by an acute pain referred to the anus. On making examination a needle was found stuck in the mucous membrane and was removed. Some days following this the patient complained of abdominal pains, aggravated by pressure over both iliac regions. Palliative measures gave little or no relief. The possibility of more needles being present was considered, and skiagrams were made. Three needles were located, one on the right side evidently broken in two, another on the left side at pelvic brim, and a third somewhere about the os pubis. Smith reopened the abdomen. It was felt that although the presence of needles was demonstrated, their precise position, whether in the intestine or outside it, could not be determined. Dipping his fingers into the left iliac fossa Smith found at once a needle perforating the sigmoid flexure of the colon, but well protected by omental adhesions. A broken needle, covered by its fibrous envelope, was removed from the small intestine on the right side. The third needle, that is, the one indicated lying close to the os pubis, was found in the omentum. Smith believes that this is the first recorded instance of three sharp-pointed metallic foreign bodies being found in the appendix.

Journal of Obstetrics and Gynecology of British Empire, London

December, XXII, No. 6, pp. 317-380

14 Some Twentieth Century Problems in Relation to Marriage and Childbirth. J. H. Ferguson.
15 Female Sterility as Salient Feature of General Tuberculosis of Peritoneum. E. H. Tweedy.
16 Central Placenta Praevia Successfully Treated by Cesarean Section. W. D. Macfarlane.
17 Puerperal Pelvic Thrombosis: Exploratory Laparotomy: Ligature of Left Common Iliac Vein. A. J. Wallace.
18 Second Case of Pernicious Vomiting of Pregnancy. R. Dunsmuir.
19 Spontaneous Rupture of Uterus and Pulmonary Embolism. A. Stookes.
20 Large Mass of Uterine Mucous Polypi Associated with Myomata. C. H. Whiteford.

Lancet, London

January 18, I, No. 4664, pp. 147-214

21 Etiology of Endemic Goiter. (To be continued.) (A Review.) R. McCarrison.
22 Myxedema. W. H. White.
23 Methods of Research Available in Study of Medical Problems. M. Greenwood.
24 Treatment of Pelvic Inflammation by Auto-Inoculation H. Chapple.
25 *Acute Intestinal Obstruction Due to Volvulus of Cecum. P. R. Wrigley and M. Moritz.
26 Ocular Myoclonus. E. Thomson.
27 Tetanus Treated by Intravenous Injections of Paraldehyd and Copious Injections of Normal Saline Resulting in Cure. O. Atkey.
28 Non-Syphilitic Arteritis Obliterans ("Thrombo-Angeitis" of Leo Buerger), with Intermittent Claudication of Left Lower Extremity. F. P. Weber.
29 Gapes (Syngamus) in Man, an Occasional Helminthic Infection. R. T. Leiper.

25. **Acute Intestinal Obstruction.**—The patient, a female, aged 29 years, had been in good health, except for three attacks of appendicitis, the last being five weeks before the present illness, when she was operated on and her appendix removed; the wound was sutured without drainage. From this operation she made an uneventful recovery and left the hospital in two weeks' time. Three weeks later she was seized with acute abdominal pain in the region of the umbilicus, followed by vomiting and profuse diarrhea. She vomited greenish fluid and was purged every few minutes, but had not passed flatus for some hours. Twelve hours after the onset of the attack she was admitted to the hospital. On admission she looked extremely ill, her features were pinched and her tongue was dry and furred. Her temperature was 100 F. and her pulse-rate 114. On inspecting the abdomen it was found to move freely with respiration and a large mass of the size of a cocoanut was seen in the right iliac and umbilical regions and in this situation waves of peristalsis occasionally occurred. Palpation of the abdomen induced vomiting, which, though not fecal, was suggestive. There was a little involuntary rigidity and extreme tenderness of the abdominal wall on palpating the swelling, which was tympanitic on percussion. Rectal examination revealed great tenderness on the right side of Douglas' pouch. A diagnosis of intestinal obstruction was made and immediate operation proceeded with. The abdomen was opened. Numerous distended coils of small intestine presented, and there were many adhesions between these, the omentum and the peritoneum in the vicinity of the old scar. The adhesions were separated and ligatured. Further exploration with the hand in the abdomen revealed a large, tense swelling in the middle line of the abdomen; by a little manipulation the swelling was delivered on the surface of the abdomen and was seen to consist of an enormously distended cecum and a considerable part of the ascending colon rotated anticlockwise around its long axis one complete twist and then acutely flexed, so that the cecum was lying transversely in the abdomen with the fundus of the cecum just beyond the middle line above the brim of the pelvis. The cecal wall was very thin and presented several gangrenous patches, making it useless to attempt to unravel the volvulus, so, after packing carefully round with gauze swabs, the whole of the cecum and part of the ascending colon, with the terminal portion of ileum, were resected between clamps, the mesentery ligatured and the diseased bowel removed; the free ends of the ileum and the ascending colon were then crushed and closed by a stout ligature of linen thread and each end inverted by a purse-string suture of linen thread. A lateral anastomosis was then made between the terminal portion of the ileum and the ascending colon by continuous thread sutures. The patient made an uneventful recovery, the bowels being moved naturally on the sixth day after operation. The wound healed by first intention and she left the hospital on the twenty-first day. The resected portion of bowel measured 18 inches long by 12 inches in width. It was dark grey in color, and showed many small patches of gangrene which appeared on the point of perforating. The patient has been seen some months later and was in good health.

Quarterly Journal of Medicine, London

January, VI, No. 22, pp. 125-292

30 *Case of Dyspituitarism. G. von Bonin.
31 Fragility of Red Blood-Corpuscles. G. G. Butler.
32 *Iron in Blood. P. H. C. Fowell.
33 *Premature Ventricular Beats in Heart-Block. A. E. Naish.
34 *Auricular and Nodal (?) Extrasystoles. E. E. Laslett.
35 *Exceptional Types of Slow Heart Action. T. Lewis.
36 Case in Which High Speed of Auricles Did Not Produce Tachycardia. W. E. Hume.
37 *Congenital Family Steatorrhea. A. E. Garrod and W. H. Hurtley.
38 Artificial Pneumothorax. E. Rist.

30. **Case of Dyspituitarism.**—The principal points of importance which emerge from a collocation of the published materials and some of which seem to deserve special attention in the light of the foregoing discussion, are briefly summarized by von Bonin as follows: There are hardly any cases of pure hypopituitarism, but both types are generally mixed. Sexual infantilism and adiposity are symptoms of hypopituitarism and are generally, if not always, found associated with acromegaly, i. e., hyperpituitarism. This would be accounted for by Cushing's theory that one secretion enters the blood directly, while the way for the other to the third ventricle is blocked by the pressure from the tumor on the infundibulum. The changes in the histologic appearance of the thyroid in cases of acromegaly are probably due to the same physiologic fact: a lower demand for the thyroid products on the part of the body-cells. The changes in the thyroid and in the testicles are due to a primary state of hypopituitarism. The growth-changes in acromegaly are not confined to particular parts of the body, but occur in all parts of the skeleton. Those growth-changes are, according to Keith, explained by the assumption that the secretion of the pituitary body acts as a hormone, which renders the osteoblasts more sensitive to mechanical and other stimuli.

32. **Iron in Blood.**—The method used by Fowell in his research is a modification of Jolles'. It was first described by Autenrieth in 1910. In the course of this work 125 estimations have been made. He found that in all individuals there is an excess of iron in the blood over that which is combined with hemoglobin. In normal persons such excess bears a varying ratio to the total amount of iron, but that such variation is, within definite limits, with an average of 4.2 to 1. In simple secondary anemias the same holds good, but the ratio is on the whole a little higher: average, 3.7 to 1. In pernicious anemia the ratio is markedly elevated, approaching 2 to 1. In cirrhosis of the liver there is no excess of iron in the blood and the ratio lies between the normal limits.

33. **Premature Ventricular Beats in Heart-Block.**—A case is presented by Naish showing the following phenomena: Complete and prolonged dissociation alternating with periods of 2:1 rhythm and finally leading through 2:1 into 1:1 rhythm. Ventricular extrasystoles appear usually after exercise. When the dissociation was complete, the period of extrasystoles was

followed by slowing of the ventricular rhythm, the auricular rhythm remaining unaffected: on the other hand when 1:1 rhythm was present the rhythm of the whole heart became slow and irregular after a bigeminal period. The pauses after the premature contractions were often considerably shorter than the intervals between the rhythmic ventricular beats; the shortening is referred to the momentarily depressed state of conduction. When partial dissociation was present the onset of extrasystoles sometimes led to a higher grade of dissociation. Aberration of the supraventricular impulses was present.

34. **Auricular and Nodal (?) Extrasystoles.**—An instance of coupled rhythm is described by Laslett in which the second beat of each couple is due to an auricular extrasystole. This has persisted for two years. In another patient, suffering from anemia, the regular occurrence of two successive auricular extrasystoles after every second normal beat was observed after exertion. In a third patient, on recovery from an attack of auricular fibrillation, very frequent auricular extrasystoles, both single and multiple, were observed. The relation of auricular extrasystoles to paroxysmal tachycardia and auricular fibrillation is commented on. In the same patient a coupled rhythm was frequently present in which the second beat of the introductory couples was always, and that of the terminal couples occasionally, due to an auricular extrasystole, while the second beat of the intermediate couples was either a ventricular or in some instances probably a nodal extrasystole. Both the auricular and nodal extrasystoles were sometimes followed by a pause which was shorter than the normal pulse period. The nature of the pause after an auricular extrasystole is discussed and it is suggested that occasionally an auricular or nodal extrasystole may be interpolated with simultaneous depression of the sinus rhythm.

35. **Exceptional Types of Slow Heart Action.**—Three cases of slow heart action of unusual form are described by Lewis. Case 1. In a man who presented a continuous slow action of the whole heart, irregularity of the ventricle was observed. This was due in part to the building of homogenetic impulses at two centers and at almost equal rates. The centers of impulse formation lay at the normal pacemaker and in the region of the a-v node. Case 2. Curves are described from a young subject who displayed slow and at times irregular heart action. The disorder, as illustrated by polygraphic and electrocardiographic curves, was of a hitherto undescribed form. No trace of auricular contraction, either coordinate or incoordinate, could be discovered in any record, venous or electrocardiographic. Case 3. A case in which the Adams-Stokes' symptom-complex was present is described. The pulse-rate was from 26 to 33 beats per minute. The ventricle beat in grouped fashion: the first beat of each group was of normal origin; the second beat of each group was premature and arose in the ventricle, it was also retrograde; the third beat, when it occurred, was premature and arose in the ventricle, but was not retrograde, and the pulse was consequently regular.

37. **Congenital Family Steatorrhea.**—A boy, aged 8 years, has been subject from infancy to true steatorrhea, i. e., the passage from the bowel of liquid fat, which solidifies on cooling. He is the second of a family of five children of parents who are first cousins. The fifth child, also a boy, who died at the age of 11 months, was similarly affected from birth. The boy exhibits no other morbid symptoms, is well grown and nourished, and in no way infantile. There are no signs of pancreatic disease, unless the steatorrhea be such. He has never been jaundiced and cholalic acid can be detected in his feces. He has no diarrhea, nor other manifestations of disease of the intestines and on a diet containing very little fat his stools assume a normal appearance and consistence. Analyses of the stools show that of the fat which he takes by the mouth he excretes some 25 per cent. in his stools and this percentage of loss is maintained when the fat in his diet is doubled. In other words, the percentage wasted is independent of the amount taken. On a constant mixed diet, containing 177 gm. of fat, the total fat in the dried feces as neutral fat in the stools exceeds 60 per cent. of the total fat; but when the fat in the diet is reduced to 92 gm., the ratio of split to unsplit fat in the feces is not excessive. Improved saponification is not followed by improved absorption and it is evident that the impairment of absorption is not dependent on deficient splitting of fats. Neither drugs nor enzymes brought about any improvement of utilization of fats. Some of these preparations increased the fat-splitting, but the pancreas preparations, although they had this effect, appeared to aggravate the defect of absorption. The boy is presumably the subject of a rare inborn error of fat absorption, probably a Mendelian recessive characteristic, but their investigations have not enabled the authors to determine where this error lies.

Archives des Maladies de l'App. Digestif, Paris

November, VI, No. 11, pp. 601-660

39 Appendicitis of Blood-Borne Origin. (Les appendicites hématogènes et l'élimination microbienne par l'appendice.) C. Richet, Jr.
40 Intestinal Disturbance from Sexual Organs. (Perturbations de l'équilibre Intestinal sous l'action des excitations génésiques chez la femme.) J. J. Matignon.
41 Metastasis in Spine and Meninges, Simulating Cerebral Syphilis, in Course of Previously Latent Gastric Cancer. Mazel and Devic.

Archives de Médecine des Enfants, Paris

January, XVI, No. 1, pp. 1-80

42 Alimentary Fever. (Syndrome de Finkelstein.) F. Figueira and F. Lopes.
43 Cardiovascular Disease in Children. (Etude des maladies de l'appareil circulatoire chez l'enfant.) S. Moreira.
44 Prevalence of Helminths in Children at Rio de Janeiro. J. G. Faria.
45 Resistance of Children to Fatigue. Lesage and Collin.
46 Curable Meningitis in Children. (Etats méningés curables chez les enfants.) J. Comby.

Archives Générales de Chirurgie, Paris

December, VI, No. 12, pp. 1389-1516

47 Nervous Joint Disease Without Signs of Tabes. P. Mauclaire and L. Girard.
48 Technics for Formation of New Vagina. R. Grégoire.
49 Aneurysm of the Carotids; Two Cases. G. Liébault and D. Clavaud.

Archives Mensuelles d'Obstétrique et de Gynécologie, Paris

December, I, No. 12, pp. 481-615

50 Operative Treatment of Prolapse of the Uterus. (Traitement des prolapsus génitaux par la bascule antérieure de l'utérus avec suture des ligaments ronds aux releveurs de l'anus.) J. Abadie.
51 Hypophysis Extract in Obstetrics. (Faits pour servir à l'étude de l'action ocytocique de l'extrait du lobe postérieur de l'hypophyse.) A. Siguret.
52 General Principles and Results of Operative Treatment of Puerperal Phlebitis. J. Vanverts and H. Paucot.

Journal de Chirurgie, Paris

October, IX, No. 4, pp. 429-540

53 Anatomy of the Carotid Region. (La voie carotidienne.) R. Picqué.

November, No. 5, pp. 541-684

54 Grafting of Arteries. (Technique des greffes vasculaires appliquées au retablissement de la continuité des artères.) P. Moure.

December, No. 6, pp. 685-896

55 Advantages of Indirect Fixation of Uterus by Operation on Ligaments. (Ligamentopexie par le procédé de Doléris.) A. Gosset.

Journal de Medécine de Bordeaux

November 17, XLII, No. 46, pp. 729-744

56 *Tincture of Iodin in Treatment of Typhoid Fever. X. Arnozan and J. Carles.

December 8, No. 49, pp. 781-800

57 Tour of Inspection and Study Through the Hospitals of Paris. X. Arnozan. Commenced in No. 47.

December 15, No. 50, pp. 801-816

58 Diagnosis from Infant's Cry. R. St.-Philippe.

December 22, No. 51, pp. 817-832

59 Medication by the Rectum. (Le petit lavement médicamenteux.) A. Guérin.

56. **Iodin in Typhoid.**—Arnozan and Carles have given tincture of iodin internally in forty-four cases of typhoid fever, and declare here that the patients recovered more rapidly and the mortality was less than under any other method of treatment. Their patients included twenty women, two little girls and four boys. Four of the patients died, one from errors in diet, one from ileus from paralysis, one from absolute intolerance on the part of the stomach, from the onset of the disease, and one from early perforation of the bowel. Phlebitis was

noted in one patient, a periosteal abscess in two and three patients had intestinal hemorrhage. They gave 15 or 25 drops of tincture of iodin a day in wine or milk. Raynaud reported in 1904 90 per cent. recoveries in numerous cases; his formula is 20 or 25 drops of tincture of iodin with 0.01 gm. potassium iodid in 150 gm. water. All to be taken in twenty-four hours. Others have reported favorable results with it.

Journal d'Urologie Méd. et Chir., Paris

December, II, No 6, pp. 789-936

60 The Pulse-Kidney Index and the Urea Index. (Coefficient sphygmo-rénal et coefficient uréo-sécrétoire.) A. Martinet.
61 Movable Kidney with or Simulating Chronic Appendicitis. (Rein mobile et Appendicite.) V. Hourtoule.
62 Ileus from Cystic Kidney. (Occlusion intestinale aigue par un rein polykystique.) J. W. van Bisselick.
63 Mechanism of Chronic Retention with Enlargement of Prostate. G. Li Virghi.
64 Flaring Up of Old Urethritis During Influenza; Autovaccine Therapy; Recovery. E. Roucayrol and R.-Badet.
65 Calculus Formed in Bladder Around Thermometer. (Corps étranger de la vessie.) H. Brin.
66 Beware of Injuring the Urethral Epithelium and Testicles of Our Patients. (Respectons l'épithelium cylindrique de l'urètre de nos malades et leurs testicules.) J. Janet.
67 Nascent Iodin Fumes in Treatment of Cystitis. G. Farnarier.

Lyon Chirurgical, Lyons

January, IX, No. 1, pp. 1-96

68 *Tuberculous Cystitis in the Elderly. V. Rochet.
69 Operative Treatment of Impending Gangrene. (Traitement des oblitérations vasculaires.) E. Villard and E. Perrin.
70 *Operative Treatment of Acute Nephritis. (Décapsulation rénale dans les néphrites aigues toxiques.) G. Tisserand.
71 Relations Between the Ureter and the Superior Inlet. (Note sur les rapports de l'uretère au détroit supérieur.) A. Chalier and J. Murard.

68. **Tuberculous Cystitis in the Elderly.**—Rochet reports two cases of tuberculous cystitis which had long been erroneously diagnosed as ordinary "painful cystitis in a man over 60 with some enlargement of the prostate." In one case a primary lesion in the kidney explained the trouble, but the kidney lesion had never caused the least disturbance, all the symptoms pointing exclusively to the bladder. A possible tuberculous origin for the cystitis should be suspected in the elderly when the symptoms are not accompanied by hypertrophy of the prostate, no signs of enlargement being evident through the rectum or bladder. Also when the cystitis is extremely painful, with pollakiuria, smarting, milky and occasionally blood-stained urine, and the cystitis is not ameliorated by the usual measures for cystitis from prostate enlargement. Also when the capacity of the bladder is unusually small and there is no residual urine between the exacerbations of the cystitis.

70. **Decapsulation of the Kidney in Acute Nephritis from Poisoning.**—Tisserand reports two cases of acute nephritis due to mercury poisoning with suicidal intent. Both patients succumbed, but the prompt return of urination after the decapsulation strikingly demonstrated the benefit from the decapsulation. It was done on one side only and the anuria was broken up as effectually as if the operation had been bilateral and more extensive. Decapsulation on one side is a very simple operation, he says, and it should be done as a routine procedure and without delay in every case of nephritis from poisoning as soon as anuria is installed

Lyon Médical, Lyons

December 8, XLIV, No. 49, pp. 949-996

72 Technic for Enucleation of the Eye. Genet and Beissy.

December 15, No. 50, pp. 997-1060

73 Technic for Roentgenoscopy of the Kidneys. (La radioscopie rénale. Ses avantages.) T. Nogier.
74 Composition of the Cerebrospinal Fluid. (Le liquide cephalorachidien.) J. Froment.

December 22, No. 51, pp. 1061-1116

75 *Roentgenography of Kidney and Ureter Stones. T Nogier and J. Reynard.

75. **Pyelography in Calculus of the Kidney and Ureter.**—Nogier and Reynard describe two cases of calculus, one in the kidney and one in the ureter, the presence and location of which were determined by pyelography. An opaque sound is introduced through the ureter into the pelvis of the kidney and an *x*-ray picture taken. Then collargol is injected through the sound until pain is felt in the kidney region, and another picture is then taken. The collargol outlines the form of the pelvis and calices. The exact location of the calculus is shown and, if it is entirely surrounded by collargol, it is evidently moveable. The operative procedure to be followed depends on the size and location of the calculus.

Presse Médicale, Paris

January 4, XXI, No. 2, pp. 9-20

76 Modern Treatment of Ozena. G. Mahu.
77 *Resection of Varicose Internal Saphenous Vein. (Traitement chirurgical des varices des jambes.) G. E. Vaquié.

January 8, No. 3, pp. 21-28

78 Colloidal Silver in Treatment of Children. A. Netter.
79 The Normal and Pathologic Physiology of the Peritoneum. A. Lippens.

77. **Treatment of Varices.**—Vaquié introduces into the internal saphenous vein at the ankle, after severing the vein between two ligatures, a fine steel rod with an olive crossbar button, about as large as a grain of rice at the tip. The rod is nearly half a yard long (40 cm.), and it is worked up into the vein until the olive can be palpated or seen in the vein on a level with the internal condyle of the femur. The skin is then incised and a ligature is thrown around the vein just below the olive, thus imprisoning the olive. Another ligature is thrown around the vein a short way above and the vein is cut between the two ligatures. The rod is then withdrawn from below, the vein fastened to it above coming down with it, turning outside in like the finger of a glove, and the whole vein thus coming away through the lower small incision. The entire vein is thus removed, with some of its collaterals, and the only incisions are the two minute ones in the ankle and above the knee. Vaquié has been applying this technic for four years and with constant satisfaction. No hematoma or other complication has ever developed. He massages the region after removal of the vein, thus expelling any blood by the two openings. The patient stays in bed two days, the leg raised on a cushion a little higher than the rest of the body. The same technic can be applied to the thigh. He generally operates under spinal anesthesia.

Revue de Gynécologie, Paris

XIX, No. 3, pp. 193-288

80 Technic for Hysterectomy. (Indications et résultats de l'hystérectomie par décollation antérieure.) L. Bazy and E. Chambard.
81 Mesenteric Cysts. (Kystes du mésentère et spécialement kystes chyleux.) Proust and R. Monod.

Revue de Médecine, Paris

December, XXXII, No 12, pp. 945-1036

82 Peripheral Facial Paralysis. H. and A. Nimier.
83 *Tuberculous Nature of Ascites in Cirrhosis, Particularly Laennec's. G. Roque and V. Cordier. Commenced in No. 10.
84 Protracted Malta Fever. (Cas de mélitococcie prolongée observé dans la région lyonnaise.) J. Courmont, P. Savy and P. Mazel.
85 Pathologic Heredity. J. Cecikas.

83. **The Tuberculous Nature of the Fluid in Cirrhosis.**—Roque and Cordier report in detail the case histories and laboratory examinations in twenty cases of cirrhosis. They find that in all cases of Laennec's cirrhosis, the ascitic fluid is of tuberculous character and origin and causes tuberculosis in animal inoculation. They maintain that the ascitic fluid may be tuberculous even though the cirrhosis itself is not caused by tuberculosis, but they conclude that in the majority of cases the origin of the sclerosis is a toxic infection, generally from tuberculosis, and that alcohol simply favors its development. The cirrhosis is not found in non-alcoholics, neither is it found in alcoholics if there is not preceding injury by bacteria or their toxins.

Revue Médicale de la Suisse Romande, Geneva

November, XXXII, No. 11, pp. 717-796

86 Etiologic Relations Between Variola and Vaccinia. H. Carrière and E. Tomarkin.
87 Fractures of Lower End of the Tibia in Children. Petroff
88 General Paralysis in Children. F. Naville.
89 Generalized Sporotrichosis with Multiple Nodules Eleventh Case Reported in Switzerland. C. Du Bois.

Semaine Médicale, Paris

January 8, XXXIII, No. 2, pp. 13-24

90 Syphilitic Cerebellar Hemiplegia. (Hémisyndrome cérébelleux d'origine syphilitique.) P. Marie and C. Foix.

Beiträge zur klinischen Chirurgie, Tübingen

November, LXXXII, No. 1, pp. 1-289

91 *Biological Test in Surgical Tuberculosis. (Diagnose chirurgischer Tuberkulosen aus den pathologischen Ausscheidungen mit Angabe eines neuen Verfahrens im Tierversuch.) R. Hagemann.
92 Conservative Surgery of the Testicles. (Zur Bewertung der konservativen Hodenchirurgie.) J. E. Schmidt.
93 Testicle in Perineum. (Ectopia testis perinealis.) W. Gundermann.
94 Technic for Amputation for Gangrene. Molineus.
95 Extrachorial Gestation. (Extrachoriale Fruchtentwicklung und ihre Bedeutung für die Entstehung kongenitaler Deformitäten.) Linzenmeier and Brandes.
96 Omentum for Plastic Operations in Abdomen. (Wert der freien Netztransplantation im Dienste der Bauchchirurgie nach den Erfahrungen des Obuchow-Krankenhauses.) E. Hesse.
97 Suture of Vessels: Sixty Cases. (Klinische Anwendung der Gefässnaht.) E. Hesse.
98 Stasis Hyperemia in Treatment of Infected Injuries of the Knee. S. Ponomareff.
99 Osteoplastic Operation for Pseudoarthrosis. W. Kauert.
100 Cancer of the Appendix. (Schleimhautnaevi und Primäre Carcinome des Wurmfortsatzes.) G. Luce.
101 Influence of Internal Secretions on Dentition. P. Kranz.
102 Alimentary and Epinephrin Glycosuria in Exophthalmic Goiter and Subsidence After Resection of Thyroid. F. Schulze.
103 Sugar Content in Blood in Exophthalmic Goiter. (Blutzuckergehalt bei Morbus Basedowii und thyreogene Hyperglykämie.) M. Flesch.
104 The Viscosity of the Blood in Exophthalmic Goiter. W. Kaess.
105 Displacement of Trachea by Enlarged Thymus. A. Schubert.
106 Dangers of Nephrotomy. M. Zondek.

91. **Diagnosis of Surgical Tuberculosis.**—Hagemann has found that tuberculous guinea-pigs react with a peculiar skin phenomenon to the intracutaneous injection of human tuberculous material. His experiences demonstrate that the specific toxins in the pathologic products of tuberculous patients induce a specific antibody reaction. The reaction is thus biologic and specific for tuberculosis. The positive response demonstrates the tuberculous nature of the injected material, but a negative response is less instructive. He states that by this means of intracutaneous injection of the products of tuberculous foci, it is possible to make a confident diagnosis even when it is impossible to detect tubercle bacilli or to induce tuberculosis in an inoculated animal by any other means. The most instructive findings were with serous effusions free from tubercle bacilli. Another advantage of the method over all others is the short time required; the positive reaction is evident in twenty-four hours and in forty-eight at latest. Intracutaneous inoculation with tuberculin proved a reliable means of determining whether the animal was already tuberculous or not. To determine the tuberculous nature of the clinical products, he injects the suspected material by the intracutaneous technic in already highly tuberculous guinea-pigs. The amount injected was about 0.1 c.c., generally into the peritoneum; he always inoculated at the same time a healthy guinea-pig, and a second by some other technic. Guinea-pigs inoculated with 1/10 mg. tubercle bacilli become extremely susceptible by the end of the second week, and give a positive response to a dose of 0.000002 gm. tuberculin. They generally die in six or eight weeks. He thus tested the clinical tuberculous products in forty-eight cases and the response confirmed his assumptions in nearly every case; in two instances the reaction was not obtained because the animals proved not to be sensitive. In four cases this intracutaneous method gave a positive reaction when all others were negative, and the course of the cases confirmed the reliability of the specific reaction. It consists in a distinct swelling of the skin, with a bluish red center, this surrounded by a porcelain white ring and outside of this a zone of inflammation. (*Deutliche Schwellung der Haut mit einem blauroten Zentrum, das von einem porzellanweissen Ring und einer entzündlichen Zone umgeben ist.*) It is possible that this same technic might be applied to the diagnosis of other diseases, cancer, etc., especially those with unknown agents. The findings in the various cases are tabulated for comparison and the method commended.

Berliner klinische Wochenschrift

January 6, L, No. 1, pp. 1-48

107 *The Principles of Drug Giving. (Grundlagen der Arzneibehandlung.) A. Heffter.
108 *Treatment of Intestinal Disease During Last Fifty Years. (Therapie der Darmkrankheiten.) C. A. Ewald.
109 Tumor from Fat Necrosis. (Ueber circumscripte Tumorbildung durch abdominale Fettnekrose und subcutane Fettspaltung.) H. Küttner.
110 *Treatment of Uncontrollable Vomiting in Infants. (Therapie sogenannter unstillbarer Blutungen im Säuglingsalter.) K. Blühdorn.
111 Variability of Pathogenic Microorganisms. G. Bernhardt and O. Ornstein.
112 Suffocation Hemorrhages. (Zur Lehre von den Erstickungsblutungen.) H. Marx.

107. **General Principles of Therapeutics.**—The *Wochenschrift* enters on the second half century of its existence with an article by Heffter, chief of the physiologic-pharmacologic department of the national board of health. He quotes from the founder of the *Wochenschrift*, L. Posner, 1866, "We fill up the space between the diagnosis and the necropsy with Mistura gummosa," and then Heffter reviews the progress of therapeutics during the last fifty years. He says of the efforts to find a specific drug which will destroy protozoa without injury to the patient's tissue cells, that the favorable results obtained on animals have not been reproduced in the clinic. Salvarsan, for instance, is not able to annihilate the spirochetes in man as effectually as it does in the rabbit, so that for the present mercury has by no means been crowded out of the place it has occupied for centuries as the specific for syphilis. Organotherapy has attained practical importance only in respect to the thyroid. All the other organ preparations are based on defective premises and are uncertain in their effects. In most of these preparations, he adds, it is a question of indiscriminating quackery. Pharmacologic topography is proving constantly a more and more complex study; for example, we have learned that caffein while it contracts the blood-vessels innervated by the splanchnic nerve, yet has a directly opposite action on the vessels in the brain and kidneys and on the coronary arteries, dilating them. The main point to bear in mind is that drugs influence an organ by enhancing or reducing its physiologic functioning. A diseased organ is liable to respond more readily to a drug than a sound organ, and the question of individual dosage is the most vital one under all conditions. When a drug fails to display the desired action it is often wise to reduce, rather than to increase, the dose. This is especially advised with epinephrin, atropin and digitalis.

108. **Fifty Years' Progress in Treatment of Intestinal Disease.** Ewald says in concluding his article, referring to hormonal, that with this, as with so many of the new proprietaries, as soon as they are applied in the clinic on an extensive scale they lose their haloes. If they were merely harmless substances, aside from the waste of money, the matter would not be so bad. But when health and life are sacrificed on the altar of the new remedy, the question arises whether the manufacturing of drugs ought not to be surrounded with greater guarantees. When suddenly a number of cases of serious injury develop and even fatalities occur, there is a possibility of some carelessness in the manufacture of the remedy. Their own interests would naturally lead the manufacturers to be careful in this respect, but is this guarantee enough? Serums are standardized, he remarks, and what is necessary for serums should be exacted for medicines. He says of physical measures in treatment of intestinal disease that time has emphasized the importance of trained skill in applying them. He regards glycerin, oil or paraffin enemas as material progress in treatment of intestinal disease; the paraffin has the advantage of greater convenience and cleanliness. They prove effectual sometimes when other injections fail or have to be given in such amounts that they distend and irritate the bowels. The small amounts of fat acids that form in the oil enemas are liable to have a favorable influence on peristalsis. Great progress has been realized of later years, he adds, in the cooperation of internists and surgeons in the borderland affections. He congratulates internal medicine on its wisdom in throwing off the petty fear of being crowded out of its rights by surgery, but warns surgery not to go to the other extreme and keep in its hands too long and treat "internally" the patients who after the operation need internist care. Another great progress has been the multiplication of sanatoriums where courses of treatment can be given systematically after individual study of the case. This of course implies specialism, but he does not think it is necessary to specialize on a single organ or part of an organ "as in America."

110. **Serotherapy of Uncontrollable Hemorrhages in Infants.** Blühdorn has only three cases to report, but the results of injection of diphtheria antitoxin—as the most convenient form of serotherapy—were so remarkably favorable that he does not wait for further experience to commend it for general adoption. One infant had melena neonatorum, another Henoch's abdominal purpura, and the third hemorrhage from the umbilicus with sepsis and pernicious jaundice. The condition in the latter case was particularly grave: this syndrome is generally regarded as hopeless. He supplemented the serotherapy with a 5 per cent. solution of calcium acetate, giving up to 3 or 6 gm. of the acetate in twenty-four hours. His formula was: Calc. acet., 10; Liq. ammonii anisati, 2; Gummi arab., 1; Saccharin q. s. and water to 200 parts. With hemorrhage the drug has to act rapidly and consequently the dosage must be high; it is not kept up long enough to do harm.

Correspondenz-Blatt für Schweizer Aerzte, Basel

January 11, XLIII, No 2, pp. 33-64

113 Roentgenoscopy in Internal Medicine. R. Staehelin.

Deutsches Archiv für klinische Medizin, Leipsic

CIX, Nos. 1-2, pp 1-208. Last indexed December 7, p. 2101

114 The Blood in Lymphatic Leukemia. (Herkunft der sog. "Kern"- r. "Zellschollen" bei lymphatischer Leukämie und die Natur der eosinophilen Zellen.) A. Spuler and A. Schittenhelm
115 Value of Puncture of the Bone Marrow in Diagnosis. (Zur diagnostischen Knochenmarkspunktion.) A. Spuler and A. Schittenhelm.
116 Experimental Study of Influence on Red Corpuscles of Venesection and Subperitoneal Injections of Blood. (Einfluss der Blutentziehungen und subperitonealen Blutinjektionen auf die Zahl und Resistenz der roten Blutkörperchen.) K. Oczesalski and S. Sterling.
117 Carbohydrate Metabolism in Anemia. (Beziehungen anämischer Zustände zum Kohlehydratstoffwechsel.) S Isaac and E. Handrick.
118 Relations Between the Organism and Tubercle Bacilli. (Morphologische Beiträge zu den Beziehungen zwischen Organismus und Tuberkuloseerreger.) W Knoll.
119 Improved Technic for Study of the Heart. (Kombinierte röntgenkinematographische und elektrokardiographische Herzuntersuchung.) T. and F. Groedel.
120 Roentgenoscopy of the Heart in Exophthalmic Goiter. (Röentgenbefunde bei Kropfherzen.) J. Bauer and F. Helm.
121 Etiology of Diabetes Insipidus. H. Ellern.
122 *Importance of the Antibodies in Tuberculosis. J. Schürer.
123 *Oxygen-Poor Air in Treatment of Anemia. (Therapeutische Verwertung sauerstoffarmer Luft bei Anämien.) O. David
124 New Method of Percussion. O. Lerch (New Orleans).
125 Banti's Disease and Hemolytic Icterus. F. Lommel.
126 The Proportion of Carbon Dioxid Eliminated with Pulmonary Emphysema. (Verhältnis von CO_2-Ausscheidung zur Atemgrösse beim Lungenemphysem.) R. Reinhardt.

122. **The Significance of Antibodies in Tuberculosis.**—Schürer concludes from a series of experiments with dogs and guinea-pigs, which he describes, that it is doubtful whether the injection of emulsions of bacilli and albumin-free tuberculin has any effect on the resistance to tuberculosis. And it is quite certain that such resistance is not in proportion to the antibodies contained in the blood-serum. He found that animals containing high percentages of agglutinins, precipitins and complement-fixing materials, died as quickly after reinfection as the control animals. He cites Römer's experiments which showed that sheep possessing a marked resistance to reinfection did not have agglutinins or complement-fixing substances in their serum.

123. **Air with a Low Oxygen Content as a Therapeutic Agent in Anemia.** David found on keeping dogs in a chamber in which the oxygen was reduced to 10 per cent. that there was a marked increase in the number of red blood-cells. This was a real increase in cellular elements, not a mere decrease in fluids. He describes thirteen cases comprising simple anemia, pernicious anemia and chlorosis in which both the number of red cells and the amount of hemoglobin were increased by breathing air containing only 10 per cent. oxygen for one to two hours each day.

Deutsche medizinische Wochenschrift, Berlin

January 2, XXXIX, No. 1, pp. 1-48

127 *Rachitis. H. Ribbert.
128 Choked Disk. (Bedeutung der Stauungspapille.) F. Schieck.
129 Technic and Advantages of Intercricothyroid Laryngotomy A. Denker.
130 Length of Contagious Period in Syphilis: the Old Rule Still Valid. (Ehekonsens im Lichte der neuen Forschung.) E. Hoffmann.
131 Local Anesthesia for Reduction of Fractures and Dislocations. H. Braun.
132 Experimental Cirrhosis of the Liver After Chronic Alcohol Poisoning. M. Lissauer.
133 *Epidural Injections in Treatment of Sciatica. R. Langbein.
134 The Blood-Picture in Variola and Vaccinia. (Blutbild bei Pocken und Impfpocken.) E. Erlenmeyer.
135 Serodifferentiation of Progressive Paralysis and Dementia Praecox. L. Benedek and S. Deak.

127. **Rachitis.**—Ribbert has been studying for years the bones in rachitis and has found constantly a destructive process involving the cartilage cells. The findings indicate the action of some toxin, and he reiterates that the essence of all morbid processes is a reduction or cessation of the function of the organ. Nature's efforts at repair are unable to restore normal conditions, especially in rachitis, as the injurious toxin acts on the new-forming cartilage and bone as well as on that already formed, thus preventing the normal deposits of calcium salts. The toxin in rachitis is probably generated in some metabolic disturbance from a defective diet.

133. **Treatment of Sciatica with Epidural Injections.**—Langbein gives minute directions for the method of epidural injection of 1 gm. novocain mixed with one-quarter its weight of sodium bicarbonate and one-half its weight of sodium chlorid. This powder is dissolved in 100 c.c. distilled water, cold, and the mixture is injected into the sacral hiatus between the tubercles. After the injection the patient reclines with the shoulders raised and the legs low. If there is a tendency to weakness, the patient is laid horizontal for a few minutes. In fifteen or twenty minutes all symptoms of the sciatica disappear but he keeps the patients in bed for two days. He has thus treated in the last two years twelve patients, all men but one, the age ranging from 18 to 59. Seven were permanently cured. The benefit proved transient in one case, and there is a possibility that the trouble here may be muscular rheumatism; syphilis was a factor in one of the other rebellious cases, and a tendency to exaggerate slight disturbances was probable in two of the others. He advises heat and antineuralgia drugs for two weeks in treatment of inveterate sciatica; if no benefit is apparent, then he makes the epidural injection.

Medizinische Klinik, Berlin

January 5, IX, No. 1, pp. 1-44

136 *Principles of Treatment of Nephritis. (Grundsätze der Nephritisbehandlung.) C. v. Noorden.
137 The Nuclein Metabolism in Gout. (Probleme des Nucleinstoffwechels im Hinblick auf die Lehre der Gicht.) T. Brugsch
138 Nystagmus as Focal Symptom. (Nystagmus retractorius, ein cerebrales Herdsymptom.) A. Elschnig.
139 Antitoxin Treatment of Diphtheria. (Klinisches und Kritisches zur Behringschen Antitoxinbehandlung der Diphtherie.) F. Reiche.
140 Emergency Tracheotomy. (Die rasche Eröffnung des Kehlkopfs in Fällen dringendster Erstickungsgefahr.) A. Denker.
141 Gynecologic Operations on the Insane. (Diagnose und operative Behandlung der Genitalkrankheiten der weiblichen Irren.) B. S. Schultze.
142 Kidney Disease. (Kritisches zur Lehre von der Nephritis und den Nephropathien.) L. Aschoff.

136. **General Principles for Treatment of Nephritis.**—Von Noorden declares that there is a prevailing tendency to generalize measures which are suitable only for certain forms of kidney disease. He thinks the patients are liable to be kept in bed too long after acute nephritis. When red corpuscles and scraps of epithelium from the kidney are no longer found in the urine then the patient can be allowed to get up; exercise will do him good, but he must be sent back to bed again if they reappear in the urine. The kidneys must be spared as much as possible the work of eliminating salts, water and the metabolic products from protein. The diet should be mainly carbohydrates and, if the albuminuria persists, the diet must be regulated along the lines of that for chronic nephritis. The waste products can be diverted to a certain extent from the kidneys into the intestines by purgatives, and he thinks that these are neglected too much nowadays in both acute and chronic nephritis. Water is the only substance that can be reliably diverted through other channels, but there is no sense in trying to do this unless there is edema. Restriction of the intake is rational and restriction of salt. The latter is useful only when the kidneys find difficulty in eliminating salt. This is the case in parenchymatous nephritis, in secondary contracted kidney and in many cases of acute nephritis. But in the major-

ity of cases of nephritis the capillaries have been injured by toxic action so that elimination of water is more difficult for the kidneys than elimination of salt. The needless restriction of salt in these cases merely makes the patient lose relish for his food and thus run down his strength. Deprival of salt, although such a blessing in certain cases, is a curse when it is applied indiscriminately. The water can be eliminated through the skin in a hot, dry climate, and this is of the greatest benefit as he has witnessed in Egypt. The albuminuria does not seem to be influenced much but the edema subsides and the general health improves. In acute nephritis venesection may prove valuable in emergencies, with decapsulation of the kidney as the last resort. He makes a practice of taking patients with chronic nephritis into his sanatorium for several weeks and studying the diet best suited for the individual case, based on the various functional capacities and the work of the organism as a whole, aiming to keep the patient well nourished, with the least possible demands on the heart and kidneys. He thinks that from 80 to 100 gm. of proteids are necessary; a third of this should be given in the form of meat, that is, about 130 to 160 gm. of meat (weighed raw), taking from 40 to 50 per cent. more in the form of fish than of other meat. An occasional course of iron is also useful. The intake of water should be restricted as a rule to 1.25 or 1.5 liter in the twenty-four hours to spare the heart needless work and keep the blood-pressure down; this amount is sufficient to wash out waste, allowing on one day a week twice the usual amount. More fluid has to be allowed in cases of secondary contracted kidney as the chief danger here is retention of products of metabolism and the heart is not so threatened. He emphasizes further the necessity for avoidance of mental or physical strain, abuse of tobacco, coffee or other substances which have a toxic action on the heart and blood-vessels, altitude and drugs, except heart tonics and diuretics at certain stages. Special care must be taken to avoid and cure bronchitis to which these patients are peculiarly liable, and which is always a danger for the heart, as also any tendency to obesity. The heart should be strengthened by graduated exercises and the peripheral circulation by baths and rubbing. He warns against the use of iodin preparations as the kidneys have trouble in eliminating iodids even more than sodium chlorid.

Mitteilungen aus den Grenzgebieten der Med. und Chir., Jena

XXV, No. 4, pp. 589-796. Last indexed December 14, p. 2193

143 *Deforming Arthritis. (Arthritis hypertrophicans. Beitrag zur Klassifikation der chronischen Gelenkerkrankungen.) E. Jacobsohn.

144 *Advantages of the Diagnostic Intradermal Inoculation of Non-Tuberculous Guinea-Pigs. (Experimentelle Untersuchungen über den beschleunigten Nachweis von Tuberkelbacillen durch den Meerschweinchenversuch.) P. Esch.

145 Behavior of Traumatic Extravasation of Blood in Joints and Pleura. (Verhalten traumatischer Blutergüsse speziell in den Gelenken und der Pleura.) E. Pagenstecher.

146 Histology of Exophthalmic Goiter. (Zur Histologie der Basedowstruma.) P. Zander.

147 *Section of Spinal Roots in Treatment of Gastric and Intestinal Crises. (Zur Frage der Behandlung gastrointestinaler Krisen bei Tabes dorsalis durch Resektion hinterer Dorsalwurzeln.) J. Bungart.

148 Yellow Cerebrospinal Fluid. (Gelbfärbung der Cerebrospinalflüssigkeit.) J. Reich.

149 Thrombosis in Malformed Portal Vein. (Pfortaderthrombose.) G. B. Gruber.

150 *Thymectomy in Exophthalmic Goiter with Myasthenia. Schumacher and Roth.

151 Secondary Nature of Gastric and Duodenal Ulcer. (Das runde Geschwür des Magens und des Zwölffingerdarmes als "zweite Krankheit.") R. Rössle.

143. **Deforming Arthritis.** Jacobsohn illustrates his article with twenty-eight roentgen pictures, aiming to establish that hypertrophic arthritis is a well defined morbid entity. It should be distinguished from other joint affections, especially those with a tendency to degenerative atrophy. He objects to the name deforming arthritis, as the characteristic feature of the affection is the hypertrophy, while this symptom of hypertrophy is not an essential feature in any other joint disease. There is little chance for restitution. Treatment should be based on the axiom "Avoid rest, keep the affected joint well exercised." Repose may alleviate or cure the pain, but under rest the muscles are liable to atrophy. It should be the physician's task to prevent the development of atrophy; only exceptionally should long rest in bed or immobilization be allowed. Too often under rest and sparing the joint the muscles become atrophied, interfering with the gait and causing weakness and edema, impelling the patient to spare the joint more and more until weeks and months may be required to undo the effects if this is ever possible. The physician should insist on exercise of the joint, informing the patients that the trouble is of a chronic character, that it may flare up now and then, and the joint will never be entirely normal again, but that the affection is harmless and work should not be given up on its account as movements of the joint in manual labor guarantee a better outcome than sparing the limb. When there is severe pain in walking and standing, he applies massage and medico-mechanical measures, supplemented by hyperemia treatment (hot air or suction apparatus) and faradization. When the hip joint is involved, an orthopedic apparatus may become necessary but operative intervention is only exceptionally to be considered—only when loose bodies cause pain or become lodged in the joint. He describes the clinical picture and roentgen findings in the various articulations in turn.

144. **Diagnostic Inoculation of Animals.**—Esch reports extensive experimental work in the line of intracutaneous and subcutaneous injection of tuberculous material, his conclusion being that the intracutaneous or intradermal injection is more practical and reliable than any other technic for determining the presence of tubercle bacilli in sputum or other body fluids. He commends this technic as extremely practical. He always inoculates two guinea-pigs after a preceding intracutaneous tuberculin test to exclude spontaneous tuberculosis. The material to be examined is injected into the peritoneum of one of the guinea-pigs, and another dose is injected according to Bloch's technic, namely, injected into the leg directed toward the lymph-node in the bend of the knee after crushing this node between the fingers. As soon as the lymph-node begins to swell, it is excised and examined under the microscope. The advantages of this method are obvious, as the process in the damaged lymph-node can be watched and its progress traced. The second guinea-pig is given a subcutaneous injection. The injection can be made into the heart or a vein if the fluid to be examined is clear. About six days after the inoculation and again three days later the guinea-pigs are tested with tuberculin and again at an interval of three days. If the reaction is positive the animal is killed to supplement the biologic diagnosis with the anatomic findings, especially in the spleen (its weight) and the portal and bronchial lymph-nodes. If the reaction is still negative by the end of the sixth week, one animal is killed to exclude tuberculosis. If the findings are dubious, the other animal is then killed also.

147. **Section of Spinal Roots for Gastric Crises.** Bungart has applied Foerster's operation in three severe cases of gastro-intestinal crises. The first patient, a woman of 43, was completely cured of the tendency to crises, with no recurrences to date, over eighteen months, and no injurious by-effects were noted at any time. Normal sensibility rapidly returned although four ~~pairs~~ of roots had been resected in turn. There has been return of the crises in the second case, but they have been much rarer and very much milder than before the operation, and the patient has gained 23 pounds in weight. The gastric crises were also abolished in the third case, with the girdle pains and nausea, but the long stay in bed led to extensive decubitus and suppurative cystitis followed so the man is still confined to bed. Before the operation he was able to be up and about for a few hours each day, although moving with difficulty. It is possible that this aggravation of symptoms might have occurred from the progress of the disease even without the operation. Bungart discusses the technic and the phenomena observed after the operation.

150. **Thymectomy in Exophthalmic Goiter.** The young woman had primary and very severe exophthalmic goiter with enlarged thymus and extreme weakness of the muscles. Under ten weeks of ordinary measures no benefit was apparent, but the myasthenia rapidly improved after removal of the thymus. A few months later all the symptoms flared up again and part of the thyroid was removed. The patient recovered from the

extensive thyroidectomy so rapidly that the general condition must have been persistently good, and it seems plausible to assume that the thymectomy improved conditions which permited the thyroidectomy later.

Monatsschrift für Kinderheilkunde, Berlin

XI, No. 8, pp. 357-420

152 *Direct Sunlight in Treatment of Surgical Tuberculosis. Rollier.
153 Salt Fever. (Ueber das sogen. Kochsalzfieber.) R. Bendix and J. Bergmann.
154 Technic for Improved Lactation. (Zur Stilltechnik.) M. Thiemich.
155 Digestive Ferments in Infants. (Nachweis der Verdauungsfermente in den Organen des Magendarmkanals beim Säuglingen.) F. Lust.

152. **Treatment of Surgical Tuberculosis by Exposure to the Sun's Rays.**—Rollier has treated 700 patients with surgical tuberculosis within the past nine years at Leysin, Switzerland, and is convinced that all forms of surgical tuberculosis at any age can be cured by direct exposure to sunlight. Under no circumstances would he open a tuberculous abscess. He keeps his patients in the open air day and night, practically all the year. They are exposed to the sun gradually—at first only the feet for five minutes, three times a day, then the leg up to the knee, then the anus and finally the back and abdomen on the seventh day. Gradually the skin becomes pigmented till it is red or dark brown. This pigmentation seems to be an important factor in the cure. The positive chemotactic action of the leukocytes on the bacteria is materially increased. He regards the dry cold air of high altitudes as a valuable aid to the sunlight. Moreover, the light loses a great part of its effectiveness in traversing lower layers of air filled with dust, microbes and moisture. Plaster casts are never used in connection with this treatment as they cut off the sunlight from the affected parts. Immobilization is effected by linen bands or jackets which can be loosened and expose the part to the sun. Joint function is restored in almost every case. Tuberculous glands are softened and absorbed. One of the most marked characteristics of the sunlight is its analgesic effect; pain stops very early in the treatment. Numerous pictures are given showing not only the healing of the tuberculous lesions but a pronounced improvement in the general condition. (Rollier's work has been described very fully in The Journal in the last few months, as, for example, in abstract 54, p. 167, Jan. 11, 1913.)

Münchener medizinische Wochenschrift

January 7, LX, No. 1, pp. 1-56

156 Digitalis. E. Romberg.
157 *Testing Coagulability of the Blood. (Technik and Ergebnisse meiner Blutgerinnungsmethode.) W. Schultz.
158 Spontaneous Recovery from Exophthalmic Goiter. (Selbstheilung von Basedowscher Krankheit.) J. A. Grober.
159 Radioactive Substances in Treatment of Malignant Tumors. A. Caan.
160 Prostitution Among Munich Girls Under Age. Rupprecht.
161 Color Sense of Bees. (Ueber den Farbensinn der Bienen und die Blumenfarben.) K. v. Frisch.
162 Chronic Diphtheric Infection of the Lungs in Woman of 62. A. Schmidt.
163 Diagnosis of Perforation of Aneurysm of Artery in Brain. R. Langbein.
164 Tardy Infection with Gonorrheal Ophthalmia. (Spätinfektion der Ophthalmoblennorrhoe.) C. Credé-Hörder.
165 Gastropexy by Means of Ligamentum Teres. E. Pagenstecher.
166 Spontaneous Rupture of Uterus at Third Month of Pregnancy. T. Beyer.

157. **Technic for Determining the Coagulating Time of the Blood.**—Schultz' method is the use of a capillary pipet that looks like a close string of hollow beads. He calls it the *Hohlperlenkapillarmethode* and has the pipet divided into fifteen of the beads. The blood is drawn directly into the capillary and, after waiting about nine minutes, one of the beads is broken off and dropped into 1 c.c. of salt solution. The second bead is broken off after a certain interval, and then the others after regular intervals, each dropped into its separate vessel of salt solution until a bead is reached in which the contents have coagulated so firm that no blood diffuses. This method has been in constant use for over two years and has proved very reliable. He was unable to detect any effect on the coagulation of the blood from administration of calcium salts or citric acid. Gelatin shortened the interval before coagulation; this may be due to agglutination of red corpuscles, increase of fibrinogen or increase in the viscosity of the blood, or all these factors may be involved.

Wiener klinische Wochenschrift, Vienna

January 2, XXVI, No. 1, pp. 1-40

167 *Prophylaxis of Cancer. A. Theilhaber.
168 Parasite-Attracting Action of Atoxyl and Neosalvarsan. L. Arzt and W. Kerl.
169 Intense Eosinophilia in Carcinomatosis and Lymphogranuloma. R. Strisower.

167. **Prophylaxis of Cancer.**—Theilhaber's views in regard to the necessity for warding off recurrence of cancer and for prevention of cancer in general were summarized in these columns Oct. 19, 1912, p. 1499. He here reiterates that cancer never develops in perfectly normal tissues, and that by keeping the vitality of the tissues up to par there will be no cancer. Any apparently trifling injury of the breast should be treated with hyperemia, massage or diathermia, as most convenient, or all combined. In this way he is convinced that many cancers will be warded off. The same principle should be applied to scar tissue anywhere, especially for persons who have already had a cancer removed. The family might be trained to apply the necessary prophylactic measures. More than 75 per cent. of recurring cancers develop in the cicatrix. It seems that Theilhaber had been advocating the application of heat in prophylaxis of cancer long before Bier published his methods of hyperemia treatment..

Zeitschrift für Geburtshülfe und Gynäkologie, Stuttgart

LXXII, No. 2, pp. 253-532. Last indexed December 21, p. 2294

170 Abdominal Cesarean Section. (Abdominale Kaiserschnitte.) P. Schöfer.
171 Ovarian Pregnancy. (Ovarialgravidität.) W. Hannes.
172 Pharmacologic Research on the Musculature of Uterus and Tubes Outside of Organism. W. Rübsamen and N. R. Kligermann.
173 Closure of the Blood-Vessels After Delivery. (Zur Anatomie des Gefässverschlusses post partum.) F. Heckner.
174 Antitrypsin Content of the Blood with Pregnancy and Cancer. (Antitrypsingehalt des Blutes bei Schwangerschaft und Karzinom.) E. v. Graff and J. v. Zubrzycki.
175 Roentgenotherapy in Gynecology. S. Zaretzky.
176 Development of Fetal Pelvis. (Entwicklung des Knorpelbeckens im zweiten Fötalmonat auf Grund von sieben Beckenmodellen.) E. Schwarzenbach.
177 Malformation of Genitals plus Displacement of Kidney. (Fall von Missbildung der Geschlechtsorgane und kongenitaler Verlagerung der Niere.) M. Vromen.
178 *Occupation of Parents as Factor in Physical Development of Child at Birth. (Abhängigkeit der körperlichen Entwicklung Neugeborener vom Berufe der Eltern.) Z. Goldfeld.
179 Origin of Melena Neonatorum. (Zur Entstehung der Malaena neonatorum durch retrograde Embolie, nebst Mitteilung eines Falles von Volvulus beim Neugeborenen.) F. Wolff.
180 *Serodiagnosis of Pregnancy. J. Veit.

178. **Occupation of the Parents as Factor in Development of Child at Birth.**—Goldfeld gives tables to show the average weight and size of the children of teachers, hotelkeepers, merchants, butchers, carpenters, bakers, masons, mechanics, factory workers and printers, classifying the children as they were the first, second, third or later children. The research was undertaken at Würzburg and showed several interesting general rules: for instance, that the later children average 116.5 gm. more in weight than the first child. The weight of the child at birth seems to increase with the age of the mother, and the boys weigh more than the girls. The physical development of the child seems on a par with the financial standing of the parents. It is highest in the families of teachers and lowest among the day laborers. It is striking that the standard is so high in factory workers' families, and Goldfeld ascribes this to the national insurance, the societies writing industrial insurance having inaugurated measures to conserve the health of women during child-bearing. The tables show anew the familiar fact that those who are less financially fitted for it are the ones who procreate with the least scruples.

180. **Serodiagnosis of Pregnancy.**—Veit confirms Abderhalden's assertions in regard to the possibility and importance of serodiagnosis of pregnancy as discussed editorially in The Journal, Sept. 14, 1912, p. 881 and December 7, p. 2073, with abstract December 21, p. 2291. The serodiagnosis is based on properties of the placenta, not of the fetus, and there must be considerable placenta tissue present for the reaction to be positive. Consequently it is not absolutely reliable for the diagnosis of normal pregnancy, but even without this it may

be of the greatest importance to differentiate a tubal pregnancy from a tumor in the ovary or tube. The method may also prove useful in the diagnosis of a chorioepithelioma. The method is instructive from the standpoint of physiology, and further research along these lines will certainly lead to much progress. The technic requires skill, but it is well repaid by such a case as one described in which there had been no menstruation for several months and the uterus was enlarged. The patient was unmarried and the general aspect was that of a pregnancy, but the negative reaction to the serodiagnosis test excluded pregnancy. Consequently Veit cut into the uterus with confidence and enucleated a large myoma found in the non-gravid organ.

Zentralblatt für Chirurgie, Leipsic

December 28, XXXIX, No. 52, pp. 1761-1784

181 *Simple Operation for Hemorrhoids. C. Bayer.

January 4, XL, No. 1, pp. 1-40

182 Ascites Drained Permanently Through Silver Tube Into Subcutaneous Tissue. Perimoff.
183 Operative Treatment of Congenital Stenosis of the Pylorus. C. Rammstedt.
184 Systematic Dilatation of Duodenal Papilla and Draining of Common Bile Duct Into Duodenum. F. v. Hofmeister.

181. **Operation for Hemorrhoids.**—Bayer calls attention to the technic which he has been using for years with constantly satisfactory results, and no tendency to after-hemorrhage, embolism or stenosis. The nodule is drawn out as far as possible after the anus has been stretched with the fingers. Then an incision 2 cm. long is made with the actual cautery at the junction of the mucous membrane with the skin, the incision being carried in deep enough to separate the entire clump of varicose veins, with the mucosa, from the skin. A stout silk thread is then passed around the stem of the nodule, introduced through the incision, passed around the upper half of the mucosa-covered pedicle and then through a fold at the junction with the normal mucosa, then around the lower half of the pedicle and out through the incision. The thread is drawn tight and tied in the gaping incision. The nodule is then cut off with the cautery just above the ligature and the stump dusted with iodoform. Each of the nodules is treated thus in turn. When the ends of the threads are drawn up together, a funnel-shaped depression is left in the normal mucosa lining of the bowel and a drain tube wrapped in iodoform gauze, held with a safety pin, is pushed into this funnel. The threads are cut off short, the fissure of the incision is packed with gauze and a dressing of aluminum acetate is applied over the whole. The ligature threads soon drop off. If the nodules form a ring, they can be drawn out separately but it is important to leave enough mucosa between each pedicle to guarantee against stenosis. The edge of the mucosa can be fastened to the edge of the skin to bring the mucosa down into place in case of traction. The only complication he has ever had with this method is the occasional necessity for catheterization for a day or so.

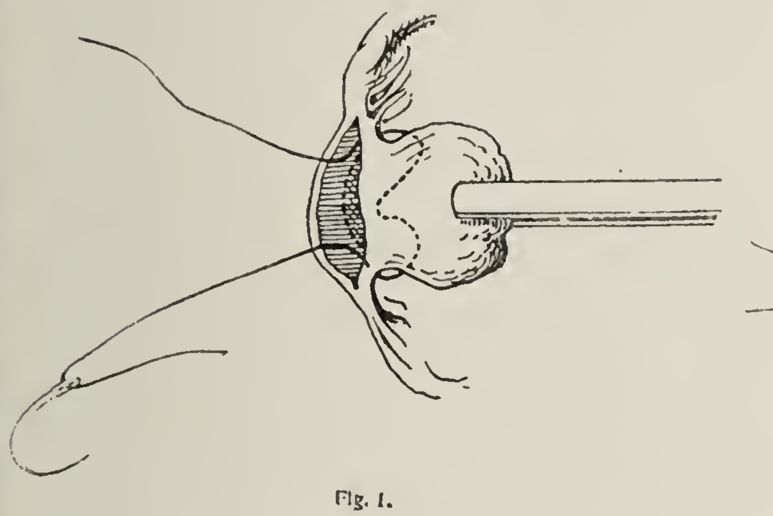

Fig. 1.

Zentralblatt für Gynäkologie, Leipsic

December 28, XXXVI, No. 52, pp. 1753-1784

185 Strangulation of Anterior Lip of Uterine Cervix by a Pessary. E. Vogt.

January 4, XXXVII, No. 1, pp. 1-48

186 Care of Wound After Operation for Cancer of Uterine Cervix. E. Bumm.
187 *Acute Tuberculosis Developing After Gynecologic Operations. L. Prochownick.
188 Intraperitoneal Shortening of Round Ligaments. E. Langes.
189 Intestines Compressed Between Gravid Uterus and Spine. (Darmverschluss nach Entbindungen bei plattem bzw. rachitisch plattem Becken.) Rieck.

187. **Acute Tuberculosis After Gynecologic Operations.**—Prochownick reports seven cases in which acute fatal tuberculosis developed after an operation on the genitals. In one case two old small and symptomless foci in the lungs were evidently the source of the trouble. In another case the operation was for the purpose of removing a tuberculous process in the genital organs and although the local process healed, yet the infection proceeded to invade other regions but in such an insidious way as to make no sign for a long time. In the other five cases there was nothing to suggest tuberculosis except in one case possibly suspicious slight findings in one lung and one woman's husband was tuberculous. Neither these lung findings nor the tuberculous husband would be regarded by any one as contraindicating a gynecologic operation, the patient's general condition being good and the constitution robust. But all these women developed after a major or minor gynecologic operation acute and fatal tuberculosis from some previously unsuspected focus. There were no signs of involvement of lungs or pleura until late in the disease and no sputum. The findings suggested miliary tuberculosis in some of the cases. The experiences related disprove Krönig's statements that genital tuberculosis does not lead to miliary tuberculosis or only in extremely rare cases, and that genital tuberculosis scarcely ever proves fatal, either directly or indirectly.

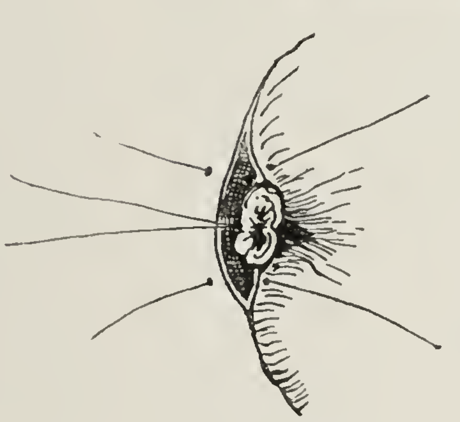

Fig. 2.

Zentralblatt für innere Medizin, Leipsic

January 4, XXIV, No. 1, pp. 1-32

190 Diastase Content of Stools with Fermentation Dyspepsia. (Diastasegehalt der Fäces bei Gärungsdyspepsie.) J. Arnold.

Gazzetta degli Ospedali e delle Cliniche, Milan

January 2, XXXIV, No. 1, pp. 1-8

191 Technic for Examination of Cerebrospinal Fluid. (I metodi d'esame del liquido cerebrospinale.) Pari.

January 5, No. 2, pp. 9-24

192 Pathogenesis of Arterial Hypertension in Nephritis. A. Farini.
193 Treatment of Fractures. (Brevi considerazioni sugli interventi incruenti nella cura delle fratture.) G. Giacquinta.

January 7, No. 3, pp. 25-32

194 Fate of Tubercle Bacilli in the Blood-Vessels. (Le sorte dei bacilli tubercolari dentro i vasi sanguigni.) G. Costantini.

Brazil Medico, Rio de Janeiro

December 15, XXVI, No. 47, pp. 491-500

195 *False Rabies. (Peste de coçar—Pseudo-raiva, paralysia bulbar infectuosa ou molestia de Anjeszky.) A. Carini and J. Maciel.
196 The General Sanitary Influence of the Atmosphere. B. Barreto. Commenced in No. 45.

December 22, No. 48, pp. 501-512

197 *The Associated Movements in Athetosis. A. de Castro.
198 Fat Tissue as Support for Artificial Eye. (O enxerto de tecido gorduroso como meio de melhorar a applicação dos olhos artificiaes.) E. Campos.
199 Urethritis and Its Consequences. B. P. Leme.

195. **Pseudorabies.**—Carini and Maciel have had opportunity to inspect a number of animals with this disease which affects cattle, cats and dogs and can readily be transmitted to laboratory animals. The manifestations of the disease and the results of experimental inoculation correspond exactly, they say, to the disease described by Anjeszky under the name of infectious bulbar paralysis. This has been officially reported only in Hungary, but the pseudorabies reported by Carini and Maciel is quite prevalent in Brazil. It never causes large epidemics but a number of small ones, so that the total loss from it is quite serious. The animal becomes very restless and scratches, with its own paws or against trees or walls, with such violence that it digs into the flesh. In the animals inoculated in the laboratory they gnawed fiercely at the point of

inoculation, one of them tearing out its claws on the paw that had been inoculated. The period of incubation was from twelve to fifteen days, but the disease itself is of short duration and is generally fatal in one or two days. The seat of the intense pruritus is generally in the perineal region or the inside of the thighs. The animal grits its teeth and saliva flows profusely. After a few hours the animal falls exhausted and never gets up again. The virus is not filterable, but otherwise the bacteriologic research was constantly negative.

Revista de Medicina y Cirugia, Havana

January 10, XVIII, No. 1, pp. 1-28

200 Urethroscopy by Goldschmidt's Method. E. Fortun.
201 The Heart in the Tuberculous. A. Inclan.
202 Action and Influence of Parasites in the Body. (Parasitismo.) J. B. Pons.
203 Hygiene in Match Factories. (La higiene dental en las fabricas de cerillas.) J. F. Arteaga.

Semana Medica, Buenos Aires

December 12, XIX, No. 50, pp. 1221-1279

204 Polyneuritis from Pregnancy Auto-Intoxication. (Una manifestacion poco comun de auto-intoxicacion gravidica.) J. A. Gabastou.
205 The Sources of Degeneracy of the Race. (Las fuentes de la degeneracion.) G. von Bunge.
206 Can the Will Power Be Measured? (La potencia volitiva. Es medible?) V. M. Farre. Commenced in No. 28.
207 The School as Factor in Tuberculosis. (La escuela y la lucha contra la tuberculosis.) A. Pruneda.

Hospitalstidende, Copenhagen

January 1, LVI, No. 1, pp. 1-24

208 *Sagging Stomach with Dilatation of Esophagus. (Tilfælde af total Gastroptose med Dilatation af Spiserøret.) T. Rovsing.
209 *Epidemiology of Scarlet Fever. (Til Skarlagensfeberens Epidemiologi.) S. Hansen.

208. **Gastroptosis and Dilatation of Esophagus.**—Rovsing's first patient, a woman of 45, had such a sagging of the stomach and liver that the cardia was 8 cm. below the diaphragm and the esophagus had been dragged down and kinked. The case was an extreme example of what he calls ptosis cachexia, illustrating anew that gastrocoloptosis may bring a person to the brink of the grave from inanition, and also that gastropexy transforms conditions at once and restores the patient to health in a short time. He has now a record of fifty such cases among his gastroptosis patients. The case in question was the only one with the complicating enormous dilatation of the esophagus. Cancer of the esophagus seemed the most plausible diagnostic assumption in view of the advanced cachexia, but the easy passage of the stomach tube into the stomach excluded this. Cardiospasm was next considered, the symptoms pointing to this, and Rovsing is confident that many cases on record of supposed cardiospasm were in reality merely conditions secondary to gastroptosis. Spasm of other sphincters is usually accompanied by pain, and the absence of pains with "cardiospasm" should suggest revision of the diagnosis. A special feature of the gastroptosis cases is the characteristic vomiting immediately after eating. This is generally considered a purely hysteric or nervous phenomenon, and this may be the case in certain individuals, but in others it is a symptom of gastroptosis and it disappears with the correction of the latter by gastropexy or the wearing of a support. He relates the details of two typical cases; in the first a woman of 48 was supposed to have a stricture in the esophagus, as she had long suffered from cardialgia and for two weeks had vomited all the solid food eaten, immediately after each meal; she had a feeling that the food was arrested at the cardia. Gastroptosis was discovered and with the use of a supporting appliance all disturbances ceased. The other patient was a woman of 23 who had suffered as long as she could remember from vomiting immediately after each meal. Only when she took her food lying down did she escape the vomiting. Gastroptosis was not evident on roentgenoscopy but coloptosis and an abnormally long gastrocolic ligament were discovered. Auscultation, however, showed that the lesser curvature lay below the umbilicus, the greater curvature 5 cm. below, and the transverse colon just above the symphysis. After gastropexy and shortening of the ligament there has never been any recurrence of the vomiting, and the young woman's stomach and bowel functioning has been normal during the fifteen months since. The experiences related confirm the necessity for examining for gastroptosis in every case of dilatation of the esophagus as the latter may be due merely to kinking from sagging of the stomach.

209. **Scarlet Fever.**—Hansen refers to an epidemic of scarlet fever in Copenhagen between 1868 and 1873 in which the 5,611 cases had a mortality ranging progressively from 4 per cent. of the 359 cases in the first year to 22 per cent. in the 242 cases of the last of the six years, showing the increasing malignancy of the disease. This epidemic was further interesting because then it subsided entirely. Nearly a year elapsed before a new epidemic broke out. The disease was mild at first but rapidly assumed a malignant, atypical and long drawn out character. He remarks that as small-pox has changed its character under vaccination and isolation, scarlet fever likewise is biologically different from what it used to be.

Hygiea, Stockholm

November, LXXIV, No. 11, pp. 1185-1296

210 Sterility in Women. (Om steriliteten hos kvinnan.) C. D. Josephson.
211 Technic for Resection of Large Intestine. (Om groftarmsresektioner med anledning af några fall.) B. Carlson.

Norsk Magazin for Lægevidenskaben, Christiania

January, LXXIV, No. 1, pp. 1-182 and Supplement

212 Tuberculosis in Children. (Bidrag til kjendskapet til tuberkulosen i barnealderen: Hyppighet. Formerne av tuberkulosen i spaedbarnsalderen. Medfødt tuberkulose.) F. Harbitz.
213 Traumatic Stasis Cyanosis. (Staseblødninger ved kompression av kroppen.) W. Holland.
214 *Predisposition of Women for Goiter. (Kjønsdisposition for struma.) C. Schiøtz.
215 *Acute Hemorrhagic Pancreatitis. S. Widerøe.
216 Competitive Athletics and the Physician's Responsibility. (Lægerne og idrætten.) P. Torgersen.
217 Bacteriology of Tuberculosis in Children. (Bakteriologiske studier over barnetuberkulose.) A. de Besche.

214. **Predisposition of the Sexes to Goiter.**—Schiøtz states that he has encountered 177 cases of goiter during the last five years at Nes in the Hedemarken district in southern Norway, close to Sweden. Of the total number only 10.2 per cent. were male patients. Figuring it from another standpoint, he says that 10.5 per cent. of the 1,707 male inhabitants of the town had goiter and 86.3 per cent. of the 1,843 female inhabitants. The preponderance of the female sex has been used as an argument against the drinking-water theory of the origin of goiter, but this can be answered by the assumption that the physiologic processes in the female organs with an internal secretion may predispose the thyroid gland to disease. Pregnancy is known to play an important part in the development of goiter, tetany, exophthalmic goiter and myxedema. One of Schiøtz' patients noticed that the enlarged thyroid grew transiently larger just before each menstrual period, and Cohn reported in 1907 a case in which transient exophthalmos, palpitations and enlargement of the thyroid recurred with every menstrual period.

215. **Acute Hemorrhagic Pancreatitis.**—In the fatal case reported the patient was a woman of 46, v-para, never seriously sick. For a month she had felt unwell and then severe pain in the abdomen, especially in the epigastrium, and cyanosis, compelled a laparotomy. Necropsy three days later confirmed the diagnosis of hemorrhagic-necrotic pancreatitis and revealed thrombosis in the portal vein system and a number of gall-stones in the gall-bladder. The patient was quite corpulent and the findings suggested that compression of the portal vein by the gall-stones injured the vessel, arrested the circulation through it, disturbing the nourishment of the region and injuring the fat tissue in particular. Widerøe is now seeking by animal experimentation to sustain this theory of a primary vascular derangement as the cause of the trouble in a certain proportion of cases of acute hemorrhagic pancreatitis.

Ugeskrift for Læger, Copenhagen

January 2, LXXV, No. 1, pp. 1-50

218 Action of Medical Measures on Gastric Motor Disturbances. (Den medicinske Behandlings Indvirkning paa Ventriklens Motilitetsforstyrrelser.) S. Kemp.

January 9, No. 2, pp. 51-82

219 Fistulas Into the Lung. (Om Lungethoraxfistler.) A. O Wolff.
220 Orthopedic Treatment at the Right Time. (Om rettidig Behandling af nogle orthopædiske Lidelser.) H. Scheuermann.

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THE INTERPRETATION OF THE RESULTS OF THE WASSERMANN TEST *

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The complement-fixation reaction for the diagnosis of syphilis, discovered by Wassermann, Neisser and Bruck, and coincidently by Detre, is, aside from the demonstration of *Spirochaeta pallida,* now generally accepted as the most valuable aid we have in the diagnosis of the disease and in the control of treatment. I have been impressed, however, with the evident misconceptions of many practitioners regarding the nature of the reaction, the percentage of positive results that may be expected in the various stages of syphilis and the exact significance of a positive or negative result. Many patients have been told on the strength of a single negative reaction that they were free from syphilis, while the diagnosis of syphilis has repeatedly been made on the presence of a plus-minus or plus reaction in the absence of a history of infection and of any symptom of the disease.

Such interpretations of the reaction are entirely unwarranted and have led to the infection of innocent individuals, on the one hand, and to great mental and physical suffering by those unjustly stigmatized as affected with this dreaded disease, on the other.

THE NATURE OF THE REACTION

The most recent investigations appear to prove that the Wassermann reaction is not necessarily a true antigen-antibody reaction but may be produced by certain lipotropic substances formed in the tissues of syphilitics during the progress of the disease. The researches of Landsteiner, Müller and Pötzl[1] and of Porges and Meier[2] first demonstrated that alcoholic extracts of normal as well as syphilitic tissues served as antigens, while those of Noguchi and Bronfenbrenner[3] proved that at least part of the active principles in the antigens used in the test are present in the lipoidal substances found in extracts from both syphilitic and non-syphilitic tissues of man and other animals. Noguchi,[4] however, has shown that with an antigen prepared from pure cultures of *Spirochaeta pallida* it is possible to secure complement fixation in certain syphilitic infections, especially in latent and tertiary cases, thus indicating the presence of true antibodies in the serum. That this reaction is in the nature of a group reaction is rendered probable by the work of Nichols and myself,[5] for we have found that alcoholic extracts of not only *Spirochaeta pallida* give complement fixation in certain cases of syphilis, but that the same results are often obtained with alcoholic extracts of *Spirochaeta pertenuis, Spirochaeta microdentia* and *Spirochaeta refringens,* while negative results have been uniformly obtained with antigens made from pure cultures of organisms like the *Bacillus typhosus* and *Spirillum cholerae.*

These researches would appear to indicate that when an antigen prepared from a syphilitic fetal liver, which is rich in spirochetes, is used, the Wassermann reaction partakes of the character of both a true antigen-antibody reaction and a reaction between the lipoids contained in the antigenic extract and the lipotropic substances present in the serum tested, while, with an antigen prepared from normal tissues, the reaction is between the lipoids and lipotropic substances only.

While numerous investigators have denied that better results are obtained with an antigen prepared from syphilitic tissues than with one made from normal tissues, Wassermann and his followers still maintain that the syphilitic liver extract gives superior results, and from my own experience I agree with this statement, believing that the explanation lies in the dual nature of the reaction when tissues rich in spirochetes are used in the preparation of the antigen. Indeed, in discussing this question, Citron[6] says that the reactions obtained with syphilitic and normal tissue antigens can hardly be compared and that "in important differential diagnosis, even this kind of extract (alcoholic extract of normal tissues) should not be considered as specific as luetic antigen."

In a recent paper, Keidel and Hurwitz[7] give the results of an investigation of the comparative value of normal and syphilitic extracts used as antigen by means of the Wassermann and epiphanin tests and conclude that comparative titrations show the superiority of the syphilitic extracts. They say that "syphilitic extracts contain, besides the non-specific complement-fixing substance or substances present in both non-syphilitic and syphilitic organs, certain other components which depend for their existence on the syphilitic poison in the specific tissue. These may be the *Spirochaeta pallida,* its virus, its decomposition products, or the metabolic products to which it may give rise in the tissue."

I think, therefore, that it may be stated that the Wassermann reaction, when an extract of syphilitic tissue is used as antigen, is often of a dual character, consisting of a true antigen-antibody reaction and a non-specific reaction between lipoids present in the antigenic extract and lipotropic substances present in the serum tested. This dual action occurs only in some cases, for it has been shown that complement-fixation with pure cultures of *Spirochaeta pallida* occurs only in a certain proportion of cases giving a positive Wassermann test, and for this reason antigens prepared from such cultures are not as reliable as extracts of either syphilitic or normal tissues.

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* From the Bacteriologic Laboratories of the Army Medical School.

[1] Landsteiner, Müller and Pötzl: Zur Frage der Komplementbindungsreaction bei Syphilis, Wien. klin. Wchnschr., 1907, xx, 1565.

[2] Porges and Meier: Rolle der Lipoide bei der Wassermann'schen Syphilisreaktion, Berl. klin. Wchnschr., 1908, xlv, 731.

[3] Noguchi and Bronfenbrenner: Biochemical Studies on So-Called Syphilis Antigen, Jour. Exper. Med., 1911, xlii, 69.

[4] Noguchi, H.: Experimental Research in Syphilis, The Journal A. M. A., April 20, 1912, p. 1163.

[5] Craig, C. F., and Nichols, H. J.: A Study of Complement Fixation in Syphilis with Spirochete Culture Antigens, Jour. Exper. Med., 1912, xvi, 336.

[6] Citron, J.: Immunity, 1912, Philadelphia, p. 169.

[7] Keidel and Hurwitz: A Comparison of Normal and Syphilitic Extracts by Means of the Wassermann and Epiphanin Reactions, The Journal A. M. A., Oct. 5, 1912, p. 1257.

MATERIAL AND TECHNIC

In the laboratories of the Army Medical School, the Wassermann reaction has been in use since Nov. 1, 1909, during which time over 10,000 tests have been made. It has been the practice in the Army to control the treatment of syphilis by this reaction, so that many repetitions of the test have been made on a large number of individuals. In this way our technic has been continually checked up and a correct interpretation of the reaction in the various stages of syphilis has been rendered possible.

The method employed in this laboratory is really a combination of the Wassermann and Noguchi methods, following Wassermann in the employment of an extract of syphilitic fetal liver as antigen and in inactivating the serum to be tested, and Noguchi in using a human hemolytic system, the amboceptor consisting of the serum of rabbits immunized to human erythrocytes.

In reporting the tests, I use the terms: double-plus (++), indicating absolute inhibition of hemolysis; plus (+), indicating at least 50 per cent. of inhibition; plus-minus (+ —), indicating any degree of inhibition below 50 per cent.; and negative (—), indicating complete hemolysis.

GENERAL RESULTS

The conclusions regarding the interpretation of the Wassermann test given in this paper are derived from the study of 10,000 tests made in the Army Laboratory in Washington. The total number of individuals tested has been 5,216, while 4,784 reexaminations were made, generally as a control of treatment. Of the 5,216 individuals tested, 2,905 gave a positive reaction and 2,306 a negative reaction. Of the total number, 3,516 were patients in whom the clinical diagnosis was syphilis or in which there was a clear history of infection (this includes latent cases); 1,544 were patients in whom the clinical symptoms or diagnosis were of some other disease; while 156 were normal individuals in whom the test was made during research work.

Table 1 gives the results obtained in the cases diagnosed as syphilis or in cases in which the symptoms were suggestive of that disease. As seventy-three individuals were tested in the primary stage at a period too early for the reaction to have appeared (one or two days after the appearance of the chancre) and as sixty-two of the secondary cases giving a negative result had been treated sufficiently for the reaction to have disappeared, it is only just that these cases should be deducted from the table if one desires a true statement of the results actually obtained with the test, and this has been done.

TABLE 1.—RESULT OF WASSERMANN TEST IN 3,381 CASES OF SYPHILIS

Stage of Disease	Number Cases	Number Positive	Number Negative	Per Cent. Positive
Primary	654	580	74	89.4
Secondary	1,434	1,372	62	95.6
Tertiary	465	404	61	86.8
Latent	778	509	269	65.4
Congenital	28	25	3	89.2
Parasyphilitic	22	15	7	68.1
Totals	3,381	2,905	481	85.8

INTERPRETATION OF THE RESULTS IN THE PRIMARY STAGE OF SYPHILIS

All cases have been considered as primary that have presented the initial lesion or that were tested before the development of secondary symptoms. Of 654 primary cases, 580, or 89.4 per cent., gave a positive result. It may therefore be stated that about 10 per cent. of primary cases do not give a positive Wassermann test. Table 2 gives the character of the reaction in the primary stage in 483 cases arranged according to the number of weeks since the appearance of the initial lesion.

In this table all plus-minus reactions are recorded as negative, although the plus-minus reaction in the primary stage, especially during the first and second week, is of some value, providing a suspicious lesion is present. It is best, however, to consider such reactions as negative and have the serum examined again within a week or two.

I believe that a plus reaction in the primary stage of syphilis should be interpreted as a positive reaction, as I have never observed a case in which a plus reaction afterward became negative, unless as the result of treatment. For this reason, a plus reaction during the primary stage of syphilis is, to my mind, as significant as a double-plus reaction, providing there is a clear history of infection or an initial lesion is present. In the absence of both, a plus reaction should not be considered as diagnostic and further tests should be made.

It is unnecessary to discuss the significance of a double-plus reaction, as it always means syphilis in this as in any other stage of the disease, if the few conditions in which such a reaction is rarely given can be excluded. It will be observed, from a study of Table 2, that a double-plus reaction occurred in 13.8 per cent. of the cases during the first week after the appearance of the initial lesion; in 22.1 per cent. during the second week; in 41.4 per cent. during the third week; in 53 per cent. during the fourth week, and in 61.5 per cent. during the fifth week. It is interesting to note that a double-plus reaction occurred in practically 14 per cent of the cases as early as the first week after the appearance of the chancre.

The significance of a negative reaction during the primary stage of syphilis is practically *nil*. As shown by the total results, 10 per cent. of the cases fail to give a positive reaction during this stage of the disease, and in Table 2 practically 20 per cent. failed to give a reaction. When it is remembered that the 483 cases analyzed in this table include only those that afterward developed positive reactions, the conclusion is justified that in practically 20 per cent. of primary cases the Wassermann test may be expected to give a negative reaction. It follows, therefore, that even repeated negative reactions during this stage of the disease do not prove the absence of syphilis.

INTERPRETATION OF THE RESULTS IN THE SECONDARY STAGE OF SYPHILIS

Of 1,434 cases presenting active secondary symptoms of syphilis, 1,372, or 95.6 per cent., gave a positive reaction. In 4.4 per cent. the reaction was negative and in many of these cases the test was repeated several times. Therefore, it must be admitted that some patients presenting active symptoms of the secondary stage of syphilis do not develop a positive Wassermann reaction, and in my experience practically 5 per cent. of the secondary cases have given a negative result. This small percentage proves the great value of the test in the diagnosis of syphilis.

A double-plus reaction, in patients presenting suspicious symptoms of this stage of the disease, is conclusive evidence of the presence of syphilis under the limitations already mentioned in discussing the interpretation of the test during the primary stage.

A plus reaction, while not of as much value in this stage as in the primary, is practically conclusive evidence when symptoms are present or when there is a clear history of a primary lesion, and other conditions giving a reaction can be eliminated. At least 80 per cent. of secondary cases give a double-plus reaction, but a plus reaction is frequently observed, even in patients presenting very active secondary symptoms, so that one must consider all the features in the case very carefully before ignoring the presence of a plus reaction.

A plus-minus reaction in patients suspected of being in the secondary stage of syphilis is valueless from a diagnostic standpoint, and one who makes a diagnosis of syphilis on the strength of such a reaction does a great injustice to the patient. In cases in which treatment has been administered, such a reaction may be the result, but before making a diagnosis of syphilis treatment should be omitted, the test should be repeated after an interval of two or three months, and if the reaction is still a plus-minus, the diagnosis of syphilis should not be made, in the absence of other symptoms.

A negative reaction in the presence of supposed symptoms of secondary syphilis is of greater value than at any other time, but even here it should be remembered that practically 5 per cent. of secondary cases of the disease give a negative reaction, and that this reaction may persist for weeks and months. A negative reaction persisting over several months and in the absence of further symptoms of the disease may be regarded as conclusive, while in cases giving an indefinite or no history of infection, and no symptoms, a negative reaction repeated at an interval of two or three months may also be regarded as proving the absence of syphilis, provided treatment has not been administered.

TABLE 2.—RESULTS OF THE WASSERMANN TEST IN 483 CASES OF PRIMARY SYPHILIS, ARRANGED ACCORDING TO THE WEEKS ELAPSING AFTER THE APPEARANCE OF THE INITIAL LESION

Week After Appearance of Chancre	Total Number Examined	Negative, Number	Reactions, Per Cent.	Plus, Number	Reactions, Per Cent.	Double Plus, Number	Reactions, Per Cent.	Total Number	Positives, Per Cent.
First	65	47	72.3	9	13.8	9	13.8	18	27.6
Second ..	122	60	49.1	35	28.6	27	22.1	62	50.8
Third ...	123	44	35.6	28	23.7	51	41.4	79	64.2
Fourth ..	134	36	26.8	27	20.1	71	53.0	98	73.1
Fifth	39	8	20.5	7	17.9	24	61.5	31	79.4

INTERPRETATION OF THE RESULTS IN THE TERTIARY STAGE OF SYPHILIS

Of 465 patients presenting symptoms of the tertiary stage of syphilis, 404, or 86.8 per cent., gave a positive reaction. The percentage of positive results obtained in this stage of syphilis by different observers has varied greatly, owing largely to the effect of previous treatment on the reaction. Many of our patients had received mercurial treatment but generally in an intermittent manner, and it is probable that such treatment did not interfere greatly with the reaction.

Our results show that practically 15 per cent. of cases of tertiary syphilis which presented symptoms at the time of making the test gave a negative reaction, a fact of great importance in interpreting the result of the Wassermann test during this stage of the disease.

A double-plus reaction in patients suspected of tertiary syphilis is diagnostic of the disease under the limitations already noted.

A plus reaction occurs in a larger proportion of tertiary than secondary cases, and therefore is of greater diagnostic value, and I believe that in patients presenting suspicious tertiary lesions it should have the same value as a double-plus reaction, with the same limitations.

A plus-minus reaction, unless permanent or treatment has been administered, is of no diagnostic value in patients presenting symptoms suggesting the tertiary stage of syphilis. Repeated examinations should always be made in such cases before the condition is considered syphilitic, but in the presence of a clear history and symptoms, a plus-minus reaction should not lead one to consider the case as non-syphilitic.

A negative reaction in patients suspected of tertiary syphilis is of value in excluding the disease only when it persists for several months and typical symptoms have not developed. Our results show that practically 15 per cent. of cases of tertiary syphilis, presenting symptoms at the time of making the test, gave a negative reaction. In the absence of typical symptoms and a history of infection, a negative reaction may be interpreted as indicating the absence of syphilis, provided no treatment has been administered.

INTERPRETATION OF THE RESULTS IN LATENT SYPHILIS

In this class were included all those cases in which no active symptoms of the disease were present at the time of making the test. Almost all of the patients had received more or less specific treatment and the majority were tested in order to determine whether the disease had been cured. Of this class of cases 778 were tested, with a positive result in 509, or 65.4 per cent. In most of the patients the only evidence of the disease was glandular enlargement and in many even this symptom was absent. The great value of the Wassermann test in the diagnosis of syphilis is well shown in the high percentage of positive results in this class of cases.

A double-plus reaction is not obtained so often in latent cases as in the active stages of syphilis, and when obtained is diagnostic under the limitations already mentioned.

A plus reaction in the absence of other symptoms, providing that there is a clear history of infection, I believe should be given the same interpretation as a double-plus reaction, especially when specific treatment has been administered for some time. In such instances a plus reaction is diagnostic of syphilis.

A plus-minus reaction in presumably latent cases, when there is a clear history of infection, especially if treatment has been administered, should arouse the suspicion that syphilis is present, but the test should be repeated two or three times before a diagnosis of syphilis is made. In these cases a plus-minus reaction generally means insufficient treatment, as most patients applying for a Wassermann test in the absence of symptoms have been treated for the disease at some period previously and are anxious to ascertain whether they are cured.

A negative reaction in cases suspected of being in the latent stage of syphilis has no value unless it remains consistently negative over a period of at least a year. Our statistics show that 35 per cent. of latent cases gave a negative result, and quite a large percentage of these cases afterward developed symptoms and the Wassermann became positive.

INTERPRETATION OF THE RESULTS IN CONGENITAL SYPHILIS AND PARASYPHILITIC DISEASES

Our experience has not been sufficient in this class of cases to permit me to make any definite statements, but it is generally admitted that in congenital syphilis about 90 per cent. of the cases give a double-plus reaction; in paresis nearly 100 per cent., and in tabes between 50 and 60 per cent.

INTERPRETATION OF THE RESULTS OF THE TEST AFTER TREATMENT

In the vast majority of the 4,784 reexaminations the test was made for the purpose of controlling treatment with salvarsan, mercurials or both. Our results have demonstrated the great value of the Wassermann reaction as an index of the efficiency of treatment and we have thus been able to trace the gradual disappearance of the reaction in treated cases and its reappearance in those instances in which further treatment was required. The use of the reaction in this manner has made possible the intelligent administration of both salvarsan and mercury and every patient suffering from syphilis should have the treatment controlled by Wassermann tests made at intervals of at least two months. Only in this way can justice be done the patient and the specific treatment of syphilis be conducted in an adequate and scientific manner. The occurrence of a double-plus or plus reaction following treatment should always be interpreted as meaning that more treatment is necessary. Granted that as most observers believe, the presence of a positive Wassermann reaction means the presence of living spirochetes, it is evident that when such a result is obtained the patient cannot be considered as cured, even though symptoms may have been absent for months or even years.

A plus-minus reaction after treatment, provided it is obtained on repeated examinations, should also be considered as an indication for more treatment, but when such a reaction is obtained treatment should not be given until the test has been repeated, unless symptoms are present.

A negative reaction after treatment is of no value as an evidence of cure unless it remains negative for at least a year and no symptoms have developed meanwhile. The limit of a year is arbitrary and founded on our experience in controlling the treatment in hundreds of cases of syphilis. We have observed but one relapse in a patient whose Wassermann reaction has remained negative for a year after the cessation of treatment. A luetin test should also be made, even though the Wassermann test is negative.

THE SPECIFICITY OF THE WASSERMANN TEST

Of the total 5,216 individuals tested in this laboratory, 1,544 were patients suffering from diseases other than syphilis, of whom ten, or 0.6 per cent., gave a positive result. Three of the positive cases were in patients suffering from tertian malarial fever, the blood being tested during the febrile stage; in all, the blood became negative after the subsidence of the fever. In one case the diagnosis was undetermined fever and the blood became negative during convalescence. The exact nature of the disease could not be determined in this instance. In three cases the diagnosis was tuberculosis; the patients recovered under specific treatment. In two of the cases a history of syphilitic infection was afterward obtained, while in the other such an infection could not be excluded. In three cases diagnosed as pityriasis rosea a plus reaction was obtained, which disappeared on the subsidence of the eruption. Other cases of this disease have been tested with a negative result, but the occurrence of the reaction in this disease should be noted.

It is well known that in some cases of leprosy, and in many of yaws, the Wassermann test gives a positive reaction, but these conditions can be easily eliminated clinically and for this reason do not render the test less valuable under ordinary conditions. A weak positive reaction has also been obtained in such diseases as carcinoma, sepsis and scarlet fever, but the number of cases reported is small; the reactions obtained were weak, and in most a latent luetic infection could not be excluded. I believe that a large percentage of positive results in non-syphilitic cases is certain proof of imperfect technic in the application of the Wassermann test or a wrong interpretation of the results obtained. These reports must be viewed with suspicion.

If the diseases in which the Wassermann complement-fixation test has occasionally been found positive can be excluded, a double-plus reaction is sufficient to enable one to diagnose the presence of syphilis. Under such conditions, I consider the test absolutely specific, whether symptoms of the disease are present or not, and whether there is or is not a history of infection.

Under the same conditions, and with a history of infection or the presence of clinical symptoms, a plus reaction should also be interpreted as diagnostic of syphilis.

A diagnosis of syphilis should never be made on the presence of a plus-minus reaction alone. Many normal individuals will give a plus-minus reaction at times and therefore such a reaction cannot be considered as having any more value than a negative reaction, in the absence of a history or symptoms.

A single negative reaction is of no value in excluding syphilis. Only when such a reaction is obtained on repeated examinations for at least a year after cessation of treatment can it be considered as evidence of the absence of the disease, and a luetin test should be made to corroborate the Wassermann result.

In the interpretation of a negative result the history of the patient, the presence of symptoms and the amount of previous specific treatment must all be carefully considered.

In conclusion, I desire to call attention to certain factors which influence the result of the Wassermann test, and which are of considerable practical importance.

INFLUENCE OF THE INGESTION OF ALCOHOL ON THE TEST

Nichols and myself[8] have shown that the ingestion of considerable amounts of alcohol may render a strongly positive serum negative, if the test be made within twenty-four hours after the alcohol has been administered, and in some cases the serum will give a negative reaction for as long as three days after the administration of the drug. The administration of from 90 c.c. to 120 c.c. of whisky to nine individuals having a double-plus Wassermann reaction resulted in the reaction becoming negative in all of them within twenty-four hours after the alcohol was taken. In one case the reaction did not become positive again until the end of three days, while in the others the serum became positive within thirty-six hours.

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[8] Craig, C. F., and Nichols, H. J.: The Effect of the Ingestion of Alcohol on the Result of the Complement-Fixation Test in Syphilis, The Journal A. M. A., Aug. 5, 1911, p. 474.

These observations show that no dependence can be placed on a negative Wassermann reaction in individuals who have ingested considerable amounts of alcohol within twenty-four hours of the making of the test, and therefore a careful inquiry should always be made regarding the recent use of alcohol before collecting blood for the complement-fixation reaction.

INFLUENCE OF BACTERIA ON THE TEST

The serum for the Wassermann test should be collected under aseptic precautions, especially if it is to be kept for any length of time before it is tested, as I[9] have been able to show that certain strains of staphylococci and streptococci, when growing in normal serum, are capable of producing substances in the serum which may give rise to a positive result with the complement-fixation test for syphilis. These non-specific results do not occur in normal serums which are sterile, even though the serums be kept at room temperature for as long a period as a month, and while such false reactions are probably very rare in actual practice, the fact that they can occur as the result of bacterial activity is of enough importance to justify the use of aseptic methods in the collection of blood for the Wassermann test. This reaction is quantitative as well as qualitative, and it is only by the most careful attention to every technical detail that reliable results can be obtained.

For this reason the test should be made only in properly equipped laboratories by those who have received special instruction and who devote a large part of their time to this work. Under such conditions results will be satisfactory, but the interpretation of the test must always remain with the clinician. The laboratory report deals only with the result of the test, and it rests with the clinician to correlate this result with the clinical condition present.

VACCINATION AND LOCAL ANAPHYLAXIS

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During the recent small-pox epidemic in Western Pennsylvania, and particularly in Pittsburgh, which through the effective administration of the Department of Health was quickly circumscribed and subdued, the physicians of our vicinity had an unusual opportunity to observe large numbers of vaccinations. It has been estimated that in Pittsburgh about one-third of the population was vaccinated.

The ordinary vaccination with cow-pox creates little interest in the mind of the practicing physician, and the results are not carefully observed. There is one phase of this topic, however, which is very interesting, and while mention of it is made in the recesses of the English literature, I think that it is not presuming too much to say that it is not generally recognized, and that its explanation is almost unknown. A patient is vaccinated and after a slight redness or perhaps a small raised papule lasting one to three days the entire effect of the inoculation seems to have subsided, and the case is considered as one which did not take. On revaccination, say about two weeks later, we do get a "take," and we are surprised to find that the previous vaccination, apparently unsuccessful, now becomes active and goes through the same evolution as the revaccination. The lesion of the first vaccination usually does not develop as fully in any of its stages as that of the revaccination.

This observation was made long ago; we have no positive data on the frequency with which it occurs. Even if we could collect data on the frequency of its occurrence we should have to eliminate many other sources of error, such as technic of vaccination, dose and potency of virus, condition of skin, etc. After eliminating all external sources of error, we might then consider sensitiveness of the organism to the virus. Ordinarily this irregularity does not occur frequently enough in the experience of the average practitioner to make its impression on him, and if it has happened in his work he passed it by as an accident. On questioning physicians, I find, however, that the good observer can usually recall one or two such instances, and he admits that he thought it noteworthy at the time but had almost forgotten it since. In the general run of work, including the above-named sources of error, the frequency with which it occurs may be judged by the accompanying table. These figures include my own observations and those of my colleagues with whom I have discussed this subject.

	Ages	Vaccinated	Revaccinated	Local Anaphylaxis
Inst. C. H. . .	5-15	40	14	2 children.
Inst. N. H. . .	10-20	70	10	2 children.
Dr. D.	Adults	125	?	1 adult.
Dr. F. B. . . .	All	75	?	1 adult.
Dr. R. J.	All	172	5	1 child.
Dr. F. S.	All	125	25	0
Dr. W. W. . .	All	200	50	7 or 8
Dr. S. L.	All	500	?	3
Dr. H. J. . . .	All	65	15	1 child.

Judging by this table, its occurrence is not very exceptional. It seems more frequent in the cases not previously vaccinated.

CASES EXEMPLIFYING FORMS OF THIS REACTION

Case 1.—D. P. Primary vaccination on left arm; slight local reaction, at ten days disappearance of all traces. Revaccination on tenth day on same arm, 3 inches from previous site; reaction marked. On fourteenth day, area of the first vaccination inflamed. Course of lesion about ten days, simultaneous with revaccination. Resulting scab smaller and fell off earlier.

Case 2.—Reported to me by Dr. R. R. Jones. Primary vaccination no "take;" complete healing. Successful revaccination fourteen days later. Three days later reaction of primary vaccination, running its course in eighteen days. Course of revaccination more protracted, the scab still adhering at the end of thirty days.

A very important feature in this case is that the first vaccination was on the right leg and the revaccination on the left leg. The possibility of auto-inoculation is eliminated.

Case 3.—Dr. S. First vaccination twenty years ago "took." Second vaccination nine years ago did not take. Third vaccination was made two months ago. Three days after inoculation there were evidences of a "take." Several days later the old scar of the vaccination of twenty years ago became red, inflamed, slightly elevated, and very itchy. This continued for about five days and subsided. The vaccination ran a usual course.

Case 4.—Dr. B. Vaccinated in childhood successfully. Revaccinated at age of 20 successfully. Revaccinated again at age of 22 unsuccessfully. Shortly afterward (exact time not known) exposed to small-pox. Last vaccination scar became extremely sensitive and itchy for several days.

NATURE AND CAUSE OF VACCINATIONS

Extensive and painstaking studies of vaccination had been made by Bohn. Later, in 1903, von Pirquet presented his "Zur Theorie des Vakzination."[1] Prior to that time it was assumed that the symptoms of vaccination were due to absorption of bacteria or their toxins. Von Pirquet saw that the body reacts with the microorganism only through the agency of the antibodies and presented the subject from his point of view, that of allergy. Inoculation with a strange protein, vaccine virus in this instance, causes the production of antibodies as protectors to the organism. These develop progressively, reaching their height in a variable period of time. At the end of that period, we then have the normal organism plus antibodies. The antibodies were created for the purpose of immunity; we may, therefore, say that the organism is in a state of altered immunity. This state of altered immunity von Pirquet termed "allergy." We may also say that the organism has become sensitized toward that particular protein, or has become hypersusceptible or anaphylactic toward it.

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[9] Craig, C. F.: The Relation of Certain Bacteria to Non-Specific Reactions with the Complement-Fixation Test for Lues, Jour. Exper. Med., 1911, xiii, 521.

Let us suppose that after the organism has become sensitized to this strange protein by a full development of antibodies, another inoculation is made. The antibodies rush immediately to this point of inoculation and proceed to destroy the protein for which they are antidotal. The destruction of the protein substance by the antibodies is, let us say, a molecular disintegration. In this molecular disintegration certain by-products are let loose; these prove to be poisonous and manifest their presence by "the anaphylactic reaction," accompanied by local and at times constitutional manifestations. Von Pirquet showed that, after cow-pox vaccination, the incubation period of future vaccinations became shorter and the reaction milder, because of the development of antibodies from the primary inoculation. In the state of allergy if the antibodies are developed to such an extent that the incubation period is shortened, the resulting reaction is designated as "accelerated reaction." If the antibodies are developed to a much greater extent, so that the organism reacts immediately, the reaction is called "immediate reaction." So long as there is a sufficient "amount" of the antibodies to react immediately against the strange protein, we have immunity Thus, by inoculation with virus at certain intervals, we can keep up antibody formation and maintain immunity.

POSSIBLE EXPLANATIONS FOR THIS PHENOMENON OTHER THAN LOCAL ANAPHYLAXIS

Auto-Inoculation.—From the observations of von Pirquet and others, and from my own observations in many cases, it is known that auto-inoculation probably never or almost never occurs. If that could happen there are so many chances for its occurrence in a large proportion of the vaccinations that it would have become a recognized factor long ago.

Superinfection.—Finger's theory of superinfection cannot be unequivocally applied here. Finger, as quoted by Noguchi,[2] believes that in syphilis a trauma of the skin creates a spot of weakened resistance, and that the virus from a focus of activity wanders to the area of weakened resistance, creating a local area of reaction. The undoubted cases in which long-healed vaccine scars become active on reinoculation speak strongly against superinfection.

Neisser's Umstimmung.—According to Neisser, and recently Noguchi,[2] in syphilis and perhaps in other diseases, the skin itself may at times be abnormally sensitive to trauma, so that the site of a control area reacts simultaneously with the inoculation area. In the luetin reaction Noguchi believes that this *Umstimmung* reaction occurs exceptionally, if ever, and that his luetin vaccination is a manifestation of allergy.

Torpid Form.—Noguchi, in his work on the cutaneous reaction in syphilis, describes a torpid form of the reaction. "In rare instances the injection sites fade away to almost invisible points within three or four days, so that they may be passed over as negative reactions. But sometimes these spots suddenly light up again after ten days or even longer and progress to small pustular formations." This reaction von Pirquet, in his studies of vaccination, describes as the dormant form (*schlafende Keime*).

Moro's Bilateral Reaction.—Moro,[3] in his work on the cutaneous tuberculin reaction known by his name, observed that, in certain cases studied for control purposes, after rubbing one arm with tuberculin ointment and a similar spot on the opposite arm with pure lanolin, he obtained characteristic reactions on both arms. He explained this phenomenon as being due probably to the tuberculin reaching those parts of the cord which preside over the area of skin affected by the inunction, and assumed that the reaction was due to a reflex nervous influence on the vasomotors.[4]

The above-mentioned forms of local reaction and the explanations offered are all deserving of thoughtful consideration in this connection.

SIMILAR LOCAL REACTIONS

Those who have worked with tuberculin reactions are familiar with cases in which the first conjunctival instillation with tuberculin proves negative. Following this, when a cutaneous or subcutaneous injection is administered, we get a local reaction at the site of the injection, and we find that the conjunctiva also becomes inflamed. A similar reaction is observed when first one eye and then the other is used; at the second instillation we get a reaction in both eyes. It is also known that the conjunctiva of healthy persons can be sensitized to tuberculin, so that after primary negative results, reinoculation will show positive reactions.[5,6] These tuberculin reactions, it is almost universally conceded, are due to sensitization by the first inoculation and the second inoculation precipitates an anaphylactic reaction.

SUMMARY

All considered, in the light of our present knowledge of the subject, based on the evidences adduced, the best explanation for the lighting up of the first apparently unsuccessful vaccination, when the revaccination does "take," is that of local anaphylaxis.

The first inoculation results in the production of antibodies against the strange virus substance; it sensitizes the organism. At the second inoculation the virus, wherever deposited, is attacked by the antibodies, and in this attack certain "by-products" are let loose. These "by-products" act as poisons and produce the anaphylactic reaction. In this case the reaction is limited to local manifestations. In other instances when the dose is large, or when the protein and antibody are diffused throughout the organism, the anaphylactic reaction is constitutional.

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[1] Von Pirquet: Vakzination und Vakzinale Allergie, Leipsic, Franz Deutick, 1907.

[2] Noguchi: A Cutaneous Reaction in Syphilis, Jour. Exper. Med., 1911, xiv, 557.

[3] Moro: München. med. Wchnschr., 1908, iv, 2025.

[4] Patterson: Arch. Int. Med., 1909, iii, 301.

[5] Rosenau and Anderson: The Journal A. M. A., March 21, 1908, p. 961.

[6] Vaughan: The Journal A. M. A., Jan. 2, 1909, p. 34.

THYMIC TRACHEOSTENOSIS AND THYMUS DEATH, WITH REPORT OF CASES *

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To the five cases of thymus hyperplasia which I have reported,[1] I wish to add two others. In the following discussion, I shall refer sometimes to the cases previously reported.

REPORT OF CASES

Case 6.—Miss B. M., aged 41, suffering from an advanced exophthalmic goiter for three years, was extremely emaciated and had a marked exophthalmos. Stellwag, Graefe and Moebius symptoms were present. Pulse-rate was 88 and extremely irregular. Many of the heart-beats were not transmitted to the radial artery. The heart was enlarged. The enlargement of the thyroid gland affected both lobes and the isthmus. The right lobe was larger than the left, was irregular in surface and very hard in consistency. The inferior pole of the right lobe extended partly behind the sternum. Intense vascular symptoms, thrill and systolic murmur were present over the thyroid gland and in both supraclavicular spaces. Percussion showed a marked dulness over the sternum, extending about 2 cm. beyond each sternal edge, and fusing below with the area of cardiac dulness; no sonority between this dulness and the cardiac dulness. There were numerous ganglions along the carotid on both sides. Tremor was present. Perspiration was profuse.

The blood-examination revealed the following:

Blood-pressure	138
Hemoglobin	78
Reds	4,250,000
Leukocytes	7,400
Polynuclears	67.8 per cent.
Small lymphocytes	28.6
Large lymphocytes	3.2
Eosinophils	0.4

Diagnosis, advanced exophthalmic goiter with probable thymus hyperplasia.

Patient was kept in the hospital for medical treatment and rest for two weeks and she improved so much that she seemed in good condition to stand a pole ligation. Ligation was performed on both superior poles under local anesthesia. During the operation, the patient complained greatly of pain and asked for a few drops of ether, which were given. Operation lasted twenty minutes. During operation, she showed a general tremor, as if shivering from cold. While the suture of the skin was being made, patient had a collapse. Pupils became dilated, patient made six prolonged inspirations and then pulse stopped. She was dead. Oxygen, massage of the heart, intravenous transfusion were useless.

Necropsy.—Lungs were normal, no thrombosis in the pulmonary vein. In the superior anterior part of the mediastinal space, an enormous thymus was present, composed of three lobes; both lateral lobes covering entirely the anterior surface of the pericardium (Fig. 1), the left lobe measuring about 11 by 6 cm.; the right lobe 13 by 7; the middle lobe 4 by 2 cm. The maximum of thickness in places was 2 cm. The thymus gland was not weighed because it was left *in situ*. The thyroidea ima veins were very large. They formed two different trunks. The lymphatic glands on both sides of the neck were highly developed, being small, round and hard. The thyroid gland showed in its capsule large and numerous blood-vessels. It had the form and size described in the physical examination. The heart was larger than normally. The right chamber was slightly enlarged, but neither chamber contained blood. The heart seemed to be contracted. The thickness of the wall of the left ventricle was 2.5 cm. The thickness of the wall of the right ventricle was 0.5 cm. Trachea was not compressed. The abdomen showed nothing special. Microscopic examination of the thymus showed nothing of importance.

Case 7.—July 10, 1912. Female baby, 7.5 pounds, delivered by Dr. Rogers, with forceps. The babe required no efforts at resuscitation, breathing at once and crying lustily and was apparently normal and treated as such. The ordinary cyanosis at birth was present and passed off in the ordinary period of a few minutes' time.

At 2 p. m. the baby had what was described by the nurse as a choking spell. It turned blue, seemed to have difficulty in getting its breath, and gasped for breath. This spell yielded to the ordinary treatment of the nurse for cardiac and respiratory failure, namely, suspension by the feet, flagellation of the buttocks and splasing of cold water over the bare thorax and body. This attack lasted only a few moments and the babe again appeared to be all right, and was placed in the nursery with the other babies. About 8 p. m. a second attack occurred, more profound and serious; baby again turned blue, gasped for breath and "moaned" as the nurse said, in a peculiar way, heard only once before in her experience, in the case of a baby that died a few hours after birth from the so-called persistent patent foramen ovale. A whistling sound on both inspiration and expiration grew fainter and fainter, and in spite of efforts at resuscitation the baby died. This attack lasted about fifteen minutes.

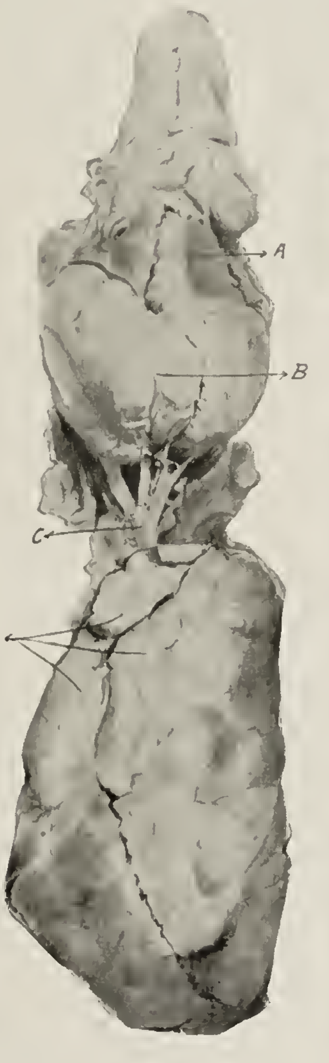

Fig. 1—Case 6.—*B*, thyroid gland with *A*, its pyramidal process; *C*, ima veins; *D*, middle and lateral lobes of thymus. Note that thymus covers the pericardium entirely.

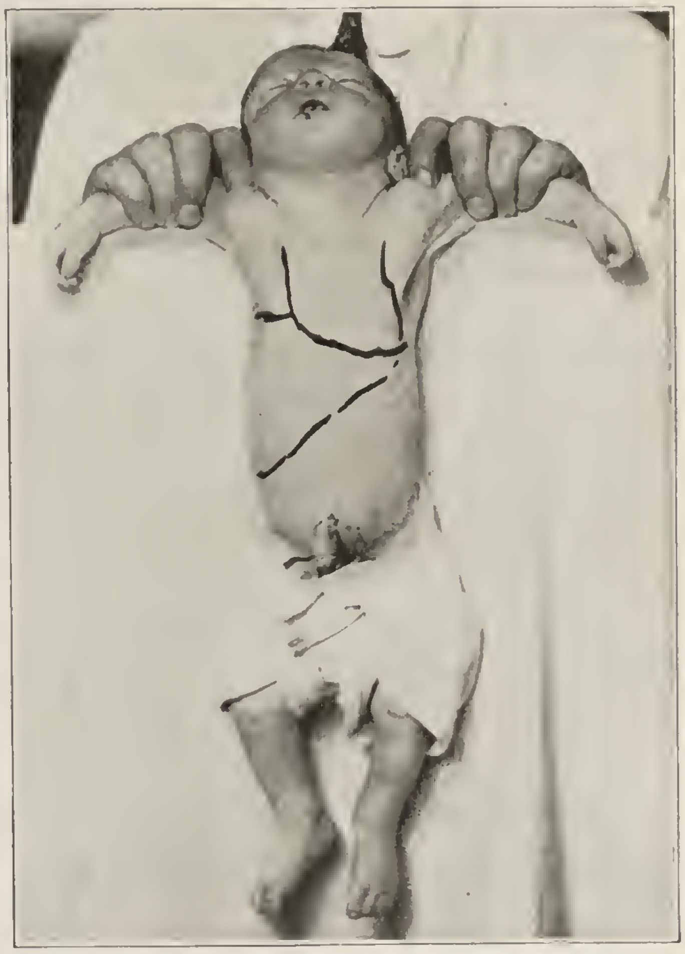

Fig. 2—Case 7.—Results of percussion of the thorax after death. Large area of dulness in middle portion of the thorax, fusing downward with the cardiac dulness and extending upward to both clavicles and incisura sterni. Liver dulness normal for a new-born.

Percussion of the thorax showed a dulness over the manubrium sterni, fusing downward with the cardiac dulness. It extended 2 cm. beyond the left sternal edge and 2.5 cm. beyond the right sternal edge (Fig. 2). The heart dulness extended downward to the sixth intercostal space, 0.5 cm. from the right sternal edge and 0.5 cm. from the nipple. Above the episternal notch no resistance was felt.

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* Read before the Columbus Academy of Medicine, Oct. 14, 1912.

[1] Crotti, André: The Roentgen Ray in Intrathoracic Goiter and Thymus Hyperplasia, The Journal A. M. A., Jan. 11, 1913, p. 117.

The opening of the thorax showed that the outlines made by percussion were exact. There was an enormous thymus located between the heart and the thyroid gland. The thymus occupied the entire upper part of the mediastinal space (Fig. 3). It was more developed toward the right side and pressed the heart downward and the pulmonary vein, aorta and superior vena cava strongly backward against the spinal column. The division of the thymus into its two lobes was not apparent; it formed a uniform mass having a transverse diameter of 5 cm., and measured 4.5 cm. in length and 2.5 cm. in thickness. After dissection, the windpipe was found compressed and flattened in the thoracic portion between the brachiocephalic trunk and the left common carotid. Section of the heart showed a patent foramen ovale with a semilunar membrane closing, in greater part, this foramen.

Death in this case was certainly due to an abnormal enlargement of the thymus. The partly patent foramen ovale does not explain this sudden death, because the child was all right before and between the dyspneic spells; the color of the baby was absolutely normal and there was no difficulty in breathing.

THYMUS HYPERPLASIA IN CHILDREN

In children what might be termed a latent thymus hyperplasia may exist for a longer or shorter period of time. Such cases do not come, as a rule, under surgical jurisdiction. They are seen by the family physician, who finds the child in poor general condition and suffering from some vague respiratory symptoms. The physician may or may not connect these symptoms with thymus hyperplasia; but even if he makes a correct diagnosis, the parents will never consider an operation until more decided dyspneic symptoms are present. Sometimes sudden death is the first symptom which reveals this latent form of thymus hyperplasia, and in the majority of cases this condition is revealed only at the autopsy. To-day, as we know a little more of this pathologic condition, I believe that this fulminating form of death without any prodromic symptoms is rare. As a rule the learned physician will find in the history of the case a few symptoms which will reveal the presence of the hyperplastic thymus. As in Bright's disease, there are in thymus hyperplasia some "minor symptoms" which will lead the physician to a correct diagnosis, and it is because such symptoms have not been carefully observed that the diagnosis of thymus hyperplasia is not made; as a result, the child is found dead in his bed. The autopsy shows a large thymus compressing the windpipe.

Certain cases of asphyxia of new-born babies are explained only by thymus hyperplasia. The child is born apparently dead and it often takes quite a long time to reanimate it; its breathing is difficult and loud. It remains cyanotic and in many instances dies after a few minutes or hours. The autopsy shows only some asphyxial lesions and an enormous thymus displacing and compressing the windpipe—no cardiac malformations, no cerebral hemorrhage, possibly only a few subpleural and subpericardiac hemorrhages.

The most striking symptom of thymus hyperplasia is dyspnea. This may be characterized by only a labored respiration or by the most intense choking spell. Between these two extremes, all forms of transition are found. Dyspnea may be constant or intermittent, with or without acute paroxysms. Between attacks, respiration may be entirely normal. There may be a constant and persistent inspiratory stridor, and in extreme dyspnea an expiratory stridor also, which is, however, less marked. In paroxysmic dyspnea, the child suddenly suffocates and becomes cyanotic. The stridor is extremely marked, respiration becomes accelerated and there is a sucking in of the suprasternal and infrasternal fossae. The choking spell may occur without cause, or when the child cries from pain or anger. Hyperextension of the head or dorsal decubitus exaggerates dyspnea. This would explain why dyspnea is more marked during sleep than during waking hours.

These paroxysms of dyspnea are extremely alarming to witness, and there is a great temptation to perform a tracheotomy. In such cases tracheotomy is useless, because the tube used is too short, the pressure taking place lower down in the thorax. From now on, every tracheotomy outfit should have tracheotomy tubes long enough to reach the bifurcation of the trachea. An interesting fact of the thymic dyspnea is that the voice is normal during the paroxysms as well as between. The choking spell may last a few minutes, a few hours or a few days, and then respiration becomes normal again. In other cases, death ensues. In certain cases the child dies at the beginning of the choking spell.

This dyspneic condition begins, as a rule, in the first weeks or months and diminishes the second year of life and is more seldom found after this period. This may be due to the fact that the gland normally retrocedes after the second year of life and that the superior opening of the thorax becomes larger with the growth of the child.

The spell of suffocation is due to compression of the windpipe by the thymus hyperplasia. The trachea is compressed to a more or less marked degree; the posterior wall of the trachea comes in contact with the anterior, so that there is very little or no space at all for the passage of air. The trachea may be compressed and displaced at the same time, especially toward the right side. When the trachea has been released from the pressure of the thymus, the flattening may remain; but in certain cases, especially in younger children in whom the trachea has kept its normal elasticity, the trachea resumes its normal caliber. This is especially true in chronic and in intermittent cases.

Pressure on the windpipe by the thymus takes place at two different points (Fig. 5).

The first point of pressure is found between the posterior surface of the manubrium sterni and the first and second vertebrae. At the superior opening of the thorax of a child the anteroposterior diameter measures only 2 cm., and as a rule the hyperplastic thymus measures more than 2 cm. in thickness; as the superior opening of the thorax is absolutely rigid and cannot increase its diameter, the thymus coming up like a wedge between the sternum and the spinal column will naturally compress the windpipe. A finger placed behind the episternal notch feels the impact of the rising thymus. If the superior opening of the thorax cannot increase its diameter, it can, on the other hand, diminish it, for instance, in the hyperextension of the head (Fig. 6). In such cases the vertebrae are projected forward and in so doing diminish the anteroposterior diameter of the superior opening of the thorax. This would explain why in certain cases death has followed such a position.

Another point at which the compression of the windpipe may take place, too, especially in adults, is the point situated between the brachiocephalic trunk and the left common carotid. This compression is not confined to one ring of the trachea alone, but extends over a certain portion of it. This is easily understood when we consider the anatomic relations of the thymus with the trachea in that region. As the thymus presses on the anterior surface of the trachea in the space between the left common carotid and the brachiocephalic trunk, and as the trachea lies in front of the spinal column, in

ILLUSTRATING ARTICLE BY DR. ANDRÉ CROTTI ON "THYMIC TRACHEOSTENOSIS AND THYMUS DEATH"

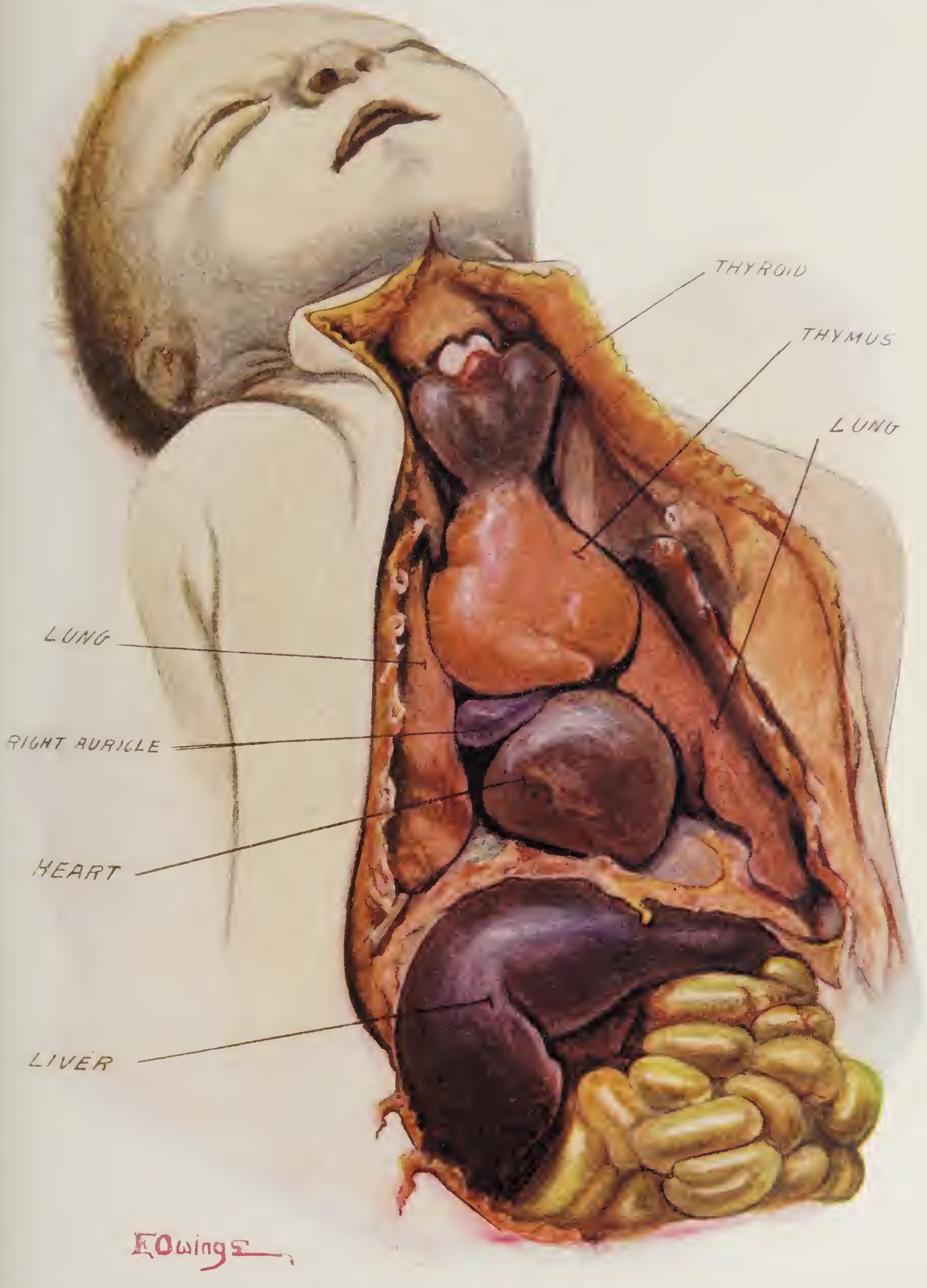

Fig. 3.—Case 7.—Post-mortem, showing the relations of thyroid, thymus, heart and lungs to each other.

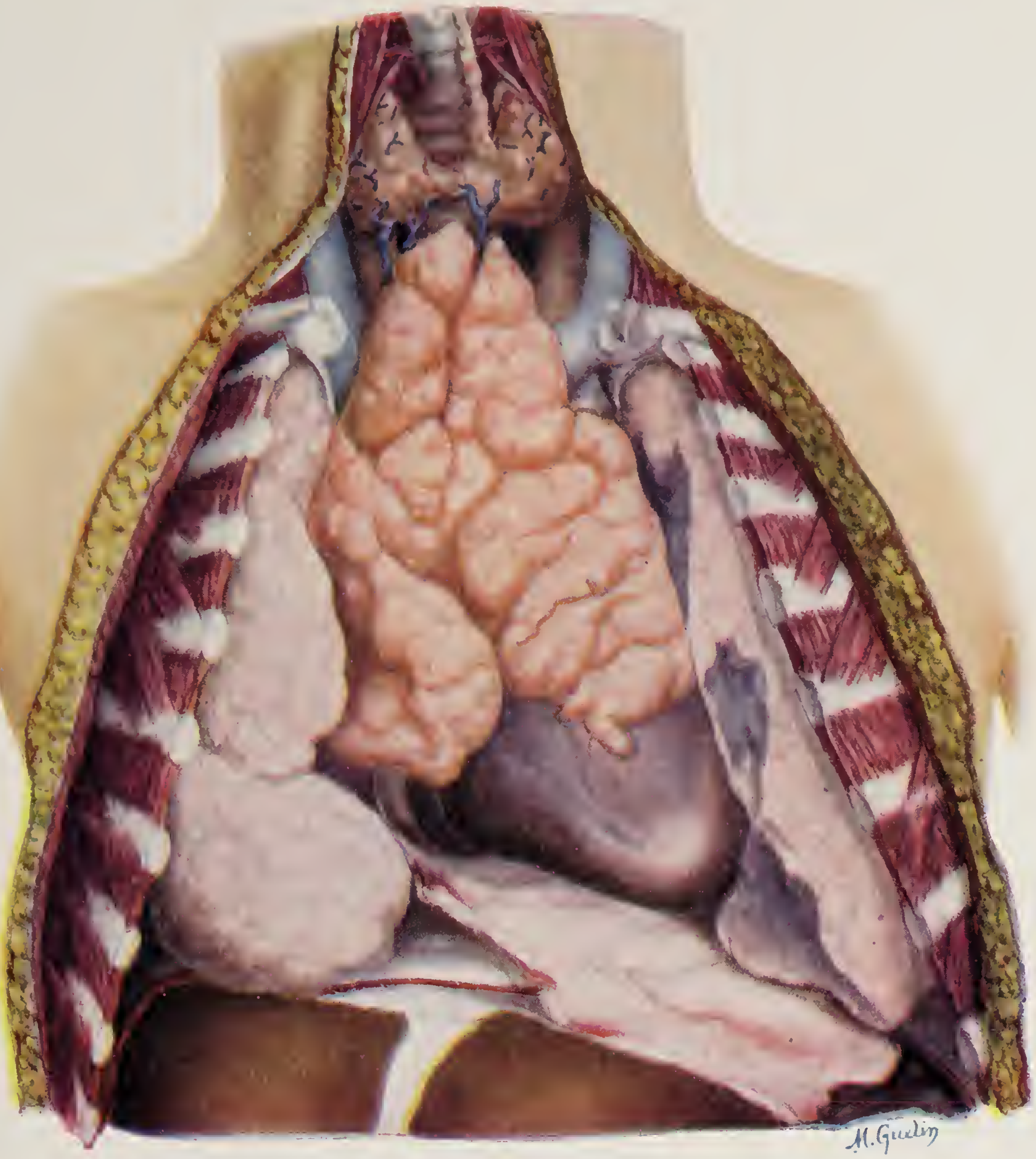

Fig. 4.—Hyperplastic thymus, showing its relations with the mediastinal organs

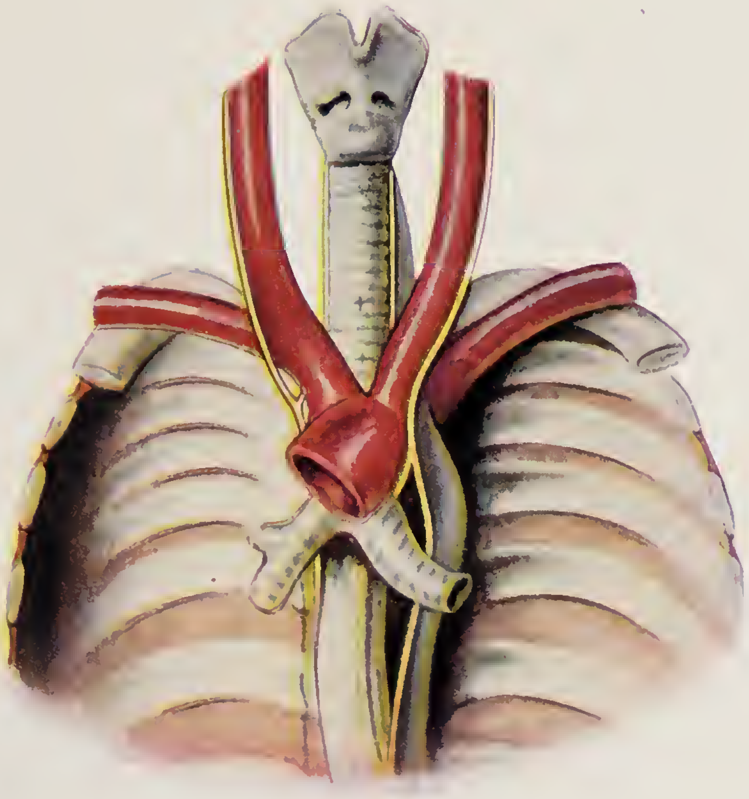

Fig. 5.—This figure illustrates how the displacement of the aorta and of the brachiocephalic trunk will result in the stretching of the inferior laryngeal nerves. The two plus marks in front of the windpipe show the point of election of compression by the hyperplastic thymus (Klose).

cases of sudden enlargement the thymus will exert a compression on the trachea, being itself compressed between the spinal column and the sternum.

The first form of compression, which takes place at the superior opening of the thorax, is found mostly in children, as illustrated by my previously reported Case 5. The second form or thoracic form, which takes place, as above mentioned, between the brachiocephalic trunk and the left common carotid, is found mostly in adults, as illustrated by Cases 1 and 3.

Stenosis of the trachea due to direct pressure by the thymus has often been demonstrated at autopsies, and the cases which I have reported corroborate these findings. The successful surgical operations which have been performed in order to relieve patients of symptoms of thymic tracheostenosis also confirm these views. In a case of tracheostenosis Jackson was able to demonstrate by tracheoscopy that the trachea was compressed between the second and fourth ribs.

Such a compression is not present in all cases in which the patient dies with marked dyspneic symptoms. In these cases I think the explanation may be the following: The hyperplastic thymus compresses and displaces the large vessels, namely, the aorta and the brachiocephalic trunk. If we remember that the inferior laryngeal nerve winds around these vessels (Fig. 5) it will easily be understood that these nerves will be put on the stretch by the displacement of these blood-vessels. We know that irritation or stretching of the inferior laryngeal nerve causes a spasm of the glottis, although dilators as well as constrictors of the glottis are supplied by the inferior laryngeal nerve. But the constrictors of the glottis being stronger than the dilators, the irritation of the inferior laryngeal nerve by stretching causes a spasmodic contraction, instead of a dilatation, and consequently a spasm of the glottis. In such cases tracheotomy would save the patient.

In other cases I believe that direct pressure on the base of the heart and consequently on the heart ganglions may be the cause of death. This explanation is suggested to me by Case 2, of my first series. In that case the base of the heart was practically choked by the enlarged thymus. In similar conditions there are no periods of choking, and the patient dies with all the symptoms of sudden cardiac collapse.

It would be a mistake to believe that thymus enlargement is the only cause which can give a congenital stridor and respiratory trouble. Such conditions may also be found with malformations of the vestibulum of the larynx, with tracheobronchial glands and with adenoids. An accurate differential diagnosis must be made between these different forms of stridor.

The congenital vestibular stridor is seen after birth. It is entirely inspiratory and is not found on expiration, except in rare cases. Cyanosis is present too, but the stridor and dyspneic symptoms disappear with intubation of the larynx, which is not the case for the thymic dyspnea in children. The laryngoscopic examination, when possible, and the autopsy show that this stridor is due to a malformation of the superior opening of the larynx. The epiglottis has a gutter or beak-like form and is folded in the middle line. The plicae aryepiglotticae of both sides come in contact one with the other; they are pulled down over the opening of the larynx and so diminish its orifice; hence dyspnea and stridor.

Stridor due to tracheobronchial glands is found mostly on expiration, and the voice has a bitonal character. Furthermore, the thymic stridor is congenital; the tracheobronchial stridor is acquired. Percussion and radioscopy will reveal entirely different findings.

In adenoids there may be a difficult and labored breathing, which is more noticed during sleep; but in such cases, diagnosis will be easy.

Thymic stenosis should not be mistaken for a retrovertebral abscess or an acute laryngitis. In laryngospasm of infancy the period of apnea is very short, and in a few seconds respiration begins again. It is always a manifestation of a spasmogene diathesis and is always accompanied by other symptoms or other stigmata (Erb's facial and Trousseau symptoms).

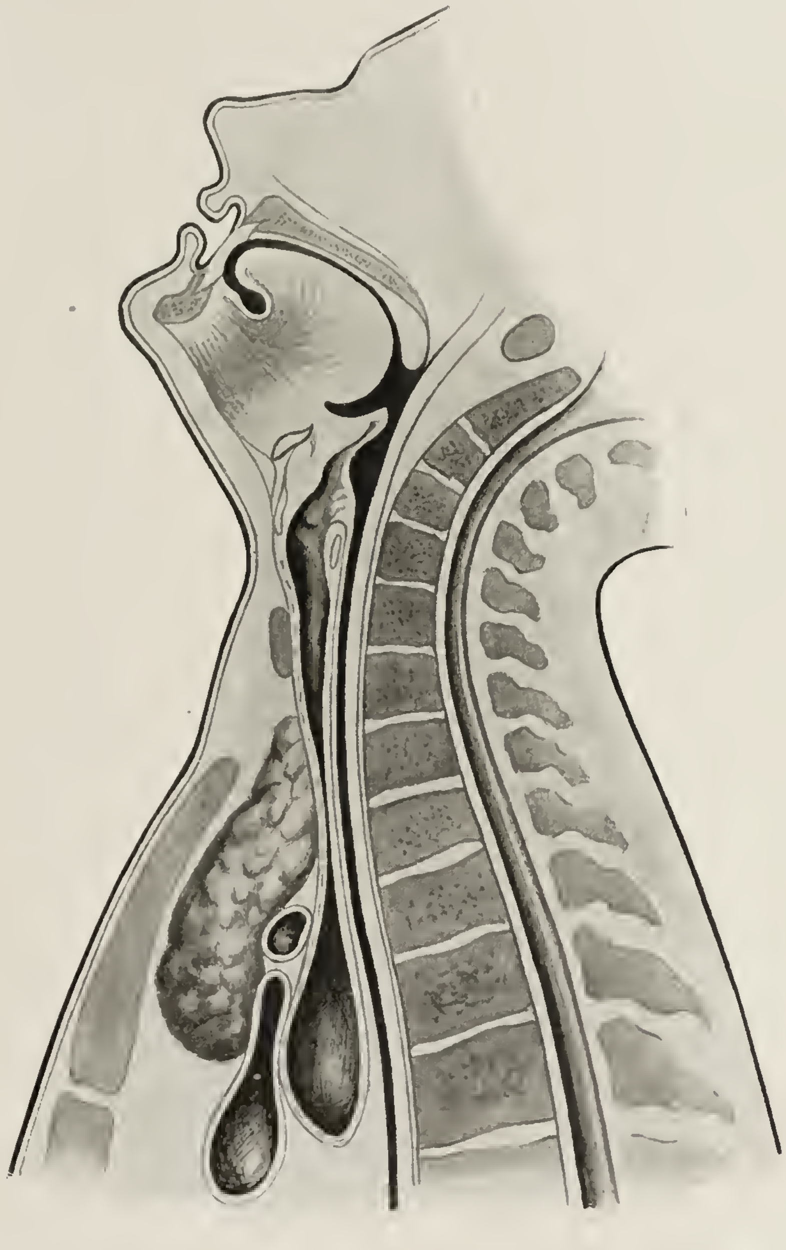

Fig. 6.—Hyperextension of the head, showing how compression of the trachea by a hyperplastic thymus can take place. The cervical vertebrae are displaced forward; the larynx and mediastinal organs are raised upward; the thymus is caught like a wedge between the sternum and spinal column. Hence compression of windpipe (Klose).

The hyperplastic thymus may come in contact with and compress the right and left auricle and ventricle, the superior vena cava, the aorta, the brachiocephalic trunk and the left common carotid (Fig. 4); hence cyanotic symptoms characterized by distention of the veins of the neck, the puffiness of both supraclavicular spaces, cyanosis of the face and distention of the large fontanelle. During paroxysms these symptoms become extremely marked. The veins of the neck are much distended and the fontanelle protrudes; the face is puffed and the child is in a semi-comatose condition. The heart beats violently, or in certain cases stops beating. When the paroxysm is over, these symptoms retrocede, but in other cases it terminates in death. Autopsy shows that compression of the right auricle and ventricle and of the superior vena cava and aorta is very marked. In such cases the dyspneic symptoms are of secondary importance. The vascular symptoms dominate the scene and extreme repletion of the veins of the neck and face, distention of the large fontanelle and the tendency to collapse will differentiate this form of cyanosis from the one due to congenital malformations of the heart. In the persistence of the foramen ovale, the cyanotic condition of the patient is uniformly distributed and persistent.

In people who die suddenly, autopsy does not always show the cause of death. In such cases, especially in children and young adults, the thymus is found enlarged. It is the only finding. If the thymus compresses the trachea and the large vessels, dyspnea and cyanosis will be found in the history of the case, and the autopsy will reveal that there is a compression of the windpipe and of the large vessels by an enlarged thymus. In such cases, even when the paroxysms have been short and unique, the cause of death is easily found, and its relation to the enlargement of the thymus is seen. But besides these, there are other cases of sudden death, in which no causes at all are revealed. There is no dyspnea, no cyanosis. The thymus is enlarged, but there is no sign of compression anywhere. Such deaths occur under anesthesia, and it makes no difference what anesthetic is used or in what amount. Death occurs early in the process of anesthesia or even after the patient has recovered from the anesthetic. In such cases, as a rule, the patient during anesthesia shows a tremor which resembles shivering from cold, as in my Cases 2 and 6. The respiration is accelerated and superficial; the pulse is weak; the face is white; the pupils are dilated; respiration stops first and then the heart.

Death during anesthesia for operation for adenoids has been thought to be due to a thymus enlargement, which in such cases coincides with the enlargement of the tonsils, adenoids and other lymphoid tissues—in other words, with a status thymolymphaticus. Sudden death may occur in little children, especially during the night. The child wakes up suddenly, tries to stand up, his pupils become dilated, his respiration stops, he stiffens and contracts himself and dies. This death has been reported, too, after plunging the child into cold water, after the opening of a retropharyngeal abscess, after a simple examination of the throat and after a simple hyperextension of the head.

Hyperplasia of the thymus has been found in connection with alterations of the endocrines glands, in simple goiter, hyperthyroidism and myxedema, acromegaly and tetany In goitrous countries, especially in Bernese regions, where goiter is endemic, thymus hypertrophy and struma in the new-born is exceedingly frequent. In 1910, in the Bernese Pathologic Institute, forty-four post-mortems of the new-born were made. In twelve of these cases thymus hyperplasia was extremely marked and the goiter of large size. In adults this combination of thymus hyperplasia and goiter is more frequent than it has heretofore been supposed.

Rössle reports a series of fifty-two cases of hyperthyroidism with thymus hyperplasia. McCardi, in thirty-five cases of sudden death in hyperthyroidism, found eighteen cases with hyperplasia. Rehn, in 319 cases of Graves' disease, treated surgically, had forty-two deaths. Six patients died with extremely marked dyspneic symptoms. In the literature Matti found 133 cases of hyperthyroidism, in which post-mortem had been held, and in ninety-eight cases, making 74 per cent. of the total cases, hyperplastic thymus was found. These figures show that thymus hyperplasia, in combination with Graves' disease, is very frequent.

In many such cases death has been mechanically due to a compression of the windpipe or to a stretching of the inferior laryngeal nerve, but in a great many other cases death can occur without compression or irritation of the laryngeal nerve, and no dyspneic symptoms are present. In such cases the explanation of sudden death by compression of the large vessels and trachea would not be correct. Some have thought that death was due to compression of the phrenic nerves, hence apnea; others have thought that death was due to pressure of the vagus and inferior cardiac nerve, hence collapse; but there are no anatomic facts to substantiate these theories. When compression on the base of the heart is very marked, as in my Case 3, I believe that death may be due to a compression of the heart's ganglions.

Paltauf explains such death by his lymphaticothymic theory. In his judgment, thymus hyperplasia is only one symptom among others of a disease which involves the entire lymphatic apparatus, and which he calls status thymolymphaticus. This condition would cause abnormal metabolic changes, which take place in the nervous centers controlling the heart action and cause a sudden cardiac insufficiency with acute dilatation of the heart. This hypothesis, possibly correct in a few cases, has not been sufficiently corroborated by facts, and does not stand the analysis of our new anatomic and physiologic acquisitions. The thymus is not a lymphoid, but a glandular organ. Cases of pure thymus hyperplasia, without status lymphaticus, and vice versa, are often found, and in many cases of thymus hyperplasia with sudden death the syndrome of Paltauf is lacking.

Lately Svehla has asserted that the thymus gives off an internal secretion, and he thinks that death is due to this substance acting on the heart and the nervous system.

In injecting a watery solution of thymus extract into animals, Svehla found a diminution in the blood-pressure and increased rapidity of the pulse. Repeated injections caused death of the animals; therefore he considers the mors thymica a consequence of a hyperthymization, which causes a diminution in the blood-pressure.

Vincent, Hart, Sheen, Farini and Vidoni confirmed these findings, but found that other extracts of tissues, muscles, kidney, liver, testicles, spleen, pancreas and lungs have the same depressive effect on the heart; these observers concluded that this property of diminishing the blood-pressure is not specific to the thymus.

The physiologic action of the thymus is not yet clear. This organ must certainly be of importance to the organism, because it grows until the age of puberty and then gradually retrocedes, but remains of it are still found in old age. According to the latest experiments of Klose, this organ is essential to life. Congenital absence of the thymus has been found in a few cases, but only in the new-born who died from other causes, so that they did not live long enough to show the pathologic effects of an absence of the thymus. Lubarsch performed an autopsy on an infant 8 weeks old, in which the absence of the thyroid was total. A careful examination of the other glands, thyroid, hypophysis, adrenals, pancreas and genital organs did not reveal any detectable pathologic conditions.

The results of the transplantation of thymus are contradictory, and it may be said in conclusion that the transplanting of a normal thymus does not cause any symptoms, but that the transplanting of a hyperplastic or pathologic thymus causes toxic symptoms which center their effect especially on the circulatory and nervous apparatus. In my Case 3, I had marked thymotoxic symptoms; in Case 4, no symptoms at all.

Bircher, after implanting in the peritoneal cavity of dogs a fresh hyperplastic thymus taken from a patient who died after an operation for Graves' disease, observed marked cardiac and nervous symptoms, a hyperplasia of the thyroid gland and an exophthalmos. Schmidt and other authors in doing the same experiment obtained negative results.

How is death after strumectomy in hyperthyroidism to be explained? In order to give a satisfactory answer, we should know a little more about the relations between the thyroid and the thymus. Do they have an antagonistic action or do they work harmoniously? Gierke believes that the two glands compensate each other more or less and that in strumectomy there is a diminution in the thyroid secretion and consequently an increased thymus function, which causes a hyperthymization.

Rössle thinks that the hypertrophy is only an expression of the increased demand in the function of an organ; possibly in Graves' disease the hypertrophy of the thyroid is not sufficient to furnish the desired amount or quality of secretion. Therefore the thymus hypertrophies in order to supply the deficiency of the thyroid.

Hart thinks that there is an antagonism between the functions of the thymus and the thyroid. He believes that the hyperplasia of the thyroid is due to the effort of this gland to destroy the poisons of thymic origin. Sudden death after strumectomy in hyperthyroidism is due, according to Hart, to a thymic auto-intoxication.

Garre, Capelle and Bier believe that the thymus aggravates the hyperthyroid symptoms. The thymus, in their judgment, does not compensate the thyroid secretion, but works more or less harmoniously with the thyroid; the thymus, like the thyroid, has a sympatheticotonic and vagotonic action.

Bircher believes in the possibility of a hyperthyroidism of thymic origin and thinks that the thyroid and the thymus have an antagonistic action.

From all these different opinions, we can draw the conclusion that the hyperplastic thymus aggravates Graves' disease, but we do not yet know the exact relation between the thymus and the thyroid. The solution of the problem is still a difficult one and will be solved probably when we know a little more about the internal secretion and the part played by the hormones.

Wiesel and Hedinger found in cases of status thymolymphaticus a hyperplasia of the chromaffin system, and Matti found experimentally that after thymectomy the medullary substance of the adrenal bodies is markedly increased and that in cases of thymus hyperplasia the medullary substance of the adrenals was decidedly diminished. Hence the conclusion of Wiesel that in cases of status thymicus there is a hypoplasia of the chromaffin system. In that case the secretions of these bodies, which in normal condition have a tonic action on the vascular system, are diminished or wanting; hence hypotony, a diminution in the blood-pressure, and finally a paralysis of the vascular and cardiac systems and death. This explanation is not in accordance with my researches. I have made it a practice to determine the epinephrin content of the blood in every goiter case. In hyperthyroidism I have found, as a rule, an increased epinephrin content in the blood. The whole question is far from being solved and needs further investigation.

151 East Broad Street.

BOILED VERSUS RAW MILK

AN EXPERIMENTAL STUDY OF MILK COAGULATION IN THE STOMACH, TOGETHER WITH CLINICAL OBSERVATIONS ON THE USE OF RAW AND BOILED MILK

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CHICAGO

Milk, alone of all foods, enters the stomach a liquid and becomes there a more solid food. This hidden and insidious solidness, if I may use the term, is peculiarly characteristic of raw cow's milk, as compared with boiled cow's milk, or human milk. The housewife and the dairyman are practically familiar with the fact that boiled milk forms a different curd from raw milk. We, on the other hand, have quite ignored the fact that raw and boiled milk are not identical foods. If we have thought of it at all it has been rather from a bacteriologic than from a physiologic point of view. And yet boiled cow's milk forms in the stomach, as does human milk, nearly a liquid food; while raw cow's milk, as I shall hope to demonstrate, is not even a soft food, but a solid food, so solid, in fact, that, unless modified in some way and given in careful moderation, it commonly forms hard masses that pass undigested throughout the whole alimentary tract and appear as hard curds in the stools.

It is exactly in these hard curds that one has the most tangible evidence that raw and boiled milk are not interchangeable clinical and experimental factors. It will be remembered that Talbot[1] demonstrated from various angles that these "hard tough curds" were casein derivatives, that is, "casein curds," in contradistinction to the small, soft, white curds that are "fat curds." Meyer and Leopold,[2] representing the Finkelstein school, denied the existence of a casein curd, basing their conclusions on the analysis they had made and on metabolism experiments. There was only one possible explanation for this discrepancy between equally competent observers about so simple a phenomenon; the hard curds that Talbot and other American clinicians described did not occur in Leopold and Meyer's experience. Talbot used raw milk, Meyer and Leopold used boiled milk exclusively, and the hard curd is essentially a raw-milk phenomenon, as pointed out independently by Ibrahim[3] and myself.[4] Meyer then fed a number of babies raw milk and promptly for the first time in his enormous experience saw these hard curds, and at once granted their casein origin. After being impressed again and again by the striking differences in the behavior of raw milk and boiled milk, first in the clinic and then in laboratory and stomach experiments, I cannot help feeling that other differences in clinical results will be cleared up, as in this case, if we have in mind that raw milk and boiled milk are not identical foods.

In the former paper[4] I offered as an explanation, as did also Ibrahim,[3] for the invariable occurrence of these hard curds when enough raw milk was fed, that, while boiled milk formed fine soft curds in the stomach, raw milk formed large hard curds that under given conditions would be passed through the whole digestive tract before they were completely digested. The evidence for this explanation was twofold:

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[1] Talbot, F. B.: Composition of Large Curds in Infants' Stools, Boston Med. and Surg. Jour., June 11, 1908, p. 205; The Composition of Small Curds of Infants' Stools, Boston Med. and Surg Jour., Jan. 7, 1909, p. 13; Casein Curds of Infants' Stools, Arch Pediat., December, 1910, p. 919; Casein Curds in Infants' Stools. Biologic Proof of Their Casein Origin. Arch. Pediat., June, 1910. p. 440.

[2] Meyer, L. F., and Leopold, J. S.: The So-Called Casein Masses in Infants' Stools, Arch. Pediat., October, 1909, p. 773, and February, 1910, p. 126.

[3] Ibrahim, J.: Kaseinklumpen im Kinderstuhl in Zusammenhang mit Rohmilchernährung, Monatschr. f. Kinderh., 1911, x, No. 2.

[4] Brennemann, Joseph: A Contribution to Our Knowledge of the Etiology and Nature of Hard Curds in Infants' Stools, Am. Jour. Dis. Child., May, 1911, p. 341.

1. Experiments *in vitro.* When rennin is added to raw milk in a beaker at a proper temperature the milk will quickly form a dense hard coagulum that separates rapidly and completely from the whey. Boiled milk under the same conditions coagulates less slowly, separates less completely and forms a soft, finely divisible curd that differs but little from a thick liquid.

2. The clinical observation that babies fed on raw cow's milk will at times vomit hard, leathery curds of enormous size.

A third observation, made since that time, makes this explanation even more probable. In a series of babies I have found that if raw milk is injected by rectum and retained for a time, the next bowel movement will contain typical hard curds, indistinguishable from those that occur when raw milk is fed by mouth. If the milk was returned in a short time the curds were soft and white; if after four or five hours, they were smaller and harder, more brownish or amber-colored, and more rounded or bean-shaped, an exact parallel to what occurs when these curds are present clinically. Thus in diarrhea, in which they are rushed through rapidly, they resemble more nearly a fresh-milk coagulum. As a condition of constipation is approached and they pass through more slowly they contract longer and are therefore harder, are more stained and are more rounded. If a portion of the feces of one of these babies is added to milk, the latter will coagulate as with rennin. The identical nature of the process of curd formation in the two cases can hardly be doubted. With boiled milk no such typical hard curds were formed in the rectum.

The interest now naturally drifted away from the hard curds to the processes going on in the stomach that produced them. The difference in coagulation of raw and boiled milk as shown in the beaker could not be applied forthwith to the stomach. One must assume, until the opposite is proved, that a living organ, lined with an active mucous membrane, with a complex specific secretion and a constant peristaltic motion, acts otherwise on ingested milk than would a motionless glass beaker. Czerny[5] has maintained, for example, that the constant motion of the stomach prevents the formation of large hard curds. That motion does not prevent the formation of large hard curds is evident from experiments *in vitro* when the milk and rennin are constantly stirred or shaken. In fact, the curds thus formed are always large, with raw milk, and peculiarly hard; often, indeed, the whole curd content of the beaker is collected in one hard mass. Whether there are other conditions present in the stomach that cause milk to act differently there than in a beaker can be determined only by a study of what goes on in the stomach itself.

Such a study presents difficulties that are greater than one would at first imagine. The stomach-tube, on account of the size of the curds, is worse than useless, because its use can lead only to erroneous conclusions. The use of an emetic introduces an element that is objectionable because unnatural, and is accompanied by discomforts that practically prohibit its use. Both are peculiarly contra-indicated in an infant, and the use of an emetic, especially in the presence of large hard curds, would not be wholly free from danger.

While debating in my mind how these difficulties could be overcome, I discovered a healthy young adult, with normal digestion, and according to an analysis by Dr. Buhlig, with normal stomach contents, who could promptly, with little effort and a minimum of trauma to the curds, empty the stomach by the simple method of passing the finger into the throat. I intended at first to have this done only twice, once with raw milk and once with boiled milk, but the process was so free from serious discomfort, the disclosures so interesting, and the subject so willing, that about forty experiments were made with raw and boiled milk and with various "milk modifiers." While these observations were made on the adult, and only such application must be made to the infant as known identical physiologic conditions would warrant, nevertheless they can at least form a working basis for clinical observation in the infant.

In all of these experiments, unless otherwise stated, one quart of certified milk was taken in a period of about five minutes, at a temperature of about 95 F., on an empty stomach before breakfast, and was returned at the end of thirty minutes. One quart was a simple measure and represented about the amount, relatively, that a baby would take at one feeding. When "boiled" milk was used it was milk boiled actively for five minutes in a single boiler and then cooled to 95 F. as before.

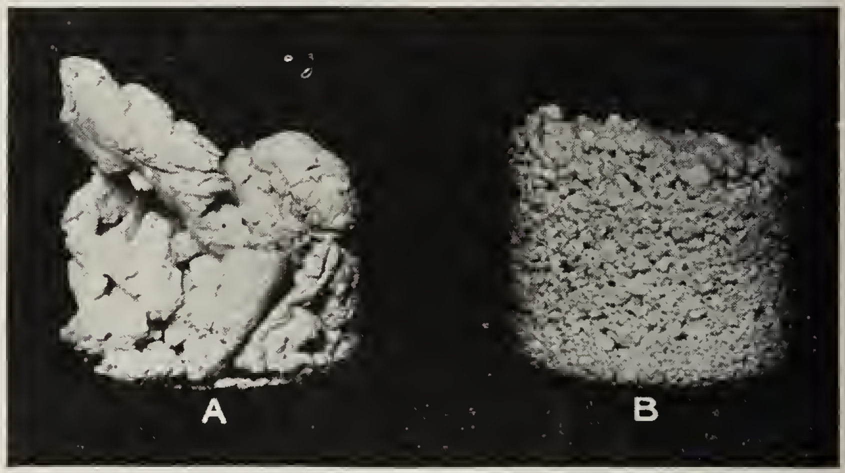

Fig. 1.—*A*, curds of one quart of raw fat-free milk returned from the stomach after thirty minutes; *B*, curds of one quart of boiled fat-free milk returned from the stomach after thirty minutes. (The glass jars in which the specimens in this and the following illustrations were placed do not show in the reproductions. All pictures of specimens are one-half their actual size.)

After examining the returned contents, 40 per cent. formaldehyd solution was added up to 10 per cent. After standing for from six to twelve or more hours the curds were hard, and were then washed, dried and placed in jars as here shown. The preserved specimens are all smaller than the fresh ones, very much so when returned in thirty minutes, because they contracted considerably after being returned, while those remaining in the stomach much longer contracted very little.

REPORT OF EXPERIMENTS

Experiment 1 (Fig. 1 *B*).—A quart of boiled fat-free milk, returned in thirty minutes, had curdled in fine, small, easily divisible, soft masses, that were of about the consistency of good custard, and were imperfectly separated from the whey even after standing for some time.

Experiment 2 (Fig. 1 *A*).—Same as Experiment 1, except that one quart of raw fat-free milk was used. There was complete separation of curd and whey. In the clear straw-colored whey there were lying enormous, distinctly isolated curds that were firm and more or less rubbery, could be handled easily without breaking, and resembled exactly the curds I had become familiar with in beaker experiments when the milk and rennin were stirred constantly. So large and firm were these curds that they caused a sensation of alarm as they passed the throat. The average size was from that of a hazelnut to that of a walnut; many were 2 inches long, and one was 3 inches long and for the greater part of its length was 1 inch in diameter.

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[5] Czerny, A.: Des Kindes Ernährung, Ernährungs-Störungen und Ernährungs-Therapie, 1909, Franz Deuticke, Leipsic und Berlin.

Experiment 3.—Same as Experiment 2, using raw whole milk. The result was the same except that the whey was a little milkier, and the curds somewhat yellower, softer and even larger than before. One curd was 4 inches long. Another came into the throat, stuck for a while, had to be reswallowed, and resisted all further attempts at delivery.

Experiment 4.—Same as Experiment 3, except that the raw whole milk was returned in one hour instead of thirty minutes. About a pint was returned. There was complete separation, as before, of curd and whey, but the latter was more turbid, was distinctly bitter and contained more mucus. The curds were somewhat smaller than before, were less angular, more rounded and firmer, and many had bizarre shapes, evidently arising from the coalescing of several curds. There were many more fine curds than before.

Experiment 5 (Fig. 2 *A*).—Same as Experiments 3 and 4, except that the raw whole milk was returned at the end of two hours. About a pint was returned. This was much more bitter than in the previous experiments, and had a decided taste and odor of vomitus for the first time. The whey was decidedly turbid. There were few small curds, but the remaining curds were larger and harder to return than in any other experiment in the whole series. One curd, from one-half to three-quarters of an inch thick, was 5 inches long and extended laterally 2½ inches at one end and 1½ inches at the other end. Another was banana-shaped, 1 inch in diameter and 3 inches long. Another was 2½ by 1½ by ¾ inches. They were all smooth and rounded, as if the sharp corners had been packed down.

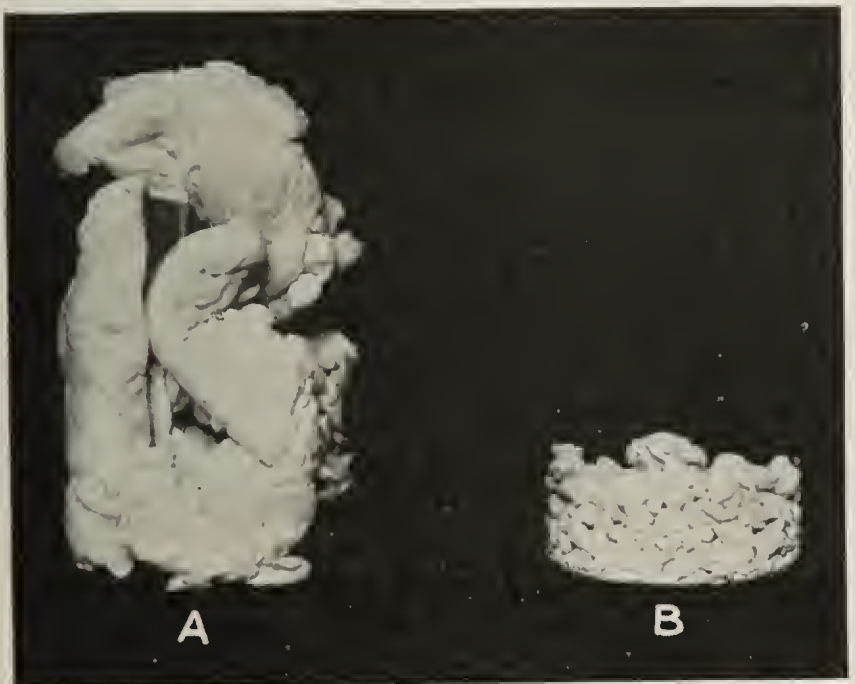

Fig. 2.—*A*, curds of one quart of raw whole milk returned from the stomach after two hours; *B*, curds of one quart of boiled whole milk returned from the stomach after two hours.

Experiment 6 (Fig. 2 *B*).—Same as Experiment 5, except that boiled whole milk was used. Returned in two hours. There was so little whey that it was necessary to drink a glass of water to be able to return all of the curds. The curds were still abundant, averaged from a pea to a small hazelnut in size, and were larger and firmer than when returned in thirty minutes.

Experiment 7 (Fig. 3 *B*).—Same as Experiment 6, except that the boiled whole milk was returned in three hours. Contents could not be returned without drinking water. Were reported "bitter and sour." About a tablespoonful of rather soft, round curds were returned, that were about the size of sand grains, with a few as large as a pea. A large mass of mucus floated on top of the water with gray, feathery, stringy masses of milk tangled up in it. The stomach was thus nearly empty after three hours, with boiled milk.

Experiment 8 (Fig. 3 *A*).—Same as Experiments 3, 4 and 5, except that the raw whole milk was returned in five hours. A glass and a half of water was required to return it. It was reported that the returned fluid was very "bitter" even in this dilution, but especially that "it left a horrid taste in the mouth as after taking vinegar." The liquid was very turbid and was filled with feathery whitish strings of mucus radiating out in parallel lines from the remaining curds to which they were intimately attached. There were still about ten curds an inch or more in length, and from half an inch to an inch in breadth. One was over 2 inches long. All were rounded or almond-shaped and firmer than in any preceding experiment. Some had, again, bizarre shapes, and looked as if eaten into, an appearance that is characteristic of the large, hard, yellowish curds of infants' stools. There were few small curds. Thus with raw milk there were still large curds after five hours.

Experiment 9 (Fig. 4 *B*).—One quart of whole milk was pasteurized by heating twenty minutes at 155 F. and was returned in thirty minutes. The result lay between that of raw and boiled milk but much nearer the former. There was complete separation of curd and clear whey as with raw milk. The curds were not so massive but had all the characteristics of raw milk curds.

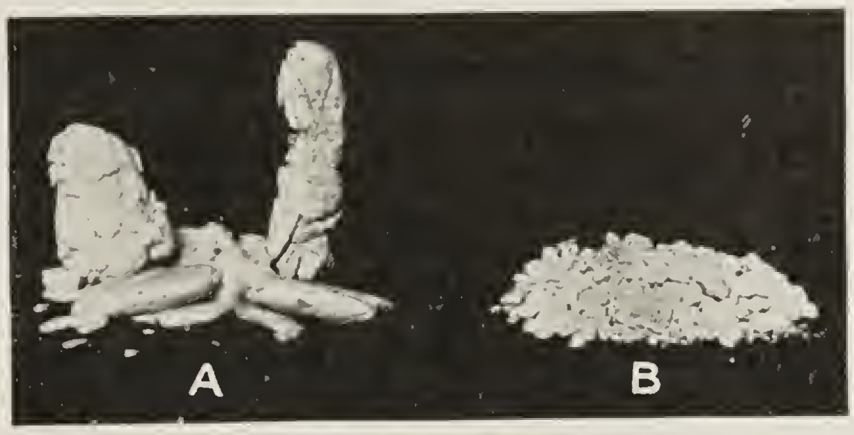

Fig. 3.—*A*, curds of one quart of raw whole milk returned from the stomach after five hours; *B*, curds of one quart of boiled whole milk returned from the stomach after three hours.

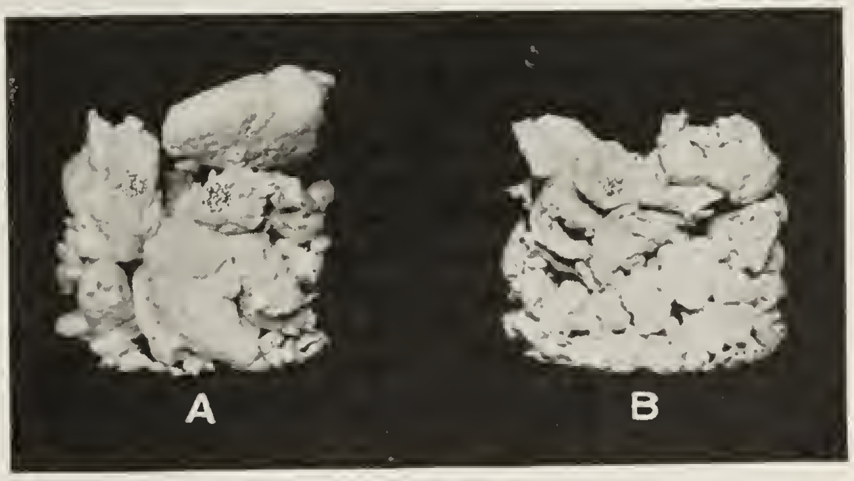

Fig. 4.—*A*, curds of one pint of raw whole milk returned from the stomach after thirty minutes; *B*, curds of one quart of pasteurized whole milk returned from the stomach after thirty minutes

So far in each experiment the quart of milk was taken in about five minutes. To meet the objection that a baby does not take its milk in this way, but slowly over a period of from ten to twenty minutes, the following test was made:

Experiment 10.—A quart of raw whole milk was sipped slowly in a period of forty-five minutes, and returned thirty minutes later. One pint of clear whey, without bitter taste, was returned and contained only one small curd. Two glasses of water were returned clear with no curds. For some time a "heavy feeling" was felt under the lower end of the sternum. Five hours later, with two glasses of water, half a dozen curds were returned, that were each about the size of a large almond, and resembled closely those of Experiment 8.

To exclude the possibility of coincidence this experiment was repeated four times:

Experiment 11.—Duplicate of Experiment 10. Result exactly the same except that there were no curds after thirty minutes or after five hours.

Experiment 12.—Same as Experiments 10 and 11, but sipped only thirty minutes. Result the same. Only one curd after thirty minutes. No attempt was made to return the contents after five hours.

Experiment 13.—Same as Experiments 10, 11 and 12 except that one pint of raw whole milk was sipped in thirty minutes. Results exactly the same. Half a pint of clear whey was returned after thirty minutes. No curds then or five hours later.

Experiment 14.—Same as Experiment 13, but sipped in twenty minutes. Result the same except that the returned whey contained six or seven curds the size of unshelled almonds. This is at least suggestive that the shorter period of sipping is causing curds to return.

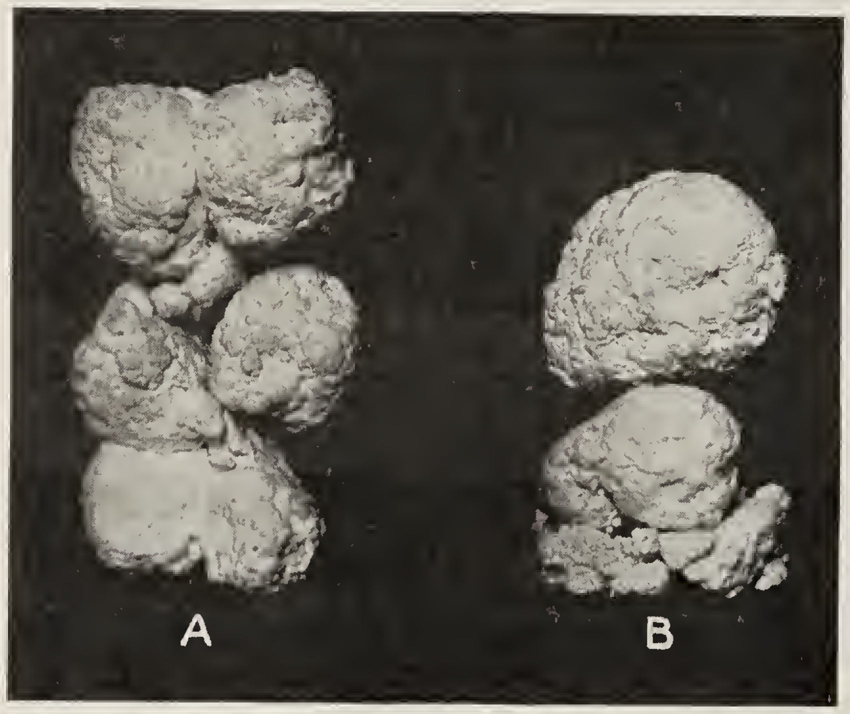

Fig. 5.—*A*, large curds formed in the beaker when raw whole milk and rennin solution were slowly mixed and stirred over a period of forty-five minutes and stirred for thirty minutes longer. Note coalescence of large curds. *B*, same as *A* except that raw fat-free milk was used. Only two very large curds and a few very small ones formed.

This astounding and most unexpected result to my mind admits of only one interpretation, that drinking raw milk very slowly favors the formation of a smaller number of curds so large that they cannot be returned. The large amount of unmistakable whey was positive evidence that the milk had coagulated completely as raw milk always does, and it is unthinkable that the curd could have passed on and left the whey. The absence of bitter taste, that is, peptonization, would alone exclude such a possibility. That they had not passed on was evident, too, from the fact that in the first case, at least, curds were returned after five hours.

Further evidence that this explanation is the correct one was obtained in two ways: (1) by repeating the sipping experiments with diluted raw milk, or with undiluted boiled milk, instead of undiluted raw milk; and (2) by duplicating the experiment in the laboratory. Diluted raw milk and undiluted boiled milk, even if they showed the same tendency to form larger curds if sipped, would still not be likely to form curds large enough not to be returnable.

Experiment 15.—Sipped in forty-five minutes a mixture of 1 pint of raw whole milk and 1 pint of water. The whey was returned clear with a large amount of curd practically indistinguishable in amount and size from those found when equal parts of raw whole milk and water were taken in five minutes. (See Experiment 19.)

Experiment 16.—One quart of boiled whole milk sipped in forty-five minutes and returned in thirty minutes. Large amount of curd returned, indistinguishable again from that of former experiment in which boiled whole milk was taken in five minutes.

The evidence from the laboratory was equally positive and demonstrated, once more, the striking parallelism between coagulation behavior in the stomach and in the test-tube. The laboratory experiment, furthermore, can be seen throughout the process, and offers an evident explanation for this phenomenon.

Experiment 17 (Fig. 5 *B*).—A vessel was set in water. over a heater, and kept at a temperature of from 100 to 105 F. To this was slowly added, over a period of forty-five minutes, from one vessel a quart of raw fat-free milk and from another a solution of 60 grains of chymogen (a proprietary preparation containing rennin) in 1 ounce of water. The mixture was stirred gently and constantly during this time and for thirty minutes after all the milk and ferment had been mixed. In five or ten minutes after the beginning of the experiment a fine flocculent coagulum began to form. The small curds formed during the process of stirring gradually united with one another into larger masses, which in turn attracted other smaller curds, until at the end of the experiment the clear whey contained two large round firm curds, one the size of a tennis-ball, the other that of a golf-ball. Neither, I feel sure, could have been returned from the stomach. Outside of these two large balls there were only a few small curds, such as those that were occasionally returned in the sipping experiments.

Experiment 18 (Fig. 5 *A*).—To exclude, again, the possibility of coincidence the experiment was repeated exactly with raw whole milk. In this case the coagulation was for some reason less rapid, the whey less clear as would be expected, but the result was otherwise identical. Practically all of the curd was collected into six round firm balls, each about the size of an English walnut.

The explanation for this phenomenon becomes evident as one watches coagulation experiments. Two curds brought into contact with one another almost immediately coalesce, so that practically no line of cleavage is left. This tendency seems proportional to the freshness of the curds. Thus in the last two experiments one could gradually see two or more curds predominating over the rest and uniting to them the small nascent curds as they came into contact with them. This accounts for the fact that not infrequently the curd of milk and rennin, stirred constantly in a beaker, will form in one large hard ball. This union of curds is well shown in the specimen of the six balls of the second experiment that were allowed to lie together in a graduate for a few seconds before formaldehyd solution was added. They were quite inseparable.

It is probable that such coalescence of curds takes place less readily in the stomach. Two stomach curds if brought in contact show relatively little tendency to unite. This seems to be due to the coating of mucus over the curds, and is probably proportional to the amount of the latter. Indeed, if curds united as readily in the stomach as they do in the beaker, it would be hard to see how their union into one large curd could possibly be avoided, when we consider how peculiarly favorable the peristaltic movements of the stomach as shown in recent *x*-ray work are for pressing the contents together. That curds do unite, however, in the stomach is shown in the sipping experiments and in the facts that the largest curds occurred after two hours and that many large curds are manifestly a union of several smaller curds.

When we come to consider the question of whether boiled milk differs clinically and therapeutically from raw milk, it will be of interest, first, as bearing directly on this question, to see what happens in the stomach when the various empirically time-honored "milk-modifiers" are used. It is certainly an interesting fact in this connection that nearly all "milk-modifiers" such as dilution with water, cereal water dilution, alkalinization, condensation, drying, souring, peptonization, the use of pegnin or other lab-ferments, all have one thing in common: they prevent in one way or another the formation of a large hard curd in the stomach. Have we not been told emphatically too by Finkelstein[6] that *Eiweissmilch,* which also has been modified in this way, does not work well, in fact can work disastrously when the curd is not fine? The following experiments were made along this line:

EXPERIMENT 19 (Fig. 6 *A*).—Dilution. A mixture of 1 pint each of raw whole milk and water was returned in thirty minutes. There was complete separation of curd and whey, but the latter was somewhat turbid. The curds were much smaller, softer and more friable than with undiluted milk. Although many of them were from 1 to 1½ inches long, they were peculiarly thin, often membrane- or ribbon-like, and all seemed spongy or porous. There was also a large amount of crumbly detritus.

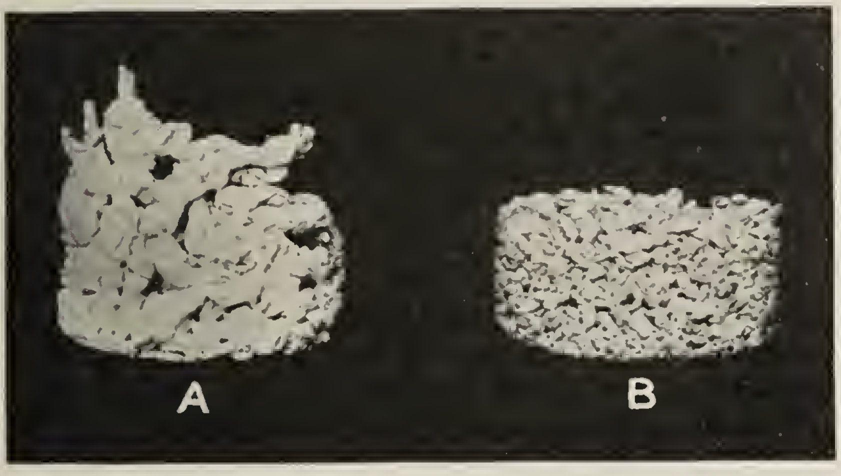

Fig. 6.—*A*, curds of raw whole milk diluted with an equal amount of water and returned from the stomach in thirty minutes; *B*, same as *A*, with barley-water substituted for water.

EXPERIMENT 20.—Same as Experiment 19, except that the milk was boiled and the mixture was returned in one hour. There was so little whey that it was necessary to drink water. About a level tablespoonful of soft fine curd, about like coarse sand, was returned.

EXPERIMENT 21.—A mixture of 8 ounces of raw whole milk and 24 ounces of water was returned in thirty minutes. This did not differ much from the dilution of 1 to 1, but the curds were a little smaller and still more porous or spongy looking. The latter condition seemed characteristic of diluted milk.

EXPERIMENT 22 (Fig. 6 *B*).—Barley-water. A mixture of 1 pint of barley-water (one-half ounce of barley flour to 1 pint of water boiled twenty minutes in a single boiler) and 1 pint of raw whole milk was returned in thirty minutes. The curds were small, like fine gravel, of peculiarly uniform size, with few as large as peas. About a third of them floated. They were greenish-gray in color. They were much finer even than with the 1:3 dilution with water, and were about the same size as those of undiluted boiled milk.

EXPERIMENT 23.—Sodium citrate, 2 grains to the ounce, was added to 1 quart of raw fat-free milk and returned in thirty minutes. There was no separation whatever of curds and whey even after standing for some time. The milk was simply thickened like a good cream soup, with no distinct curd formation, except an occasional small floccule.

EXPERIMENT 24.—Sodium citrate, 1 grain to the ounce, was taken in 1 quart of raw whole milk and returned in thirty minutes. The returned fluid looked like pale bluish milk, and the curds were soft, scraggly looking, about midway in size and consistency between those of raw and those of boiled milk.

EXPERIMENT 25.—Sodium citrate, 1 grain to the ounce of milk, that is, 16 grains in a mixture of 1 pint of raw whole milk and 1 pint of water, was returned in one hour. The separation of curd and whey was much more complete than in Experiments 23 and 24. The curds were about the size of coarse sand or fine gravel, and nearly all floated. The reaction was practically the same as in Experiment 20, with equal parts of boiled milk and water.

EXPERIMENT 26.—Sodium bicarbonate, 2 grains to the ounce, in 1 quart of raw whole milk, was returned in thirty minutes. The result was indistinguishable from that when an equal amount of sodium citrate was used, except that the returned fluid was yellow, probably because whole milk was used. The mixture was so nauseating and hard to take that only 28 ounces could be swallowed. Large amounts of gas were returned during the process, sometimes bringing milk with them. For some time there was annoying belching and a feeling of fulness. These objectionable features were of course wholly absent with the sodium citrate.

EXPERIMENT 27.—Lime-water, 5 per cent., that is, 30 ounces of raw whole milk with 1½ ounces of lime-water, was returned in thirty minutes. There was distinct separation of curds and whey, but the latter was rather milky, though not so much so as with the sodium salts. The curds were about the size of those of milk with 1 grain of sodium citrate to the ounce, that is, about midway between those of raw and boiled milk. They were, however, peculiarly soft, scraggly and friable, so that they could hardly be picked up without breaking.

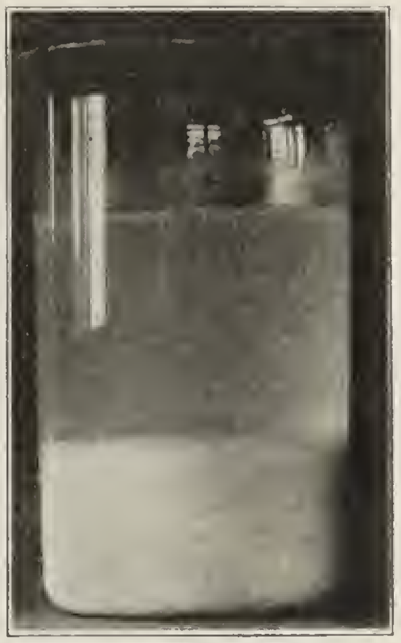

Fig. 7.—Stomach contents returned thirty minutes after drinking one quart of a 1:10 watery solution of condensed milk.

EXPERIMENT 28.—Lime-water 10 per cent., under the same conditions as in Experiment 27. The result was the same, except that the curds, while perhaps not smaller, were even thinner, more ribbon-like or flaky, more soft and friable than in the preceding experiment, and were described as subjectively "the softest yet." The returned contents were said to have a "very sweet taste."

EXPERIMENT 29 (Fig. 7).—Condensed milk, 1 quart of 1:10 dilution with water, was returned in thirty minutes. The curd formed a fine soft flocculent precipitate like fine white sand. This quickly settled to the bottom like a fine sediment leaving about an equal amount of nearly clear water above it.

EXPERIMENT 30.—Buttermilk. One pint of milk ripened with *Bacillus bulgaricus* was returned in one hour. About 10 ounces were returned. There was no perceptible change, but it was said to have been "sourer up than down."

No tests were made with powdered milk foods, or with *Eiweissmilch*, but there can be no doubt what the result would be.

It is, of course, necessary to confirm these results in other cases before one can assume that they are of unquestionable general application, and I attempted to duplicate some of the experiments on myself. Using the same method was wholly unsuccessful and the following was resorted to as the nearest imitation:

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[6] Finkelstein, H., and Meyer, L. F.: Ueber Eiweissmilch, Jahrb. f. Kinderh., May and June, 1910.

Experiment 30 (Fig. 8 *A*).—One quart of raw whole milk was swallowed in five minutes, and thirty minutes later one-tenth grain of apomorphin was taken hypodermically. The result was satisfactory in about ten minutes, and the curds and whey were exactly as in the other case except that they were somewhat smaller. This may be accounted for, to some extent, by the comparatively prolonged and violent labor required to deliver the curds that at this stage are still quite breakable. The narcotic effect of the drug was, however, so violent for many hours that it seemed wiser to use only one twentieth of a grain in the remaining two attempts, with the result that, while the nausea was as intense, it was not so productive as with the larger dose.

Experiment 31 (Fig. 8 *B*).—A quart of boiled whole milk was returned after thirty minutes with about 2 ounces of curd that was exactly as in the other person, except that the curds were rather finer.

An attempt to return a quart of raw whole milk after four hours was not convincing. A small amount of turbid fluid was returned with some nearly disintegrated curds. Whether there were larger ones that were not returned is uncertain, as the effect of the drug was inadequate.

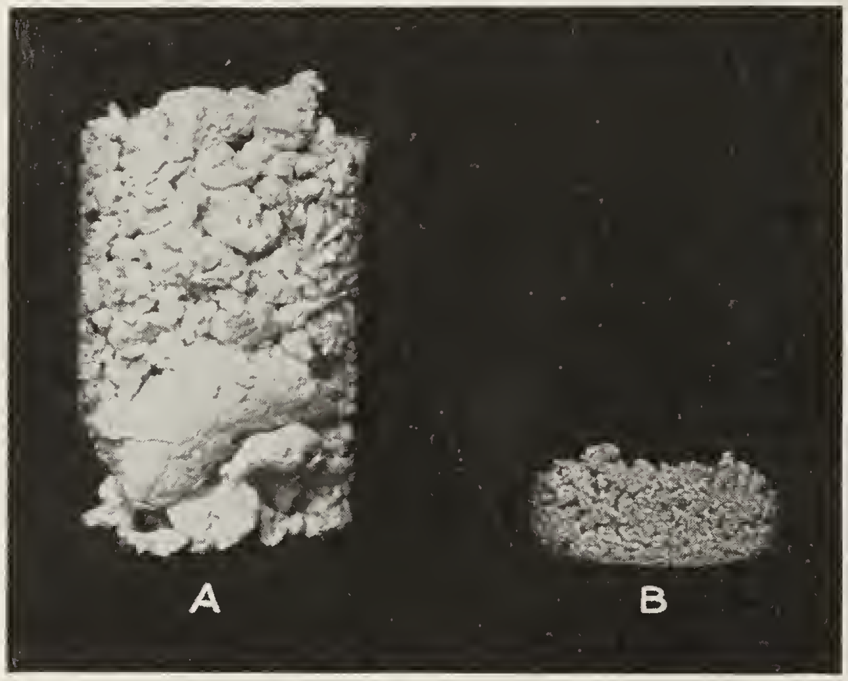

Fig. 8.—Same as Figure 1 in a second individual. *A*, raw whole milk; *B*, boiled whole milk.

The criticism that these findings may be largely individual in this case, and were only unsatisfactorily corroborated in a second case, must be admitted, and yet this applies rather to absolute than to the really more pertinent relative findings, such as the comparative coagulation of raw and boiled milk. To what extent these findings in the adult apply in the infant it is difficult to estimate. Since we know, however, that all of the ferments of the adult are present and active in the stomach of the baby it is not unfair to assume that, in all probability, the same relative reactions take place there as in the adult. These limited observations must be taken only as a working hypothesis for further clinical and experimental observation.

The really important question, after all, is not how raw milk and boiled milk coagulate in the beaker or in the stomach, but how the person reacts clinically to raw and to boiled milk. On account of the enormous individual factor in infant-feeding it is peculiarly difficult to generalize, and yet it seems to me that certain clinical differences stand out conspicuously. For many years we used raw milk almost exclusively at Northwestern University; for the last few years I myself have used raw or boiled milk according to what seemed to me indications, and somehow the indications for boiled milk seem to have increased at the expense of those for raw milk. In spite of a natural leaning toward raw milk, I find myself giving a large proportion of my babies, unless in florid health, boiled milk, and have frequently found myself in the position of many a mother who has told me, "I'm very anxious to get away from the boiling (or the soda), but I can't get farther than just so far and then I go back again." In this discussion I use "boiled" and "citrated" milk as practically synonymous because I have been unable to satisfy myself in what respects they differ from one another clinically, although I feel sure that there are differences.

DIFFERENT EFFECTS OF RAW AND BOILED MILK

While it has been a matter of surprise to me how frequently individual babies have no trouble with raw milk when one would expect it theoretically, nevertheless I am convinced that there are certain symptoms which are common with the use of raw milk and which disappear when the milk is boiled. This conviction, primarily the result of clinical observation, antedated the experiments I have here recorded.

1. The hard or tough curd of infants' stools is the most demonstrable clinical difference between raw and boiled milk. It can be produced in every infant by giving it enough raw milk, and it will promptly disappear when the milk is boiled. In feeding babies a considerable quantity of casein, as one must when using simple milk dilutions without cream, such curds are by no means infrequent. Ibrahim[3] found that on simply changing the milk from boiled to raw in the ordinary mixtures of ten of his babies the hard curds appeared in three. Their incidence among different clinicians with the same material is directly dependent on the amount of raw casein they give.

These curds are nearly always accompanied by other evidences of indigestion, especially diarrhea. Exceptionally they are found embedded, like seeds, in an apparently normal or nearly normal movement, but even then they usually represent a state of unstable equilibrium; either they tend to disappear or they increase and the stools become dyspeptic. Whether these curds are the result of some other factor in raw milk that produces dyspeptic symptoms, or whether they themselves mechanically produce these symptoms remains to be demonstrated. The fact remains that they occur on raw milk and are accompanied by indigestion, and that they disappear, always, and with them the indigestion when the milk is boiled.

These curds can occur, apparently (Ibrahim,[3] Courtney[7]) on boiled milk in a much attenuated form. This in no way lessens their significance, clinically, as a raw milk phenomenon, for in several years of search I have only once seen fine thread-like hard curds on boiled milk. That they may occur in small form in diarrheas with rapid peristalsis is quite consistent with the coagulation findings I have reported. Furthermore, one must not forget the possibility of error in the kitchen, or the fact that "boiling" is a term capable of varying interpretations, and that the difference in temperature between milk just beginning to simmer and milk welling up actively is from 20 to 30 F., and that the longer the "boiling" the more marked the influence on coagulation.

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[7] Courtney, Angelina M.: Studies on Infant Nutrition. II. The Hard or Casein Curds in Infants' Stools, Am. Jour. Dis. Child., January, 1912, p. 1.

2. Diarrhea and dyspepsia. It is a time-honored empiricism that babies with diarrhea, or with any gastro-intestinal disturbance accompanied by diarrhea, and during convalescence from diarrhea, stand boiled milk much better than raw milk. That raw milk will cause diarrhea and dyspeptic stools, and that boiled milk will cure the condition are likewise matters of common observation. In making hard curds experimentally in babies, as recorded in my former paper, indigestion with diarrhea occurred regularly whenever I gave a baby enough raw milk to produce a good output of curds, and quite as regularly there was a prompt return to normal when the milk was boiled. The question rather forces itself on us whether the proverbial constipation from boiled milk is not due to the fact that boiled milk is more readily digested and completely assimilated than raw milk.

3. Vomiting. Here again the evidence is quite positive that many cases of vomiting when raw milk is fed are promptly relieved, as one might expect theoretically, when the milk is boiled or citrated. It is evident that raw milk is peculiarly contra-indicated in the vomiting of pyloric stenosis.

4. Colic and discomfort are among the most manifest and frequent symptoms arising from the use of raw milk. We are all familiar with the fact that a great many babies that are in constant distress, either having a great deal of colic, or crying almost constantly when awake and sleeping restlessly and brokenly, are promptly made comfortable when their food is changed from a raw milk to a boiled or citrated milk, or, what is still more striking, to a condensed milk, either liquid or powdered. If babies could talk they could unfold many a tale of their sufferings in trying to digest a strictly modern scientific, raw-milk formula and of their immediate relief on receiving a very unscientific food from a tin can.

A surgeon of my acquaintance is accustomed to drink about 20 ounces of milk at bedtime. When he takes it boiled he is perfectly comfortable; when he takes it raw he has an uncomfortable night and a diarrhea the next day. Few adults drink so much milk at a time and it is impossible to estimate how frequent such disturbances would occur if they did. The baby, on the other hand, with its far greater proneness to colic and diarrhea, takes six or seven such feedings a day instead of one.

If time permitted, an abundance of clinical evidence could be presented to show how frequent all of these symptoms are when raw milk is fed to an infant, and how often they disappear when the milk is boiled.

The disturbances that I have just enumerated are all of a purely digestive, and not of a metabolic or bacterial nature. In other words, raw milk often produces an indigestion that is relieved when the patient takes boiled milk. Whether this is due alone to the difference in coagulation or to some other difference between raw and boiled milk remains to be determined. The fact that boiled and citrated milk are peculiarly alike in their effect on digestion, though they have nothing else in common except the fact that in them the coagulation of casein is inhibited, would lead one to think that the determining factor in raw-milk dyspepsia is the nature of the coagulum.

CASEIN DIGESTION

This leads, much as one would like to avoid it, directly to the old question, that like Banquo's ghost "will not down." Is the casein of cow's milk difficult to digest by the baby? It is interesting, in the light of these newer observations on raw and boiled milk, to review how this question has been answered in various places and at various times.

Biedert[8] himself, the first great exponent of the difficulty of digestion of the casein of cow's milk, was also the great champion of the protein origin of the curds in infants' stools. That Biedert used raw milk to an extent sufficient to make himself familiar with the "hard tough curds" of our later literature can hardly be doubted when we read his description of *weissbräunlich-gelbliche Brocken und Knollen* that occur with "poor casein digestion." It is interesting to note that he recommended as curative three foods for which Czerny took him severely to task because of their apparent diversity; ramogen (a German proprietary condensed milk), breast-milk and buttermilk, three foods that have, however, one thing in common that now again seems rational enough—they all form a very fine curd in the stomach.

The later German pediatricians with few exceptions came to the conclusion, and correctly so, that the casein of cow's milk produced no recognizable clinical disturbance in their experience, an experience practically limited to boiled milk. If the German pediatricians had used raw milk, this whole question would not so long have seemed so puzzling; nor would it have been answered so positively in the negative.

In England the casein of cow's milk is considered a serious disturber in infant-feeding, but it really gives the Englishman no trouble because he uses sodium citrate to produce a fine curd.

The French pediatrician likewise has no trouble with the casein of cow's milk; in fact, he rather likes undiluted whole milk for his babies, but he lays more stress than any one else on *lait stérilisé,* even though he puts the emphasis on the sterilization rather than on the inhibition in coagulation. It is interesting that almost nowhere else than in France has the idea of using undiluted milk in feeding young infants found any favor, and in France the milk is always boiled, and to some extent in England where it is citrated.

In this country, where some of us use raw milk, some boiled milk, some both and some neither, our ideas have clashed. In using low protein, high fat, raw-milk mixtures the casein gives comparatively little trouble. With simple whole-milk mixtures the high casein is apt to make trouble unless the milk is boiled or otherwise modified. It is again an interesting fact that Jacobi, who has always used simple milk mixtures, notably 1 : 1 mixtures, has also always boiled his milk, and has used cereal waters as diluents; and in the stormy controversies that have centered about this subject, Jacobi for nearly half a century has stood out alone and unmoved as a rock.

Our own experience at Northwestern University is not without interest in this connection. Our departure from the percentage system, in which we rarely encountered "hard curds," to simple diluted whole-milk mixtures was accompanied in a great measure by a change to boiling the milk. This led us, too, to believe that there was "no clinical picture that we could recognize as casein indigestion." A few attempts to feed raw fat-free milk during the skim-milk epoch when "hard curds" that were evidently casein curds gained their greatest ascendency quickly showed us that our conclusion did not apply to raw milk. Of boiled milk it was as true as ever. It seems to me that we are justified in answering this whole question, in the light of our present knowledge, by saying that the difficulty that the baby encounters in digesting cow's milk casein gives rise to recognizable symptoms only when the milk is fed raw.

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[8] Biedert, P.: Die Kinderernährung im Säuglingsalter, Ferdinand Enke, Stuttgart, 1905, p. 225.

The digestive disturbances caused by the casein of raw milk, as here interpreted, are of course wholly distinct from those serious derangements of digestion and metabolism of the fat, the carbohydrates and the whey salts with which we have become so familiar through the works of Czerny and Finkelstein and their schools. Neither have they anything to do with bacterial activity. The questions further of transmission of disease through raw milk, and its influence on the intestinal flora and other similar considerations, lie beyond the scope of this discussion.

EFFECT OF BOILING MILK

I can hardly conclude without a brief consideration of whether boiling makes milk a less valuable or even a harmful food, especially to the infant. This consideration naturally includes four points:

1. Boiling changes practically every constituent of milk and many of its properties. Czerny[5] enumerates eleven changes and yet favors boiled milk, as does nearly every German and French pediatrician. An exhaustive analysis of the whole subject has recently appeared by an English student, Lane-Claypon,[9] who sums up the whole matter in the end by saying that "such small differences as have been found in the nutritive value of raw and boiled milk have been in favor of boiled milk." While this method of studying the subject is not of great value, nevertheless one must admit that there is not one particle of real evidence that babies in general do less well on boiled than on raw milk.

2. Hardly a single modern text-book in English, German or French even mentions boiled milk as a factor in producing rickets, and the whole question would long ago have died a natural death but for the alderman and the philanthropist.

3. Scurvy, that rare, easily recognizable and promptly curable condition, is probably and undeservedly more responsible than anything else for the present strong prejudice against heating milk. The fact that scurvy is commonly associated with the prolonged use of a dead food has led us to blame all dead foods, without careful discrimination as to the nature of the food in other respects. The German and French writers do not consider boiled milk an important factor, but rather conserved and canned foods, or milk boiled for a long time, and even treat scurvy with milk that has been boiled only a short time.[10] There is furthermore so much evidence that scurvy occurs only in children with a peculiar predisposition to the disease that this may indeed be the important factor. The fact that boiled milk is not so important a factor in the etiology of scurvy as are other things is shown strikingly in the fact that scurvy is, if anything, less prevalent in Germany, and much less in France, than with us. While this may be due in part, or wholly, to the alarming popularity in this country of condensed and evaporated milk infant foods, nevertheless the French writers, especially, are unanimous in saying that they do not see scurvy in infants fed on boiled milk. I will quote only one out of many that might be quoted. Anderodias[11] says:

> In the consultations for nurslings in which we feed sterilized milk, as in those of Budin, Variot and Maygrier, one has yet to see an infant with scurvy; while abroad, in England, and in America especially, where laboratory milk is commonly employed, the cases of scurvy are very frequent.

4. Perhaps the most wide-spread objection to boiled milk is constipation. While mothers are much concerned about constipation, the physician has rather a friendly feeling toward it, and in fact often considers it, as compared with diarrhea, rather a domestic than a medical problem.

I cannot refrain from quoting at this point the impressive words of one of the greatest French masters. Budin,[12] in 1905, after years of extensive experience with undiluted sterilized milk, says:

> So-called whole milk dyspepsia is absolutely unknown to us. . . . Neither do we encounter rickets. . . . Since all of our milk is sterilized we see practically no manifestations of tuberculosis. As to scurvy, concerning which so much has been said in recent times, we have up to the present seen not a single case.

CONCLUSIONS

I wish to emphasize the fact that I am not advocating the use of boiled milk, or of raw milk as a routine measure, but I believe that each has its indications. I have endeavored to show that raw milk and boiled milk are clinically very different foods; that the most striking difference between them as shown experimentally is in their reaction to rennin; that the casein of raw milk, unless modified so that it will not form hard, large, coagula offers serious difficulties in digestion that are not present in boiled milk; and lastly that these differences between raw and boiled milk should always be borne in mind in comparing clinical, therapeutic and experimental results in infant-feeding and elsewhere.

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THE ETIOLOGY AND TREATMENT OF ACNE *

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The growing tendency toward the injection of various vaccines in the treatment of acne gives rise to the suggestion that current notions concerning the etiology and pathology of this common ailment are more or less vague. The subject of this paper has been chosen not only with the purpose of reviewing some of our knowledge of the causes of acne but more particularly to inquire how far our methods of treatment coincide with that knowledge.

What are the known facts as to the causes of acne? First of all, it is a disease of adolescence showing selective preference for neither sex. It is furthermore associated with excessive sebaceous secretion. When we consider the fact that every case of acne is preceded and accompanied by an exaggerated sebaceous flux we are apt to believe that in this condition of seborrhea is to be found the alpha and omega of our etiologic knowledge. But though every one with acne has seborrhea, not every one with seborrhea has acne, for one seldom sees acne in subjects over 30 years of age, while seborrhea is seen at any age. It is therefore apparent that, however important the bacteriologic element may be, there are here, as in most bacterial diseases, other considerations to be weighed besides the mere presence of a microorganism.

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[9] Lane-Claypon, Janet E.: Report to the Local Government Board on the Available Data in Regard to the Value of Boiled Milk as a Food for Infants and Young Animals, New Series No. 63, Darling and Son, Ltd., Bacon St., E., London, 1912, pp. 60.

[10] Since this article was put in type I have seen one case of scurvy in an infant of 9 months with the most marked involvement of the gums that I have ever seen. By feeding it undiluted whole milk boiled for five minutes, and without using fruit juices, etc., the child made just as prompt recovery as I would have expected with the employment of all the usual antiscorbutic measures.

[11] Anderodias, J.: La Pratique des Maladies des Enfants, J. B. Baillière et Fils, 19, Rue Hautefeuille, 19, Paris, 1909, i, 315.

[12] Budin, Pierre: Manual Pratique d'Allaitement, Hygiène du Nourrisson, Octavo Doin, 8 Place de l'Odéon, 8, Paris, 1905, p. 162.

* Read before the San Francisco County Medical Society, Sept. 3, 1912.

BACTERIOLOGY OF ACNE

Let us first, however, pass by the attendant conditions which may be necessary for the production of acne lesions and consider only the bacteriologic flora of the disease.

One ordinarily thinks of acne lesions as papules and pustules; but the prime eruptive element is the comedo which precedes them, and more important still is the preeruptive seborrheic filament which may be expressed from sebaceous ducts and which contains numberless microbacilli—the microbacilli of seborrhea of Sabouraud or the *Bacillus acnes* of Gilchrist. These filaments are simply potential acne lesions, for it is only when an occlusion takes place that the comedo and its consecutive lesions develop. It is the application of the ordinary surgical principle of drainage, for it has been noted that with excessive degrees of sebaceous flow fewer comedones are to be found. Even after occlusion has taken place and the comedo formed, many lesions remain sluggishly as such, never apparently showing other organisms than the microbacillus of seborrhea.

When we examine the pustular lesions which supervene we find in smears not only the microbacilli but often various forms of cocci which do not appear to be of the virulence of pyogenic staphylococci. The problem that now arises is as to which organism is responsible for the pus formation. A convenient working hypothesis adopted by many has been to regard the microbacillus as the cause of the comedo and to say that this, secondarily infected with pyogenic cocci, explains the pustules. Against this hypothesis comes the testimony of Gilchrist,[1] Fleming[2] and other capable workers that in a considerable percentage of cases smears have shown and cultures yielded nothing but the microbacillus. Other strong testimony, for instance, the exacerbations in pustular acne after the injection of acne vaccine, has also been adduced to show that *B. acnes* is a pus-producing organism.

Sabouraud,[3] however, while readily conceding that acne pustules exist in which only the microbacilli are found, points out that the staphylococci of gray cultures disappear from the suppuration of acne with remarkable rapidity. A pustule several days old shows no longer free staphylococci, the last visible cocci one can see at all being engulfed by the polynuclear leukocytes. Several days later these last surviving staphylococci can be demonstrated by cultures after the microscopic examination will not be able to disclose them. In general an ordinary acne pustule will remain sterile to culture after fifteen days and if the culture is made on special mediums for the microbacilli nothing but microbacilli will be obtained. The microbacillus remains for a longer time demonstrable than the staphylococcus. Whitfield,[4] also, in combating the contention that the microbacillus causes the suppuration of acne, states that if we accept the view of the pathogenicity of this organism when we find it in some non-inflamed comedones as well as in some actively inflamed ones, we must say that it is pathogenic in some lesions rather than pathogenic in some persons. In support of this he cites a case in which treatment with staphylococcus vaccine cleared up all the pustules, leaving only a face studded with non-inflammatory comedones.

At a later date Western,[5] in attributing to Whitfield the belief that seborrhea is caused by some functional disorder independent of the microbacillus, stated that Whitfield supports this view by the declaration that seborrhea is in black races a protective function against excessive desiccation of the skin by the sun's rays and that it occurs without any infection of the skin with the acne bacillus. He argues further that the age of puberty, which is so commonly the age of acne vulgaris, is an age when vasomotor changes and changes in various glandular tissues are taking place, and that it would be feasible to suppose that the sebaceous glands should partake in this development and in some cases hypersecrete.

From this Western assumes that acne bacilli are merely accidental or casual dwellers in the seborrheic skin, having nothing to do with the overproduction of sebaceous material. In the evolution of the comedo of acne, however, he attributes the formation of the horny portion to the influence of the bacilli by their mere mechanical presence or possibly through their toxins.

Concerning this one organism, the microbacillus, we may choose any one of the following beliefs, all of which have arguments in their favor:

1. It has nothing to do with the production of seborrhea or acne.
2. It has everything to do with the production of seborrhea and acne.
3. It has everything to do with the production of seborrhea and nothing to do with the suppuration of acne.
4. It has everything to do with the production of seborrhea and something to do with the suppuration of acne; in other words, it presents various forms, some of which are pyogenic and some of which are not.

While from the strictly experimental point of view the results of Gilchrist's work would urge the acceptance of the microbacillus as the cause of suppurative lesions, the practical question arises as to whether the treatment with acne vaccine alone gives superior results to that with staphylococci or mixed vaccines, and if so whether treatment with acne vaccine ameliorates the various dermatoses in which seborrhea is a dominant factor. While some workers report fair results in acne, no extensive list of successes has come to my notice in respect to the various seborrheic affections.

If we accept the doctrine that the acne bacillus is the sole cause of acne, we would next be concerned with the staphylococci which are so often encountered in acne lesions that some effort must be made to recognize the part they play.

Smith[6] of Toronto divides acne bacteriologically into three classes, namely:

1. Those due to the acne bacillus.
2. Those due to the acne bacillus and *Staphylococcus albus*, both organisms being present in large numbers.
3. Those due to *S. albus* with practically no acne bacilli present.

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[1] Gilchrist: Johns Hopkins Hosp. Rep., ix, 409; Jour. Cutan. Dis., November, 1910. See also general discussion.

[2] Fleming: Lancet, London, 1909, i, 1035.

[3] Sabouraud: Séborrhée, Acnés, Calvitie, Paris, 1902.

[4] Whitfield: Lancet, London, 1909, i, 1207.

[5] Western: Brit. Jour. Dermatol., xxii.

[6] Smith, D. King: Jour. Cutan. Dis., August, 1911.

He goes further and associates each of these classes with a certain type of lesion. In the first class comedones, papules and papulo-pustules are the chief lesions. In the second class are papulo-pustules and pustules, and in the third class deep-seated pustules with marked scarring. This would impress one as being rather schematic, but Smith states that in a certain proportion of cases these sharp lines of demarcation cannot be drawn.

We find then two distinct points of view with reference to the part played by the staphylococci. The one attributes only a secondary etiologic importance to them and totally ignores them in treatment, while the other gives them equal importance with the acne bacilli.

Not only have we to contend with two distinct organisms but we are confronted with subvarieties of each of these.

Südmersen and Thompson[7] have noted differences in the cultural behavior of different strains of the acne bacilli, and Hunt, working at St. George's Hospital, London, has demonstrated corresponding variations as to different strains of staphylococci from acne lesions. Varney[8] has described a micrococcus differing from the *Staphylococcus albus*, which he has found in acne-like lesions. Cedercreutz[9] has described a polymorphic coccus in which diverse forms were due to varying culture mediums and the passage through different animals. The fact that variable forms exist among both acne bacilli and staphylococci, added to the uncertainty that exists in many cases as to which of the two organisms is responsible for the lesions, at once suggests the thought that the only logical procedure is the use of autogenous vaccines in treatment. Men of large experience, however, obtain apparently as good results from stock as from autogenous vaccines. This would seem to indicate that even though there may be variations as to morphologic characters and cultural behavior, suspensions of the different forms are as one in their therapeutic powers.

These apparent contradictions are given prominence at this time because in our discussion of the treatment of acne the question of vaccines will inevitably arise.

CAUSES OF ACNE

Before taking up the subject of treatment let us consider briefly some of the predisposing causes. Besides the adolescent age and the increased pilosebaceous activity which is physiologic at that period, such general states as anemia and chlorosis are often undoubted predisposing causes. In markedly depraved states acne of more pronounced pustular and indurated types is often observed. Derangements of the circulation are so often seen in subjects of acne as to make their connection with the causes seem quite plausible. Frequently the patient exhibits a thick skin and sluggish circulation. At times local circulatory disturbances are brought about directly by cold winds and irritating substances, while at other times the disturbance is produced reflexly by digestive or pelvic disturbances. The local hyperemia which follows the ingestion of certain highly seasoned foods as well as tea, coffee and alcoholic drinks is a commonplace example of the method whereby the digestive apparatus contributes to the formation of acne, while the great number of female subjects who show lesions only at the catamenia, or whose eruptions show marked exacerbations at that time, argues strongly for the fact that pelvic disturbance is a contributing cause to be reckoned with. An observation which may easily be confirmed is that the localization of acne on the chin of a young woman indicates pelvic trouble, while if it specially favors the regions about the nose and forehead it more probably results from digestive disturbance.

Our treatment of acne is bound to depend on what view we take of the etiology of the disease. Unless we have some definite working basis our efforts will be feeble, desultory and ineffective.

A plausible explanation of the events leading up to the acne pustule would seem to be about as follows: Along with the increased activity of the pilosebaceous system there is a corresponding augmentation in the process of keratinization, particularly in those portions of the skin most richly supplied with sebaceous glands. This activity is so great as to produce an occlusion of many ducts and the retention of degenerating epithelial cells and sebaceous material which go to make up the comedo. We may assume that all the comedones contain acne bacilli and some of them cocci. Papules and pustules supervene.

TREATMENT

The task before us is to effect the disappearance of the existing lesions and to prevent the occurrence of new ones.

Treatment may be divided into two classes, general and local, each of which is subdivided as follows:

1. General treatment.
    - A. Symptomatic: Correction of digestive, pelvic, circulatory disturbance, etc.
    - B. Specific: Vaccine therapy.
2. Local treatment.
    - A. Surgical:
        - *a.* Expression of comedo.
        - *b.* Incision of pustules.
        - *c.* Curettage.
    - B. Chemical:
        - *a.* Antiseptic.
        - *b.* Keratolytic.
    - C. Electrical:
        - *a.* *X*-ray.
        - *b.* High-frequency.
    - D. Mechanical.

As to general treatment of a symptomatic character there is no need for debate. Theoretically every one recognizes the necessity of correcting constipation, anemia and various general ills, no matter how pronounced the view held concerning local or specific general treatment.

The question of diet invariably enters into every discussion of the treatment of acne. While a proper diet has its advantages in acne, the same thing holds true in absolute health. Without attempting to minimize the necessity of careful supervision of the digestive functions I cannot help holding the belief that there is no direct specific connection between certain articles of food and acne lesions. The notion so often implied that a glass of milk, a butter-ball or a chocolate drop will cause an efflorescence of acne seems to me to be not at all warranted. The articles of food which preferably should be interdicted are those which cause vasomotor disturbances expressed as reflex hyperemias. Among these tea, coffee, alcohol, highly seasoned foods, condiments, gravies and the like are particularly to be mentioned.

Fats, sweets and starches would appear from my observation to be harmful only when taken in such excess as to cause digestive disturbance or in persons who have a special incapacity to assimilate them. In the treatment of acne, as in most diseases, the injunction to treat the patient as well as the disease is well founded.

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[7] Südmersen and Thompson: Jour. Path. and Bacteriol., xiv.

[8] Varney: Jour. Cutan. Dis., February, 1912.

[9] Cedercreutz: Quoted in MacLeod's Handbook of the Pathology of the Skin, London, 1902.

Now as to the specific treatment of acne with vaccines: The most that is claimed for them is that they effect cures in a certain percentage of cases. Even then they are preferably to be employed in connection with other methods. This is not an argument against their use, however, as anything which contributes to successful treatment is to be welcomed. But it is just this point which needs dissemination. It seems an easy and obvious procedure to inject a suspension of bacteria and await results, but one is assuredly predestined to disappointment in these cases. Such good results as are obtained are reported for the most part by workers who select their cases carefully, who follow up the injections at well-judged intervals and who use appropriate adjuvants to this treatment: in fine, by those who, by repeated and painstaking observations, have developed an effective technic. I would venture the opinion that in relatively few cases is acne cured by vaccines alone.

There are certain difficulties and objections connected with the treatment by vaccines. In the first place it is not by any means easy to apprehend the offending organism by clinical appearances. In a series of smears and cultures made by me I was constantly surprised at finding a preponderance of acne bacilli when I confidently expected cocci and vice versa. This point is perhaps met by those who rely on the use of acne vaccine alone on the ground that the primary infection is with the acne bacillus and that in the absence of such infection the cocci are harmless. The objection that there are varying strains of acne bacilli and cocci is also met by the practical answer that stock vaccines are usually as potent as autogenous ones.

A difficuty to one who has not already developed a satisfactory technic is the determination of the dose of acne bacilli. Gilchrist, who uses chiefly acne bacillus suspensions, formerly used small doses, as 5,000,000, on the ground that larger doses caused exacerbations. In a more recent discussion the remark is attributed to him that larger doses, as 100,000,000, are more effective, and that he has found the small doses to give rise to anaphylactic reaction. The majority of writers, however, still use the smaller doses.

If the sheath of the follicle which prevents further invasion of bacteria also acts as a barrier to the opsonized blood, this may be offset, as Engman[10] has suggested, by incision, manipulation of the walls of the cavity and a cupping apparatus. It may well be that this explains why acne vaccine is sometimes effective in acne and not in the group of seborrheic dermatoses in which the same organism is constantly found but in which these adjuvants are not used. Otherwise we must believe that the real effect is produced by the incision, evacuation and cupping of the lesions. Some writers report patients cured with vaccines after such surgical treatment has been practiced by competent physicians. On the other hand many other patients have been cured by local surgical and medical treatment after the unsuccessful use of vaccines.

The element of time in effecting a cure is also to be considered. Most reports of successes allow from six to nine months and then caution against relapses. My personal experience with other methods leads me to expect a great improvement in one or two months and a practical cure within six months.

What seems to be the most vital objection to the vaccine treatment is that there are more important underlying factors than the mere surface manifestations which reliance on vaccines often influences one to hold too lightly. A system of treatment which neglects the fundamentals cannot be said to rest on a very secure foundation.

The local treatment of acne may be conveniently discussed under the subtitles: surgical, chemical, electrical and mechanical.

Surgical treatment includes the expression of comedones, incision of pustules, and curettage of the thick, indolent skin which is studded with blackheads.

Chemical treatment comprehends the use of such keratolytic and antiseptic agents as resorcin and sulphur. These act selectively on the epithelial cells, destroying the keratosic plugs which occlude the follicles and reestablish drainage, besides having germicidal properties. As a local application I prefer the following lotion:

℞
Zinci sulphatis ....
Potassae sulphuratae[11] ....
Sulphuris precipitati ....āā ʒi
Aquae .... ℥iv
M. Sig.: Apply at night.

Electrical treatment has its advocates. The *x*-ray may be used with two ends in view: first, to increase the blood-supply to the part and improve resistance, or second, to cause an atrophy of the sebaceous glands with attendant diminution of function. The high-frequency current is often effective in reducing the induration of nodular acne by its local influence on the circulation.

Mechanical treatment is a term used to include the process of expressive massage or local manipulation designed to facilitate the drainage of the sebaceous ducts.

From these general principles may be evolved a special method which will be of service in the average case of acne.

I am personally convinced that the keynote to successful treatment lies in keeping open the orifices of the follicles. Whether an occlusion be due to the presence of bacteria or to the excessive proliferation of epidermal cells, which is a physiologic process at the acne age, the fact remains that the establishment of drainage is as vital an indication here as the incision of an abscess is in general. Once the comedo is produced, whether the inflammatory papule or pustule results from one bacterium or more is really beside the question, for if we can restore the potency of the ducts—in other words reestablish drainage—there will be no acne lesion.

In maintaining this open condition of the follicles nothing gives results superior to resorcin. In from 10 to 15 per cent. paste this causes an almost imperceptible superficial exfoliation. If the skin is thick, sluggish and oily, as is usually the case, preliminary washing with the tincture of green soap is of service. The use of hot water, recommended by many, is particularly to be deprecated from the point of view of cosmetic results, since it serves to relax further a skin already deficient in tone and thereby contributes to the formation of enlarged pores. While warm water may be used after incising pustules, to encourage bleeding, the regular use of cold water in washing seems preferable.

When the existing pustules are cured and the superficial epithelial cells somewhat macerated by resorcin, the dermal curet will be of service, and it will be found that the comedones are more easily expressed by one of the many suitable instruments offered for that purpose.

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[10] Engman: Jour. Cutan. Dis., November, 1910.

[11] See New and Nonofficial Remedies, 1912, p. 232.

In most instances the improvement from these local measures alone is striking. Sulphur lotions may be added with advantage, and any corrective measures of a general nature will undoubtedly aid in maintaining the ground gained. It is here that all attempts at generalization fail, for success comes largely with the skill with which the individual problem is met. Exercise, bathing, massage of the body, or anything which will improve the general health, equalize the circulation and increase the tone of the skin is helpful.

CONCLUSIONS

Bacteria do not figure in the production of acne unless the sebaceous ducts are occluded.

The bacteriologic flora of acne is of no importance except in treatment by vaccines, and vaccine treatment will not be necessary when we are able to provide for the drainage of the ducts.

The logical treatment of acne is local treatment aimed at the proper drainage of the sebaceous ducts, and general treatment that will develop increased tone in the skin.

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TRANSDUODENAL LAVAGE

TREATMENT AND REPORT OF SOME CASES OF CHRONIC DISEASES

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Transduodenal lavage is to the small intestine what enema is to the colon: it excels an enema in its indirect effects in ailments which have no apparent relation to the intestinal tract.

Since my first paper on the subject,[1] I have somewhat modified the technic, which will be described in detail further on.

The aim is to bridge the stomach, so that the irrigating fluid does not trickle into the stomach but directly into the bowel; vomiting will thus be avoided. A rubber tube is introduced into the duodenum; to judge its position some secretion is aspirated and examined as to its origin.

The outfit required consists of a one-sixteenth-inch thin rubber duodenal tube[2] with perforations near, and an olive at, the end, an aspirating bottle, a suction-pump or an ordinary syringe, an irrigator and rubber connections, and, if the swallowing of the tube is difficult, a thin wire or ureteral catheter, which fits into the hollow stem of the olive, to serve as an introductor.

TECHNIC

The patient, with stomach empty, swallows the tube, lies down on his right side on a table and drinks a tumblerful of water. Gravity brings the olive near the pylorus, and peristalsis soon pushes it through along with the water. Connections are then made between tube and aspirating bottle, and between bottle and suction apparatus. Suction soon yields some diluted secretion; examination of this will show whether the tube is in the duodenum or is still in the stomach. In deciding this question the litmus-paper test has been found unreliable, for regurgitation of duodenal contents into the stomach may give a bluish tinge to the test-paper; on the other hand, the duodenum may have been reached and the red paper not have turned blue, because an acid reaction in the upper part of the small bowel is not infrequent. Fortunately, the physical appearance of the aspirated fluid is sufficient to remove doubt, as many tests have shown. A slight stringiness or tenaciousness indicates its intestinal origin except in cases of gastric catarrh. But if the patient has retched while swallowing the tube, some duodenal contents are usually regurgitated into the stomach. If this is suspected, I aspirate as much fluid as can be obtained, let the patient drink more water and aspirate again. This may be repeated once or twice. If the aspirated fluid remains slightly stringy or looks like water and then turns stringy again, which indicates that the olive has just slipped through the pylorus and into duodenal secretion, it is certain that the tube has reached the bowel. That this test is reliable is proved by the fact that on tapping the stomach region, after finishing the lavage, there is no splashing sound of fluid in the stomach.

In undue spasm from hyperesthesia this procedure has the effect of a gastric lavage in that it helps to open the pylorus; in gastric catarrh it removes the mucus, unless too tenacious, and after the water has returned clear, renewed stringiness is a sign that the duodenum is reached.

When the olive is in the right place, lavage may be begun. The duodenal tube is disconnected from the rest of the apparatus and attached to an ordinary irrigator or rubber bag containing about 2,000 c.c. of irrigating fluid. The patient turns on his back and from 1,000 to 1,250 c.c. of fluid are allowed to trickle into the bowel. About ten minutes' time is enough for this quantity to run in and to allow peristalsis to push it gradually onward, so that there will be no distention of any part of the bowel. To make certain of this, the flow can be interrupted once or twice by a few minutes' wait. Light abdominal massage or vibration will stimulate peristalsis, if sluggish. After enough fluid has run in—1,000 c.c. are easily borne—the tube is gently withdrawn and the patient rests a while.

The case will determine the kind of fluid it is best to use. In nervous disorders, general malaise, anemia, rheumatism, indicanuria—in short, whenever it is desired to cleanse the bowels thoroughly—I use normal saline (9 gm. to 1,000 c.c.) at body temperature. To flush out the kidneys, plain distilled water gives a very copious diuresis. In icterus and when fat digestion is impaired the addition of 0.5 gm. pure Castile soap to 1,000 c.c. of saline is beneficial. Of late I have restricted the use of soap to these conditions, as it seems to cause a slight nausea or headache at times. To withdraw fluid from the body a stronger solution than normal saline will be found to do the work. I believe that the addition of astringents to the saline, in catarrhal enteritis, and of quinin in amebic dysentery, will be found beneficial, though I do not speak from experience in these ailments.

By placing near the mouth a glass tube containing a thermometer, the temperature of the fluid can be so regulated that it enters the bowel at body temperature. Respiration, temperature, pulse and tension remain practically unchanged. An increase of the fluid temperature above that of the body will cause a corresponding increase in pulse and tension. This may be used to advantage in some conditions; but, of course, it should be avoided in chronic nephritis and similar ailments, in which conditions the fluid should be used at body temperature. Lavage should not be given in aortic aneurysm or in severe heart affections. In my experience, no ill effects have followed the treatment. The bowels usually move freely within one or two hours after lavage.

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[1] Jutte, M. E.: Transduodenal Lavage: A New Method in the Treatment of Chronic Ailments, with Report of Results in Cases of Asthma and Pernicious Anemia, New York Med. Jour., March 16, 1912.

[2] Author's modification of the Bullinger-Oefele tube, which allows of manual introduction.

The treatment is easily borne. It is not nearly so unpleasant as the passing of the stomach-tube. The patient may at first object to swallowing the tube, but he soon becomes used to the treatment; it is invariably followed by a feeling of buoyancy and well-being. This is probably due to the flushing out of intestinal toxins.

The following cases will give an idea of the scope of the treatment.

CASE 1.—Mrs. D., aged 32, had chronic icterus, with indefinite but at times severe abdominal pain, of three years' standing. The skin was jaundiced with yellowish tint to sclerae. There was no indican and much flatulence. The patient had been treated by a number of physicians who ascribed various causes for her troubles. She received 1,000 c.c. soap-saline and felt much relieved after the first lavage; had six treatments, at intervals of one week. The color of skin and sclerae is normal. She is cured.

CASE 2.—Mr. H., aged 60, showed an extreme degree of indicanuria and trace of albumin; both disappeared after about six lavages, at intervals of two days. Used 1,250 c.c. soap-saline. A slight recurrence of indican after about eight to ten weeks yielded promptly to repeated irrigation.

CASE 3.—Dr. S., aged 28, had seborrhea of the face of six years' standing; had taken many kinds of treatment. Skin itched and felt like parchment; was very disagreeable. Indicanuria was marked; stools very offensive but normal in frequency. Patient was in good health otherwise. Ten treatments were given within a fortnight; 1,000 c.c. soap-saline or plain saline were used. After second or third lavage, symptoms disappeared and have not returned.

CASE 4.—Mr. Y., aged 50, had spasms of the larynx, especially during the night and woke up with a feeling of suffocation. Patient was small but strongly built; tympanitic; no indican. Neurotic with vague symptoms, best expressed by the term "biliousness." One cleansing of bowel by transduodenal lavage (1,000 c.c. saline) removed all trouble. The patient receives treatment once every two or three months.

CASE 5.—Mrs. C., aged 50, had chronic bronchitis of nine years' standing, and frequent choking spells, especially at night; no indicanuria, but flatulence. Physical condition was otherwise good, but life a burden because of distress. I treated her once a week for two months; used 1,000 c.c. saline. Patient was better after the second treatment and well in two months, except for a little cough now and then. Because of the flatulence she was put on non-fermentative diet and asked to drink about two quarts of hot water a day; this was of great benefit.

CASE 6.—Dr. V., aged 35, had chronic ulcer of duodenum with chronic cholecystitis and acute exacerbation. There was hyperacidity of the stomach and pain and tenderness in the right upper quadrant; no indican, but much flatulence. The patient felt miserable. Gall-bladder reached level of umbilicus. Patient was treated nearly every day for three weeks with transduodenal lavage and in the beginning with gastric lavage; non-fermentative diet and plenty of hot water to drink, to keep the bowels flushed out. Result was quick and satisfactory. Distress disappeared promptly. Sallow complexion changed to normal. A slight tenderness remains, but patient is in good condition otherwise. It should be mentioned that, though with difficulty, he continued to attend to his practice throughout the illness.

CASE 7.—Mr. H., aged 30, had chronic gastro-enteric catarrh, with dilated stomach and relaxed intestine; flatulence; no indican; stools frequent, slimy and thin; received gastric and transduodenal lavage about twenty-four times within one year, at irregular intervals. Diet was restricted to non-fermentative food, but was not adhered to. Stools soon became formed with but little mucus. Results were very satisfactory, considering irregular attendance and disobedience to orders.

CASE 8.—Miss T., aged 25, had been constipated as long as she could remember, sometimes going a week without a movement of the bowel, and never oftener than once in three days. She always had to take laxatives, was treated for two and a half months once a week, with 1,000 c.c. of saline, to which at first a little phenolphthalein or other cathartic was added. Movements soon became more frequent and regular. After the sixth or seventh treatment the patient reported having had an action every day during the past week, without the help of laxatives. The following week was less satisfactory, but from then on to the end of treatment she seldom went a day without a movement.

In recent years the subject of intestinal toxemia has met with much interest. It is not my purpose to review the literature in this short paper; a glance at the current medical journals will show the wide range of diseases, cases of which have been found to be due to excessive absorption of the products of putrefaction and fermentation.

Among these diseases are gastric and intestinal disorders, rheumatism, gout, sciatica, arthritis deformans, functional disorders of the heart, arteriosclerosis, epilepsy, asthma, Bright's disease, cirrhosis of the liver, neuroses, neuralgia, neuritis, primary and secondary anemia, skin diseases, catarrhal inflammation of the mucous membranes, eye diseases, insomnia, neurasthenia, melancholia, dementia and insanity.

Considering that so many diseases have been caused by absorption of toxins it will not be surprising that by flushing out the toxins I have had such uniformly good results as those mentioned in the above case reports and in the cases of asthma and pernicious anemia previously reported.[1]

The removal of intestinal toxemia is the only explanation of the good effects. This supports the modern views of the etiology of many chronic diseases.

Catharsis cannot do the work of lavage, as the reader knows from his experiences with colonic irrigation. By starting the lavage at the pylorus the irrigating fluid reaches every part of the intestinal canal, so that both the small and large bowel are thoroughly and effectually cleansed, and in the natural direction of peristalsis. By an occasional lavage it is easy to keep them cleansed and we may safely let Nature do the rest for the patient. With the cause of his trouble removed and with proper care he has a good chance to improve or to be cured eventually.

Those who have seen the beneficial results are convinced that in transduodenal lavage we have a useful addition to our methods, especially in the treatment of chronic diseases.

253 West Seventy-Second Street.

Lumps-and-Murmurs Diagnosis.—To discriminate between nervous troubles and local diseases requires great tact and experience on the part of the medical man, and yet without such discrimination he may fail in his mission of cure. It will not do to dismiss patients in whose bodies no signs of a definite and significant character can be discovered—that is to say, no abdominal tumor, no pulmonary mischief, no albumin—on the ground of mere nervousness. Such rough-and-ready decision I often call "lumps-and-murmurs" diagnosis. No lump, no murmur, no albumin—no disease. You will agree with me that to practice medicine successfully we must carry diagnosis to a higher degree of refinement than this.—Prof. T. Clifford Allbutt in *Clin. Jour.*

DEATH FOLLOWING THE ADMINISTRATION OF PHYLACOGEN (SCHAFER)

REPORT OF A CASE

FRANKLIN C. McLEAN, M.D.
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The publicity being given Phylacogen at present, and certain claims which have been made that the administration of Phylacogen is without danger, seem to demand the publication of the following case:

History.—The patient was admitted to hospital care, May 26, 1911, with a diagnosis of articular rheumatism. At this time he stated that he had become sick May 13, following exposure to wet and cold. At that time he had pain in his right foot, with tenderness and swelling. Shortly after this his knees and his other foot became involved. He felt hot, and had sweats at times. He had been subject to similar attacks for eight years, but had had none for the past two years. He denied venereal history, and stated that he had not used alcohol in any form for two or three months, though he had previously been a heavy drinker.

Examination.—At the time of entrance the patient was a powerfully built, well-nourished man, somewhat overweight. He appeared sick and prostrated. Skin warm and moist, no enlarged glands or edema. At this time there were noted a few fine crepitant râles over the bases of the lungs anteriorly. The apex-beat was in the fifth interspace in the nipple line, and there were no murmurs. Liver and spleen were not enlarged. Knees and ankles were slightly swollen, and tender. The urine was acid in reaction, clear, specific gravity 1.020; no albumin, sugar or casts were found.

Treatment and Result.—From May 27 to June 13, the patient was kept in bed on treatment with salicylates, sodium salicylate being used internally and oil of wintergreen locally on the inflamed joints. During this time the temperature by mouth was never above 98.6, and the patient's general condition became greatly improved, though the pain in the feet and ankles improved only slightly. On June 13 it was suggested to the patient that he might derive some benefit from Schafer's Rheumatism Vaccine, which was then in the experimental stage. After having the disagreeable effects of the treatment explained to him he decided that he was willing to try the vaccine, as he was very anxious to improve. Examination on the evening of June 13 revealed no râles over the lungs. The apex was in the nipple line, and the heart tones were clear and regular, with no murmurs. The pulse was strong and regular. White blood-count was 8,800. At 7:35 p. m. 5 c.c. of Schafer's Rheumatism Vaccine, furnished by Parke, Davis and Co., was injected intravenously, as at that time was advised. At 8:05 the patient began to chill, and had a very severe chill, lasting about one hour and thirty minutes, accompanied by emesis and pain in the back. Following the chill the pulse-rate was 144, temperature 99.8, and the pulse was very weak. Stimulation seemed urgent, and was given. The patient became delirious *during the chill*, and was never perfectly rational up to the time of his death. During the remainder of the night the condition became very bad, and death seemed imminent. Emesis was frequent, the pulse was weak and rapid, breathing was labored, and the skin was cold and very cyanotic. The patient was very delirious at this time. By the following day the general condition had improved to some extent, under stimulation, but remained serious, and was practically unchanged during the next twenty-four hours. No urine was being voided, however, and measures to induce urination were unsuccessful. By the morning of June 16 the patient's condition seemed worse, and at this time he was catheterized and 2 ounces of urine withdrawn. This urine contained large quantities of albumin. Cupping was performed over the kidneys, and the urine flow increased during the day. During the next two or three days the condition seemed to improve, though the patient was still irrational, and the pulse was still rapid and weak. June 20, seven days after the injection of Schafer's vaccine, the temperature rose to 101, axillary, and the patient became actively delirious. The white blood-count at this time was 20,000, and examination revealed many subcrepitant râles over the bases of both lungs. During the next day the temperature rose to 104, and the general condition became rapidly worse. The patient died at 8:50 p. m., June 21. The immediate cause of death was assigned as "hypostatic pneumonia." During the time of practical anuria, the symptoms of emesis and hiccup were very prominent. Hiccup was practically constant, and the patient was unable to retain food or liquids. After the urine flow was reestablished these symptoms became less pronounced, and the patient seemed on the way to recovery until the pulmonary condition supervened. Cyanosis was prominent chiefly during the first twenty-four hours.

761 Lovejoy Street.

[Editorial Note: It will be noticed that this death from Phylacogen occurred over a year ago. It is now reported because of the following facts: A certain physician to whom Dr. McLean had mentioned the death spoke of it to others, and some of these conversations were reported to Parke, Davis & Company. Thereupon the firm, under date of Jan. 9, 1913, wrote to the physician mentioned remarking that he had been reported as stating that a death had occurred from Phylacogen. The letter continues:

"We feel quite certain that you have been misquoted and we desire to take this opportunity to acquaint you with the statements which have been attributed to yourself. No deaths occurred in ———— hospital, or anywhere else, as a direct result of the administration of Phylacogen. We feel sure that it is far from your desire to do anyone, unwittingly, an injury and that you will appreciate our having directed this matter to your attention. Yours very truly, **Parke, Davis & Company**, E. R. L."]

TRACHOMA: ITS PROPHYLAXIS AND THERAPY

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LAME DEER, MONT.

An experience of several years among the Indians west of the Mississippi, a people sorely afflicted with trachoma, living under varying geographical and climatic conditions, has demonstrated to me that it is a communicable disease, little or not at all influenced in its course, complications, sequelae and terminations by the natural factors of latitude, longitude, altitude, heat, cold, moisture or dryness.

Trachoma, as it is usually found and treated, is a chronic disease. Doubtless there are acute cases of it, but none have ever come under my observation; and in cases in which the diagnosis of acute trachoma has been made, and exhibited as such, it has thus far always been possible to show by the unmistakable hypertrophy of the fornix or tarsal conjunctiva, or both, or by the presence of scar tissue of this membrane, that the supposed acute trachoma was simply an exacerbation or an added infection, either or both of which mark the course of untreated, or even many treated cases of this malady.

The classic division of the management of trachoma into prophylactic, surgical and medical seems almost ideal. Of course the prophylaxis of trachoma is its best and most effective management, and can be accomplished only by the exercise of constant care to prevent the secretions from a trachomatous eye reaching an uninfected eye. To this end all public towels and washbasins should be abolished; in schools, almshouses and penal institutions and among other aggregations of persons, as soldiers, factory employees, miners, etc., the use of individual towels and basins should be required, or better still, individual towels with flowing water from faucets should be provided, and their use enforced.

Under the surgical treatment will be considered only the measure usual in practice of removing the contents of the granules by expression, which may be done by the use of any one of the many good expression forceps now in use, as Knapp's roller forceps, Khunt's expressor or Noyes' oval forceps. These three instruments will be found ample to meet the requirements for this procedure, in all the various manifestations of trachoma.

It has been thoroughly demonstrated that when the proper subsequent treatment is applied, all cases of trachoma improve much more rapidly after expression than if expression has been omitted. This has been shown in hundreds of cases in which one eye of a patient, in whom the trachoma appeared of the same degree of severity in both, was expressed and the other was not, but otherwise bilateral treatments were carried on in an identical manner. The eye on which expression has been used improves so rapidly that usually within a few weeks one not familiar with the history of the case would declare it to be one of unilateral trachoma or that the trachoma in the eye in which expression had not been used was of much greater severity and of longer standing than that of the other eye. So pronounced has this demonstration been that in many cases within one month the patients, uninfluenced by any suggestion, have asked to have expression used on the other eye. Also, expression should be used in all chronic trachomatous eyes in which there is a varying amount of scar tissue with a vestige of active trachoma present. In many of these cases little or no trachomatous material will be removed from the eyes, but here too a unilateral expression followed by identical bilateral treatments has amply demonstrated the advisability of the expression in all cases. In accounting for this beneficial effect, I believe that the conjunctiva and lids are improved more by the increased and quickened blood- and lymph-supply resulting from expression than by the small amount of trachomatous material removed.

After expression I formerly used ice compresses for several hours on the closed lids of these patients; but some years ago necessity prevented the use of ice compresses, and pledgets of cotton wrung from water as hot as could be borne by the patients were placed on the closed lids immediately after the expression, and changed every two minutes for about thirty minutes; invariably the patients expressed much gratification at the relief given by these hot applications; children aged from 6 to 10 pass out to play at once as soon as these applications are discontinued. As cold never gave the quick and permanent relief from the discomfort of expression that hot applications do, I have used the hot applications exclusively since, in many thousands of cases without a single case of inflammatory reaction. Of course care has been exercised to allay by appropriate measures all symptoms of an acute exacerbation or any additional infection before the expressions are done.

At the end of the application of hot pledgets, a drop of a 25 per cent. solution of argyrol, or some bland oil, may be placed in the eye.

The eye on which expression has been done almost invariably glues together for two or more mornings after this operation, and should be cleansed by having all secretion carefully wiped from the lid margins, canthi and cilia. This should be repeated as often as necessary to keep the eye clean and dry, and a drop of the oil or argyrol may be used two or three times daily if necessary to prevent the lids from gluing together. Expression has shown that in most cases gluing of the lids and increased secretion resulting from the expression, cease almost or quite as soon under the above-described method of cleansing the lids, canthi and cilia by moistened pledgets of cotton as when argyrol or oil is used; therefore I do not use these so often as formerly.

Another practice which I formerly employed was to evert, the morning following expression, the lids in which gluing together of the lids occurred, and to paint them with a 2 per cent. solution of silver nitrate, immediately neutralized by an instillation of normal salt solution; but in some instances in which the silver nitrate solution had to be omitted, the gluing together of the lids and the discomfort were less, so that now I use it only in purulent conditions which continue longer than usual or are of more than ordinary severity. I now believe that the exudate thrown out as a result of expression and as a means of repair was formerly removed by this application of the silver solution, wherefore I now omit the solution in these cases, except when it is indicated by the presence of purulency.

When the gluing together of the lids has ceased, the medical treatment of trachoma begins, and lasts until the whole conjunctiva returns to normal. This in the mildest cases requires many weeks or months; in well-developed cases months and even years; and in complicated cases, though the active trachoma may be eradicated in time, the destructive effects may and usually do remain permanently.

It is now believed that the principle on which the improvement and cure of trachoma depends is the production of an acute hyperemia, often repeated, in the conjunctiva and lids of the trachomatous eye, and repeated at daily intervals until these structures return to the normal, or as near to the normal as severity of the attack and destruction of the parts will permit. The expression of these granules is the therapeutic beginning in the production of this artificially produced hyperemia. This procedure increases the rapidity of the flow of blood and lymph in the whole conjunctiva and lids which, previous to expression, will, on careful inspection of the fornix and tarsal conjunctiva, present the appearance of a tissue in a state of passive congestion.

As soon as the acute effects of expression subside, in from five to seven days, there being no further secretion, inflammation or gluing together of the lids, they should be everted and the whole of the conjunctiva of the fornix and palpebral surfaces firmly and rather rapidly rubbed with a smooth pencil of copper sulphate. This should be done once daily to secure the maximum results, and care taken lest physical injury be added to the already present chemical irritation by the copper sulphate. In order to prevent abrasions and unnecessary irritation with the possibility of causing corneal ulcers, great care should be exercised to prevent the stick from coming into contact with the corneal epithelium. This may be accomplished by pushing the lower lid well up over the cornea after everting the upper lid, in which position it forms an efficient protective cushion to this structure. Assuming that the true principle of the treatment of trachoma is often-repeated acute hyperemia in all the conjunctiva in which there is active trachoma, the copper stick should come into contact daily with all this surface.

If a thorough expression of trachoma has been done properly, and all secretion checked before beginning the use of the stick, and if it is used gently each day and applied so as to obtain only a stimulating (hyperemic) and not a caustic effect, all or practically all the complaint of the pain will cease by the end of the sixth or seventh treatment; but to secure this happy condition, daily treatments must be made and continued. If a patient stops attending treatments after they are practically painless for a few days, he will be compelled to undergo a similar series of painful treatments before the stick ceases to cause so much pain again. It should also be noted that patients whose lids have not been expressed never throughout their entire course of treatment acquire the same degree of immunity from the pain of these applications as those whose lids have been expressed and treatment begun within a few days.

It has been observed also that trachoma patients do not do well when the eyes are flushed by lotions. No water should be put into a trachomatous eye after expression except to wash out the blood and débris of expression, unless some special reason should occur. Even while there is secretion, the result of expression, most cases are cleansed by the use of moistened pledgets of cotton, and not by flushing the eyes copiously with various solutions. To keep the eye dry, apply copper sulphate as just described. This will insure the maximum improvement in the treatment of trachoma.

Copper sulphate should never be used when there is a corneal ulcer, an inflammation, iritis or an acute exacerbation, but measures to allay these conditions should at once be instituted. As soon as relief is obtained, often repeated hyperemias should be begun and continued.

If the stick has been used too vigorously (caustic), the following day the conjunctiva over the area thus treated will present the condition of a bluish-white pellicle of varying thickness and extent, depending on the too caustic action of the stick. This pellicle may be noted not only by its color and location, but also by the fact that it will roll up into shreds, curdy masses and bunches when the stick is applied again. This condition should never be produced by the use of the copper sulphate, and if found is positive evidence that the applications have been made with unnecessary and unwarranted severity, and the effect has gone beyond the therapeutic hyperemia required to bring about the cure of trachoma. In such cases the copper applications should be discontinued for a few days.

Various copper, mercury and other ointments have been used in treating trachoma, but are considered inferior to the copper sulphate stick; for by the judicious use of the stick just the proper amount of stimulation may be produced. A different degree of application is required not only in different eyes but in the varying stages of the progress in an individual eye.

The massage of the trachomatous conjunctiva by the use of a cotton wound applicator, moistened and dipped into dry boric acid powder, has been given an extensive trial, and no better results were obtained than with the copper, if as good.

A few oculists are known who evert the lids and with the index-finger of the treating hand, covered by one or two layers of sterile gauze, rub all the available and presenting conjunctiva thoroughly with a proprietary powder composed of nuclein from various glands. They claim excellent results, but apparently the only effect which this can possibly produce is that of mechanically causing the hyperemia above discussed and believed to be the chief, or only factor in curing or ameliorating trachoma.

THE SERPENT'S TOOTH IN FORMALDEHYD

WILLIAM E. MORGAN, M.D.
CHICAGO

The reckless freedom with which formaldehyd solution and its derivatives are used by hospital employees, surgeons, health boards, undertakers and food preservers leads me to call attention to the dangers attendant and to place a decided poison label on them.

There is no doubt that a personal susceptibility has much to do with the effects, but the number of unfortunates is becoming so great as to place formaldehyd at the head of the list (not excepting the *x*-rays) as an irritant to the skin and the mucous membranes, and its results are so serious as to leave those tissues peculiarly weak in resistance to other irritants.

It is a well-known fact that the venom of the bite or sting of a poisonous insect like the ant, spider, wasp or hornet is formic acid or one of its compounds, and it is also a matter of common knowledge that some persons are far more affected by the stings than others. It is therefore easy to understand why some are more susceptible than others to the pharmacal preparations which are so universally used at present.

About a year ago formaldehyd was announced as a proper ingredient for the denaturing of alcohol, the amount designated being 1 part of the 40 per cent. formaldehyd solution to 250 parts of alcohol. The result was an almost universal use of this denatured preparation for surgeons' and nurses' hand solutions and general operating-room use.

It was my misfortune in March last (ten months ago) unwittingly to use a liberal quantity of such alcohol on my hands and arms as a final wash before putting on the gloves. During the subsequent operation I felt that one of my arms was being bitten by some insect, and mentioned at the time that an ant must have found its way into the sleeve of my operating-gown. In a few moments more I felt the same sort of sting in the other arm and then several distributed stings on both hands and arms. On finishing the operation and removing gown, sleeves and gloves I found the extensor surfaces of both arms corresponding closely to the distribution of the external cutaneous nerves punctated with numerous circlets of intensely burning and itching fiery red minute papules. I jumped to the conclusion at once that I was the victim of bilateral, symmetrical herpes miliaris and for two weeks afterward considered the case as such, but failed to notice any accompanying neuralgia or other malaise.

The eruption went through stages of vesiculation, weeping, crusting, brownish pigmentation and skin thickening, but no sooner would one patch show signs of improvement than other circlets would appear and go through the same stages. Not until three or four weeks had elapsed was I informed that I was suffering from a chemical dermatitis and that it was due to formaldehyd. Even though I now knew the cause of the irritation I did not realize that I was being constantly reaffected by room fumigation. I had already been obliged to cease operating but was constantly in attendance on patients in their hospital rooms where formaldehyd was used as the universal fumigant.

Like all other chronic forms of dermatitis, the affected surfaces are peculiarly susceptible to heat and cold, alkalies and acids. Soaps made of animal fats, ointments containing animal fats like lanolin or lard, emollient preparations like cold cream and the viscid liquid preparations so universally used for chapped hands and face, are all of them intensely irritating and provocative of profanity, while the soaps made of vegetable oils and the vegetable or mineral oils themselves are very soothing.

Solutions or ointments containing lead, zinc (unless very weak), tar, oil of cade, ichthyol, the various combinations of salicylates and pyrogallates, are all beneficial temporarily but seem to be provocative of new circles of acute character at the margins of the old.

I find by conference with my associate sufferers that we all have the same experience as to susceptibility to the formaldehyd. The mere presence of the vapor in the room or in the bedding of a patient is immediately recognized by a stinging formication over the whole surface of the body, and it is especially acute on the previously affected parts, so that now in my own case it amounts to an almost insane obsession.

So many members of the medical profession have been invalidated physically, incapacitated for professional work, deprived of livelihood and rendered nervous wrecks by this peculiarly subtle and all-pervading vaporous poison that it should be relegated to the uses of the undertaker and pathologist only and then used with extreme care. If used for fumigation, the room and all its contents should be thoroughly aired for at least forty-eight hours before being again occupied. Specimens preserved in formaldehyd solutions should be kept tightly encased, and the pathologist, to avoid dangers to himself and others, should keep his jars in a room which is constantly aired and not in his general work-room. In addition to these precautions, he should always use some protection to his hands and arms when handling these specimens. Let him be as careful in the use of formaldehyd as he would with a bottle of bromin, for, once stung, repentance is useless.

In view of the fact that formaldehyd vapor is now known by experience to be so dangerously irritant not only to the skin but also to the mucous linings like the conjunctiva and nasal passages, and because its efficacy as a germicide and disinfectant is now seriously questioned by some of our best pathologists and masters of sanitation, may we not wisely discard it altogether as a means of disinfection? We know that when used in 1:1,000 dilution in water or glycerin it is a powerful germicide for some forms of bacteria, and when employed thus with great caution and by carefully feeling our way, it can be made safely useful. To apply it, however, in as strong a dilution as 1:250 in alcohol directly to the surface of the skin freshly disturbed by brush and soap is a malicious insult, and I desire to enter a decided protest against the use of alcohol denatured by so dangerous an ingredient.

Perhaps such alcohol used as a fuel in the mechanical arts might with caution be safe enough, but woe betide the mechanician with a chapped or cracked skin who should perchance spill some of it on his hands or wet them with it!

I may add in passing that I have practically exhausted the pharmacopeia and I fear have also exhausted the patience and suggestions of my medical friends in my efforts to overcome the trouble; but I feel that now I am on the right road, which is outlined as follows for the possible benefit of fellow-sufferers.

1. Avoid formaldehyd as you would a pestilence.

2. Wash the hands or affected parts not more than once a day with luke-warm water and a vegetable oil soap such as Castile. Avoid green soap made with a fish oil, or any animal oil soap. At other times use olive-oil or cottonseed oil for cleansing purposes. I have found that a little phenol (carbolic acid) added to the oil (10 minims to the ounce) keeps it free from becoming rancid and adds to its soothing qualities.

3. Apply to the affected parts two or three times daily an ointment made up of zinc oxid, 1 part, starch, 2 parts, and petrolatum, 8 parts. During the vesicular and acute stage this should be applied without friction; but after the epithelium becomes dry and the derma somewhat thickened and scaly, the ointment can be rubbed in and the zinc reduced somewhat.

4. Avoid all powders except sterilized starch, and then during the vesicular stage only.

5. Rubber gloves cannot be worn for more than from three to five minutes without producing marked irritation by reason of the confined perspiration.

6. Wear a cotton protecting sleeve or glove or both, night and day until thoroughly healed. Silk or woolen goods cannot be allowed to touch or rub the affected parts without producing irritation.

3122 South Park Avenue.

Therapeutics

ECZEMA IN INFANTS

It may be well to recall for a moment the many varieties of eczema which may occur. If it begins with burning and tingling sensations and a redness, if red points then develop over the orifices of the skin glands or hair follicles, and if the surface of the region then feels a little raised and papules develop, these later passing into vesicles which soon burst and cause an exudate, acute eczema is present. This acute inflammation of the skin may stop at almost any of the above stages, or it may go on to the formation of crusts, either dry or sticky; even a purulent exudate may occur. There is no deep ulceration in eczema, and the inflammation occurs generally in patches. This moist condition may continue for some time or dry scabs and crusts may occur.

The duration of eczema is absolutely uncertain. There is probably always a continued attempt of the skin to heal under the crusts, and then scaling or a sort of desquamation occurs with more irritation and itching of the part, although there may have been some itching in the beginning. This chronic healing and drying with more or less acute irritation may go on for months or even years, and the skin may become thickened in regions that are permanently eczematous. Such skin is not healthy, and injury to it in any way may cause a more or less deep ulceration. Among the lesions of the eczema appear more or less irritated marks due to scratching, and this scratching causes more irritation and may prevent the eczema from healing.

It has long been decided that eczema is not purely a local disease but is generally caused or influenced by the character of the food and its digestion. The relation of eczema to indigestion in infants seems to be even closer than in adults, as shown by Drs. Towle and Talbot[1] of Boston. As eczema is of frequent occurrence in infants and often almost impossible to cure, any suggestion as to its etiology and hence the possibility of the removal of the cause will be welcomed.

The investigations by these clinicians have so well shown the relationship of infantile eczema to indigestion that they are justified in urging the necessity of making an examination of the stools as a routine diagnostic measure whenever troublesome eczema occurs.

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[1] Towle, Harvey P., and Talbot, Fritz B.: Am. Jour. Dis. Child., October, 1912, p. 219.

Serious eczema in infants may be divided into two classes: one in which the process is acute and inflammatory, with a tendency to exudation, while the second is more or less chronic, without much exudate, but with redness and infiltration, and the skin is more or less dry, scaly and harsh. The latter form is also characterized by greater itching, while in the more acute variety the itching becomes more pronounced as the inflammation heals.

The more acute form of this eczema in infants occurs on the face and forehead, generally on both sides, and, according to Towle and Talbot, is frequently associated with indigestion of fats, and occasionally with indigestion of carbohydrates. The more chronic forms of eczema in infants they find more likely to be associated with indigestion of protein foods.

If the examination of the stools shows a large amount of undigested fat or fatty acids, the amount of fat taken with the food should be diminished. If, on the other hand, the stools show that sugar and starch are not well digested, these foods should be diminished. If the eczema is more chronic in character, the amount of protein in the food should be reduced, changed or modified.

The methods of examination of the stools are macroscopic, microscopic and chemical. The macroscopic, of course the simplest, is more or less suggestive, is fairly accurate and takes but little time. Towle and Talbot say:

> The most common fat stool is soft and contains in varying abundance soft curds which have been found to be composed of fat in the form of fatty acids or soaps. These curds look like small particles of undigested milk, imbedded in a mucus which is usually more or less greenish. The "soap stool," a second form of fat indigestion, is light yellow or whitish, has a shiny surface and a soapy appearance, and is almost entirely composed of fat. There is a third but less common type of stool almost wholly composed of fatty acids, which presents the appearance of Indian meal.
>
> An acid, burning stool is an indication that the starches, which under normal conditions are converted into sugar and in this form absorbed, have, owing to a faulty digestion, undergone a further reduction by which the sugar has been broken up into lactic, acetic and succinic acids. If an acid stool is stained with Gram's or Lugol's solution the starch granules present are stained blue.
>
> In the case of lactalbumin and whey, protein indigestion gives no clinical signs in the stools; but the presence of tough, bean-like curds indicates that casein digestion is disturbed.

Of course more scientific examination of the stools may be made chemically and microscopically, but macroscopic observations as above described may give the clue as to what the diet should be for an infant who has eczema. It has often been noted that infantile eczema sometimes persists for months in spite of all kinds of treatment and then gradually disappears without the reason for the cure being recognized when, on account of the child's age alone, the diet is changed.

Besides the eczema in children due to a mistake in diet, we should probably recognize an eczema of nervous origin, which may be the type which occurs on children's faces during teething.

The inflammations of the skin that occur in parts where there is chafing, or where there are irritating secretions or excretions, are of local origin, and anything that protects such parts will stop the inflammation.

Another type of eczema that occurs in young children is that of the scalp, which is generally an eczema of the sebaceous glands characterized by the yellow, more or less sticky crusts that form on the child's head. It is generally in patches, more or less numerous.

An eczema may be generally diagnosed by the fact that it occurs in patches, is likely to occur on parts of the body subject to irritation, is likely to be worse in cold weather than in warm, may show several degrees of inflammation on the same patient (i. e., several types of eczema), and generally causes itching.

The eczema that occurs in young children in the form of fissures or cracks in the skin, either around the ears or at the angles of the mouth, is likely to be the type that is improved by the administration of small doses of thyroid gland substance, 0.05 gm. (1 grain) daily combined with such local and general treatment as indicated. Unquestionably, some forms of eczema in children clear up much more rapidly under such thyroid treatment than without it. Thyroid should not be given in any acute form of eczema, however, but only in the very chronic type.

In the treatment of infantile eczema, besides the modification of the diet above suggested by Towle and Talbot, all external causes of irritation must be sought and removed or prevented. All causes originating in parasites and pus must be excluded. It is too well understood to need much repetition that if the child is not an infant and has begun to eat general food, all irritant substances that are likely to cause urticaria may also be a cause of eczema and should be removed from the diet. Some of these foods that should be excluded from the diet of children are pastry, fried foods, many berries, griddle-cakes, chocolate, nuts and, perhaps for the time being, most of the fruits. The possible reflex irritation of the skin by drugs should be remembered.

It is certain that in all forms of eczema, especially in children, the diet that is the simplest, the most bland, the most suitable for the age of the patient, and the most readily digested is the one that will allow the most speedy cure of the disease.

The hygienic surroundings of the child are of great importance. Cold and dampness tend to make the disease worse, while overheating and an atmosphere that causes the child to be irritable makes the disease worse. Generally the irritated part does better when protected from the atmosphere, but the clothing should not cause overheating and should not cause irritation of the skin. That the reverse of cold atmosphere is beneficial to infants with eczema has been shown by the use of the hot-air cabinet for these little patients. Severe cases of infantile eczema have been treated with success by giving the patients daily for five or ten minutes the dry hot-air treatment in a cabinet.[2]

Just what clothing, whether cotton, linen mesh or silk is best to be next to the child's irritated skin, is to be decided according to the particular child, the nature of its surroundings and the period of the year in which the disease has occurred.

A most important thing to consider in the treatment of infantile eczema is how cleanliness of the body shall be obtained. Water certainly aggravates the condition, and, if a child is unduly or unwisely bathed, a recurrence of a cured eczema may be caused. Sometimes warm water may be allowed if it is rendered alkaline by sodium bicarbonate or sodium bicarbonate and borax. Sometimes oatmeal or bran-water baths are given and found to be non-irritating. Many times it is better not to use water at all on the irritated parts, but to cleanse with a soft cloth moistened with a bland, thin oil. Perhaps the best is almond oil, unless it is desired to leave a film of oil over the surface, when olive oil may be used.

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[2] München. med. Wchnschr., 1912, No. 49, p. 85.

If there is a considerable amount of persistent pustulation, and local germicides, either in ointments or washes, are unsatisfactory or inadvisable, stock vaccines may be used; it seems to have been proved that stock streptococcus and staphylococcus vaccines are as successful as autogenous vaccines. There seems to be no other excuse for using vaccines in eczema.[3]

However thoroughly one may be convinced of the great influence of abnormal constitutional conditions or of disorders of internal functions in the production of eczema, the great importance of external and local treatment must never be overlooked or forgotten. The local treatment has for its object primarily the relief of itching which is a disturbing element, both mental and physical, that cannot be realized by one who has not suffered from the disease. The second object of the local treatment is the restoration of the skin to health.

While adults may be ordered or induced not to scratch the irritated part, in children argument and advice is useless, and the young child must be prevented from scratching the eczematous regions. To this end his finger-nails must be kept short, and the inflamed parts thoroughly covered, if the disease is at all severe. If the disease is more severe and the child is inclined to tear at even the covered parts, his hands must be wrapped in linen so that they will not sweat; or it may be best to put a splint, as a box cover, on his arms so that he cannot flex his elbows. It is better to do something like this than to pin the child's arms down to its sides, thus preventing the child from any movement of the arms at all and causing him to be more restless. It may even be best to put his hands into celluloid mittens that come for this purpose. These are probably the coolest dressings that his hands may have. If the hands are eczematous, of course they will be covered by the applications and dressings used.

An application designed for local use in eczema should contain some remedy designed to relieve the itching. The most useful remedies are menthol, phenol (carbolic acid) or some less pure tarry preparation. Other preparations used are astringent, such as zinc oxid, bismuth subnitrate, bismuth subgallate, alum preparations or lead preparations. As a general rule when eczema is acute, soothing remedies are indicated; when it is subacute or chronic, stimulating applications may be made. The external applications may be in the form of ointments or powders. One of the simplest of the soothing and antipruritic applications is:

℞	c.c.		
Phenolis liquetacti	5	or	♏ lxxv
Olei lini	500		O i

M. et Sig.: Apply externally.

The black wash, which consists of a dram of calomel to a pint of lime-water, has been recommended and much used, but although there is little danger of poisoning with mercury, it would seem unwise to use this preparation on a child. Also, lead washes and lead ointments are perhaps just as well not used, as lead absorption and poisoning could occur.

Another soothing wash is the following:

℞	Gm. or c.c.		
Mentholis	1		gr. xv
Sodii bicarbonatis			
Sodii boratis ....āā	10	or	ʒ iiss
Glycerini	100		fl℥ iij
Aquae, q. s...............ad	300		fl℥ x

M. et Sig.: Dilute with three parts of warm water and use as a wash.

This preparation not only allays itching, but may aid the healing process.

Various lime-water washes are used, some of which contain powders, such as:

℞	Gm. or c.c.		
Zinci carbonatis precipitati..	10		ʒ iiss
Glycerini	15		fl℥ ss
Liquoris calcis	25	or	fl℥ i
Aquae rosae, q.s...........ad	200		fl℥ vij

M. et Sig.: Shake, and apply externally.

Zinc oxid may be used in place of the precipitated carbonate of zinc; 5 c.c. of phenol may be added to the above prescription, or half a gram of menthol, as more active antipruritics.

Another sedative is the following:

℞	Gm. or c.c.		
Zinci oxidi	20		ʒ v
Phenolis liquefacti	2		flʒ ss
Glycerini	25	or	fl ℥ i
Aquae, q.s. ad...............	200		fl℥ vij

M. et Sig.: Shake, and apply to affected parts several times daily.

While glycerin is valuable in dilute solution for most skins, some skins are irritated by it, even when used in very small amounts. In such the glycerin must be omitted from the prescriptions.

Starch may be used as a cooling dry powder application, or starch solutions may be used.

When the inflammation is less active and the irritation not severe, the following ointment may be used:

℞	Gm. or c.c.		
Phenolis liquefacti	|50		♏ vijss
Zinci oxidi	5	or	gr. lxxv
Adipis benzoinati	30		℥ i

M. et Sig.: Apply externally.

If deemed advisable, the phenol may be increased in strength, especially if the itching is severe.

A frequently used preparation, especially in more or less subacute or chronic eczema, is Lassar's paste, a type of which is as follows:

℞	Gm. or c.c.		
Acidi salicylici	1		gr. xv
Zinci oxidi			
Amyli ....āā	10	or	ʒ iiss
Adipis benzoinati............	20		ʒ v

M. et Sig.: Use externally.

This ointment makes a more prolonged coating of the part than the previous ointment.

When stimulation seems to be required, especially in the scaly eczemas, resorcin may be used as follows:

℞	Gm.		
Resorcinolis	|50		gr. vijss
Unguenti aquae rosae	30	or	℥ i

M. et Sig.: Use externally.

The preparation of unguentum resorcini compositum of the National Formulary is another efficient preparation of resorcin, more stimulating than the previous, and tending to cause a healthy inflammation on a chronic, slow-going inflammation. The ingredients of this preparation are:

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[3] Simpson, C. A.: Infantile Eczema, The Journal A. M. A., April 6, 1912, p. 995.

Resorcinol
Zinc oxid
Bismuth subnitrate, each .... 3 parts
Oil of cade .... 6 parts
Petrolatum and
Lanolin, enough of each to make in all ...... 50 parts

It is a frequent tendency among those who write prescriptions, and especially among dermatologists, to combine two kinds of ointment bases in ointments for use in skin diseases, both an animal and a "mineral fat," as notice the above National Formulary preparation. It would seem bad prescription writing and a bad combination. Either the "mineral fat" is the better, or the animal fat is the better, certainly not both.

Tarry preparations are still largely used by many physicians who treat diseases of the skin, both as antipruritic and as stimulant. The following is a simple tarry preparation:

℞	Gm.		
Picis liquidae	1		gr. xv
Petrolati	30	or	℥ i

M. et Sig.: Use externally.

The official unguentum picis liquidae contains 50 per cent. of tar. The unguentum picis compositum of the National Formulary contains 4 per cent. of the oil of tar, 2 per cent. of the tincture of benzoin, and 2 per cent. of zinc oxid. If the tar ointment is not strong, it may be rubbed into the chronic eczema patches, not simply spread on them.

When there is a general erythematous inflammation, dry powders such as common starch, flour, bismuth subnitrate, bismuth subgallate and various talcum powders are useful.

Sometimes camphor solutions are of value in itching, and do not cause quite so much burning as menthol preparations. Camphor may be even used as a powder for this purpose, such as:

℞	Gm.		
Camphorae	3		gr. xlv
Zinci oxidi	10	or	ʒ iiss
Amyli	20		ʒ v

M. et Sig.: Apply externally.

There are various official and unofficial ointments and medicated plasters for the treatment of eczema, but they mostly contain one or more of the ingredients already mentioned.

Belladonna mixtures have sometimes been used when the itching was intense and the region in trouble not large. Such ointments should, however, very rarely be used in children, lest poisoning from absorption occur.

If there is a troublesome eczema about the nails or on the finger-tips, sometimes rubber cots to cause sweating and softening of the hardened tissue are of value.

Seborrheic eczema of the scalp, which is frequent and occurs without inflammation and generally without any internal cause, is troublesome and can be cured only by persistent good treatment and care. Changes in diet are of no avail in this form of eczema.

In the first place, the crusts on the scalp should be softened with a sterile oil such as olive oil or a thin petroleum oil, or possibly the olive oil may contain a small percentage of salicylic acid, as 1 or 2 per cent. Castor oil may be used, if preferred, either made sterile or containing the same percentage of salicylic acid. After the crusts have been gradually softened, they may be removed and then gauze saturated with the oil used may be applied to the regions affected and kept in place by any simple light air-pervious cap. Sometimes the scalp is best cleansed, after softening, with ordinary good soap, as castile, or with the official green soap (linimentum saponis mollis).

One of the above preparations of resorcinol may be applied to the scalp after the scabs have been removed, or a sulphur preparation may be used, as:

℞	Gm.		
Sulphuris praecipitati	3	or	ʒ i
Petrolati	25		℥ i

M. et Sig.: Use externally.

Persistent careful cleanliness and gentle stimulation of the scalp will generally prevent a recurrence of this inflammation.

DISTURBANCES OF THE HEART

(Continued from page 519)

ARHYTHMIA

While this term really signifies irregularity and intermittency of the heart, it may also be broadly used to indicate a pulse that is abnormally slow or one that is abnormally fast, a rhythm that is not correct for the age, condition and activity of the patient. Irregularity in the pulse-beat as to volume, force and pressure, except such variation in the pulse wave as caused by respiration, is always abnormal. While an intermittent pulse is of course abnormal, it may be caused in certain persons by a condition that does not in the least interfere with their health and well-being.

As to whether a slow or a more or less (but not excessively) rapid pulse in any one is abnormal depends entirely on whether that speed is normal or abnormal to him. As a general rule the heart is more rapid in women than in men. It is always more rapid in children than in adults, and generally diminishes in frequency after the age of 60, unless there is cardiac weakness or some cardiac muscle degeneration. The average frequency of the pulse in an adult who is at rest is 72 beats per minute, but a frequency of 80 is not abnormal, and a frequency of 65 in men is common; 60 is infrequent in men but normal, while up to 90 is not abnormal, especially in women, at the time the pulse is being counted. It should always be considered that in the majority of patients the pulse is slightly increased while the physician is noting its rapidity. Anything over 90 should always be considered rapid, unless the patient is very nervous and this rapidity is considered accidental. Anything below 60 is abnormally slow. In children under 10 or 12 years of age anything below 80 is unusual, and up to 100 is perfectly normal, at least at such time as the pulse is counted and the patient is awake.

Referring to the first article in this series on disturbances of the heart, it will be noted that many physiologic factors must enter into the production of the normal regularity of the pulse. The stimulus must regularly begin in the auricle, must be perfectly transmitted through the bundle of His to the ventricles, the ventricles must normally contract with the normal and regular force, the valves must close normally and at the proper time, the blood-pressure in the aorta must be normally constant to insure the perfect transmission of the blood to the peripheral arteries and to insure the normal circulation through the coronary arteries, and the arterioles must be normally elastic. The nervous inhibitory control through the vagi nerves must also be normal, and there must be no abnormal reflexes of any part of the body to interfere with the normal vagus control of the heart.

While the heart beats from an inherent musculonervous mechanism, nervous interference easily upsets its normal regularity. It may be seriously slowed by nervous shock, fear or sudden peripheral contractions, spasm of muscles, or convulsive contractions, or it may be stimulated to greater rapidity by nervous excitement. It may be slowed or made rapid by reflex irritations, and it may be seriously interfered with by cerebral lesions; it may be made very rapid, or any pressure on the vagi centers in the medulla oblongata will make it very slow. Various kinds of poisons circulating in the blood, both depressants and excitants, may affect the rapidity or the regularity of the heart. Therefore, if it is decided that a given heart is abnormally slow or abnormally rapid, or is decidedly irregular or intermittent, the various causes for such interference with its normal activity must be investigated and admitted or excluded as causative factors.

Many investigations of the rhythm of children's pulses have been made, and some of the later investigations seem to show that not more than 40 per cent. are regular, the remaining 60 per cent. varying from mild irregularity to extreme irregularity.

Scientifically to determine the exact character of a pulse which is discovered by the finger on the radial artery and the stethoscope on the heart to be irregular, tracings of one or more arteries, veins and the heart should be taken. As previously stated in other sections of this series, two synchronous tracings are more accurate than one, and three of more value than two in interpreting the exact activity and regularity of the heart.

The cause of an irregularly acting heart in an adult may be organic, as in the various forms of myocarditis, in broken compensation of valvular disease, Stokes-Adams disease, coronary disease, auricular fibrillation, cerebral disease, and toxemias from various kinds of serious organic disease. The cause may be more or less functional and removable, such as tea, coffee, alcohol, tobacco, gastric indigestion and intestinal fermentation or putrefaction; or it may be due to functional disturbances of the heart such as that due to what has been termed extrasystole, or to irregular ventricular contractions. A frequent cause of irregular heart action in women, more especially of increased rapidity, is hyperthyroidism.

There may be an arhythmia due to some nervous stimulation, probably through the pneumogastric, so that the pulse varies abnormally during respiration, being accelerated during inspiration and retarded during expiration more than is normally found in adults. This condition is frequent in children, and is noticed in neurotic adults and sometimes during convalescence from a serious illness. Nervous and physical rest, with plenty of sleep and fresh, clean air so that the respiratory center is normally stimulated, will generally improve this condition in an adult.

Extrasystoles causing arhythmia give a more or less regularly intermittent pulse, while the examination of the heart discloses an imperfect beat or the extrasystole which is not transmitted or acted on by the ventricles, and hence the intermittency in the peripheral arteries. This condition may be due to some toxemia, nervous irritability, or some irritation in the heart muscle. Good general elimination by catharsis, warm baths to increase the peripheral circulation, a low diet for a few days, abstinence from any toxin that could cause this cardiac irritation, extra physical and mental rest, sometimes nervous sedatives such as bromids, and perhaps a lowering of the blood-pressure by nitroglycerin if such is indicated, or an increase of the cardiac tone by digitalis if that is indicated, will generally remove the cardiac irritation and prevent the extrasystoles, when the heart will again become regular. It should be carefully decided whether there is beginning heart-block or beginning Stokes-Adams disease, in which case digitalis should not be used. This disease is not frequent, while extrasystoles of a functional character are very frequent. Sometimes this functional disease persists without any apparent injury to the individual as long as the ventricle does not take note of these extra auricular systoles and does not also become extra rapid. If the ventricle does contract with this increased rapidity it soon wears itself out, and the condition becomes serious.

In this kind of arhythmia, if there are no contraindications to digitalis, it is the logical drug to use from its physiologic activities, slowing the heart by its action on the vagi and causing a steadier contraction of the heart; clinically this treatment is generally successful. If digitalis should cause the individual heart to become more irritable, it is acting for harm, and should be stopped.

One has but to refer to the enumerated causes of irregular heart action to determine the treatment. In that caused by extrasystole the treatment has just been suggested. In irregular heart caused by serious cardiac or other lesions the treatment has already been described, or is that of the disease that has a badly acting heart as a complication. If the irregularity is caused by toxins, the treatment is to stop the ingestion of the toxin and to promote the elimination of what is already in the system; how much of the irregularity was due to the toxin and how much is inherent disturbance in the heart can then be determined. If the cause of a toxemia developed in the system, perhaps most frequently from intestinal putrefaction, increased elimination and a regulation of the diet will cure the condition.

The valvular lesions most likely to cause irregular action of the heart are mitral insufficiency or mitral stenosis. The lesion that is most likely to cause auricular fibrillation and more or less permanently irregular heart is perhaps mitral stenosis. Another frequent cause of more or less permanent irregularity is the excessive use of alcohol.

While an irregular pulse and an irregular heart are always of more or less serious import, still, as the extrasystoles of the auricle are better understood and more frequently recognized, and the habits and life of the patients (most frequently men) are regulated and revised, frequently a pulse and heart that would be rejected by any medical examiner for an insurance company becomes, in a few weeks or a few months, a perfectly acting heart, and remains so sometimes for years. It also is not quite determinable whether a heart that is so misbehaving has a recurrence of such misbehavior more readily than a heart that has never been so affected. However this may be, the cause having been determined or presumed by the physician, it should be so impressed on the patient that he does not again repeat the insult to his heart.

(To be continued)

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COW'S MILK AND THE STAGE OF LACTATION

In order to carry out intelligently and successfully some of the practices of milk modification which are now widely employed in the field of infant-feeding an accurate knowledge of the composition of cow's milk is indispensable. This applies not only to the qualitative character of its constituents but likewise to the proportions of the well-known foodstuffs that make up the mammary secretion. The variations of cow's milk with reference to different breeds of cattle — for example, the specific distinctions between the milk of Holsteins and Jerseys — are well appreciated in a general way. It is also usually admitted that the feeding of cattle may have some influence on the properties of their milk, although these dietary effects, as well as the individuality of the animals, are of minor import in respect to its composition except in relation to the fat content. With regard to another factor, namely, the influence of the stage of lactation on the quality of the milk, the available data are more limited; or at any rate information on this point has not yet become a part of the general information which is diffused in respect to milk. The available facts pertain for the most part to a single constituent of the milk, the fat. There are few elaborate and comprehensive records in which any attempt has been made to eliminate the influence of the varying feed of the animals when all or even a majority of the conspicuous milk constituents have been studied during an entire lactation period.

Information of the desired character has lately been furnished by the Bureau of Animal Industry in cooperation with the Missouri Agricultural Experiment Station.[1] Four different breeds were studied, the ration of each cow being kept of uniform composition throughout the lactation period. In regard to its effect on the composition of milk, the lactation period may be divided roughly into three parts. The first stage includes the interval from the time the secretion of milk begins until the composition reaches a normal standard for milk, and covers a period of from three to six weeks. After the birth of the calf the colostrum is first secreted, which contains, as is well known, an extremely high percentage of protein and of ash as compared with that in milk. This composition changes rapidly during the first four days. Milk is ordinarily considered to be fit for food about the fifth day, although the changes in the composition continue for some time. The percentage of total protein, as well as of fat, as a rule continues to decline for from three to six weeks. One prominent characteristic of the fat during the first stage is the extremely large globules which are found in the beginning of the period and which decline rapidly in size during the first few weeks. During this stage the composition of the fat also shows an irregular variation from the normal. The second stage in the lactation period begins when the composition of the secretion becomes normal milk, and continues until a point is reached when a rapid decline in the quantity of milk produced begins. Ordinarily this occurs within from about six weeks to two months from the end of the lactation period. The length of the second stage will depend on the length of the time the cow produces milk, and to some extent on the quantity. If the complete lactation period of the cow be ten months, the second stage will cover under average conditions about six and one-half months. During this interval the composition of the milk remains in general quite uniform. In the third stage, beginning from six weeks to two months before the end of the lactation period, the composition of the milk changes widely from the average for the entire period, and while the extent of these changes varies with different animals, they are uniform to the degree that they may be reasonably counted on to occur under all normal conditions. The percentage of total protein rises rapidly, followed by the fat, although on the average the protein makes slightly the larger increase. During this stage the total protein content may be one-third higher than that present during the middle of the lactation period. The casein and albumin remain in practically the same proportions.

It is evident, from the wide variations caused by the lactation period, as the government investigators point out, especially in the content of protein present, that it is of considerable importance in many cases to consider the stage of the lactation period of the animal furnishing the milk in connection with its use as food. For infant-feeding, especially, the amount of protein present is one of the important questions; and since a variation of one-third may be expected in the protein due to the stage of lactation, this factor should be understood and taken into account in modifying milk for infant-feeding. When mixed milk of a herd is used, wide variation due to this cause would naturally be less liable to occur; but when the source of supply is one animal or a limited number all in the same stage of lactation, the importance of this factor as influencing the composition of the milk would be considerable. It has been observed that near the end of the milking period frequently a strong abnormal taste and odor are developed in cow's milk on standing. The cause of this has not yet been determined, although the evidence points against the action of bacteria as the effective factor. The taste and odor are not uncommon in the milk of cows kept under commercial conditions.

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[1] Eckles, C. H., and Shaw, R. H.: The Influence of the Stage of Lactation on the Composition and Properties of Milk, Bureau of Animal Industry, Bull. 155, 1913, pp. 88. Copies may be procured from the Superintendent of Documents, Government Printing Office, Washington, D. C., at 10 cents.

CHEMICAL RESEARCH ON THE BRAIN

Whenever histologic investigation gives evidences of conspicuous changes in the microscopic appearance of a tissue or organ as an incident of some pathologic manifestation, an attendant alteration in the chemical make-up may be anticipated with considerable confidence. Modern methods of histologic examination in which staining reactions are the dominant feature are, of course, based on chemical factors. Altered tinctorial capacities of tissue elements therefore postulate the existence of altered chemical relations. The tissues have changed in composition. One of the aims of pathologic research must be to correlate disturbances of function with altered morphologic conditions and variations in chemical composition; and the ideal will be reached when this interdependence is clearly made out and suitably interpreted in its bearing on the varieties of morbid processes. It was to this goal in respect to the chemistry of the nervous system that the talented young American investigator, Waldemar Koch of Chicago, was successfully directing his energies prior to his lamented untimely death last year.

Koch has shown that the brain exhibits pronounced alterations in composition in cases of dementia praecox. Pighini[1] has now reported distinct variations from the normal content of brain constituents in cases of progressive paralysis. The proportion of water is increased, while the quantitative relations of the significant lipoid constituents are decidedly upset. In these abnormal brains cholesterol is increased along with a decrease in the phosphatids of the kephalin type, so that a sort of "cholesterol degeneration" may be postulated, if this expression may be used in a sense analogous to the term "fatty degeneration." What this accumulation of cholesterol may signify is reserved for the future to disclose. Pighini calls attention to the undue quantities of this lipoid in the cerebrospinal fluid of paralytics, and believes that it may have significance for the outcome of Wassermann tests performed on this fluid.

For the present the distorted relative proportions of at least two prominent brain lipoids — cholesterol and kephalin — in a definite pathologic manifestation of the nervous system must serve as a suggestion of the possibilities of future work in this field. The acknowledged difficulties in the attempt to master it need not minimize its importance or discourage continued effort. As an illustration of the prospects we may recall Fränkel's suggestion that kephalin, with its great avidity for oxygen and consequent rôle in the tissue respiration of the nervous system must have a conspicuous physiologic significance. It is not illogical to expect, therefore, that a pronounced decrease in kephalin as it has been observed in these brain abnormalities will damage the functions of the organs to which it naturally contributes. Undue speculations of this sort are dangerous, however, if they are permitted to bias our views beyond what known facts justify.

WOMEN MOTORISTS

Women motorists are increasing in numbers; and this fact is said to be stimulating manufacturers to build cars with especial reference to feminine abilities and limitations. "Cranking up" has heretofore certainly been a man's work; and the chauffeur's fracture, occasioned by this maneuver, has not been rare. When the self-starter has been perfected, however, as it now promises to be, and becomes simple, inexpensive and reliable, about the last mechanical impediment to a woman's handling her own car will be removed. Even now the clutch, which used to require a man's muscular power to disengage, generally needs only the strength which the average woman can easily exert, and new devices make it possible for women to adjust tires. This suggests a brief discussion of the limitations of motoring for women and the not infrequent sequelae, some of which apply to men as well.

Driving a motor car from April to November should be a healthful recreation, both physical and mental, for many women, provided the exercise be within reasonable limits, speeding being eschewed and the car a runabout or light roadster — one, at any rate, not too heavy for a woman to handle. The "weaker sex" are naturally quick of eye and deft of wrist, two qualifications, aside from sufficient strength, which are needed. It may be said, however, that women are in general more excitable and of less steady judgment than men, shortcomings which may prove disastrous in emergencies, or which might render it advisable to confine motoring efforts to areas outside the crowded portion of the larger cities. The rougher contact of men with the every-day things of life, their greater participation from boyhood up in sports and athletics generally, better fit them to meet the exigencies of motoring. General athletic training for women and indulgence in sports such as swimming, rowing, tennis or the work of the gymnasium which develop command and coordination of muscle and brain, would to an extent supply this lack in women, and no doubt many women with such training may become efficient motorists. It may be possible that it should be limited to women with such training. To them it offers much pleasure and benefit, perhaps, and may be indulged in when the other forms of exercise or sport are unavailable or unsuitable. Rational motoring affords opportunity for plenty of fresh air, with improved appetite and increased zest of life. The ever-changing scenes may soothe and satisfy the emotions, and hitherto unfamiliar aspects of civilization may interest and divert from introspection.

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[1] Carbone, D., and Pighini, G.: Beitrag zur chemischen Zusammensetzung des Gehirns bei der progressiven Paralyse, Biochem. Ztschr., 1912, xlvi, 450.

There is, however, quite a formidable array of troubles, nervous and otherwise, which have been charged against motoring, and which point to the fact that the sport at best is a somewhat strenuous one for women. The ailments for which the motor-car may be held responsible are due almost entirely, however, to speeding and to the fear of accidents which might be engendered as the result of this.

The "auto-eye" is a spasm of the ciliary muscles (which govern accommodations for distances); to this those who have errors of refraction are specially prone; speeding over an unknown country, through devious roads, the sight being constantly and rapidly attracted by objects now near and now in the distance, makes an abnormal strain on the visual mechanism.

Wind and dust, coupled with high speed, induce any degree of conjunctival inflammation, from a hyperemia to a contagious lesion; the wearing of goggles largely obviates this. Auto-leg is a cramp due to sitting in one position for hours, while the veins and muscles are under strain from consecutive shocks and joltings over bad roads.

The sequelae of nerve strain and nerve exhaustion, such as hysteria and neurasthenia, are not rare, especially among young women who motor extensively. Such attacks come on relaxation after strain in a rapid run over many miles, but they are not ordinarily serious in healthy women; and yet in those not up to par as to their nervous systems, they have grave sequelae. The excitement of motoring may appeal to such women. The ever-increasing stimulation inherent in speeding may sooner or later end in prostration. For such cases entire rest and complete abandonment of motoring are absolutely essential. All women absorbed in motoring should from time to time consult their physicians regarding conditions which they are unable to account for.

Edgar[1] considers that the unfavorable influence of motoring on pregnancy has been somewhat exaggerated, and that it has in many instances been unfairly set down as abortifacient. The middle third of pregnancy is more liable to be thus affected than any other. Delavan[2] considers that while pulmonary diseases should in theory be much increased by motoring, practically such is not the case; indeed, the car properly used is a valuable therapeutic agent. Nevertheless, acute catarrhs and advanced tuberculosis with abnormal temperature certainly contra-indicate motoring.

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[1] Edgar, J. C.: The Influence of the Automobile on Obstetric and Gynecologic Conditions, Am. Jour. Obst., June, 1911.

[2] Delavan, G. B.: The Influence of the Use of the Automobile on the Upper Air Passages, Med. Rec., Aug 20, 1910.

ANOTHER ALEXIS ST. MARTIN

It is sometimes forgotten that the epoch-making researches of Pawlow on the physiology of digestion, the secretory functions of the glands connected with the alimentary tract and the accompanying remarkable nervous coordination, were carried out on the lower animals. In their experiments on dogs with gastric fistulas the Russian investigator and his school have brought out the influence which not only taste and smell, but sight as well, exert on the alimentary secretions in general and the flow of gastric juice in particular. Furthermore they showed that in the stomach special food materials in contact with the mucosa may exhibit a specific effect on both the quantity and the composition of the gastric juice. Food introduced directly into the stomach without the knowledge of the animal is attended by a far tardier secretion than results when the same aliment is ingested in the usual way. For this reason we have been taught to lay great stress on the initial "psychic" secretion as an almost indispensable introduction to subsequent phases of digestion.

Several opportunities have been afforded since the publication of Pawlow's investigations to test his conclusions on man. The cases have almost invariably involved a gastrostomy operation in consequence of a stenosis of the esophagus. We referred recently[1] to Professor Carlson's observations. A new case, reported by Albertoni and Tullio,[2] offers some additional suggestive indications of the behavior of the human stomach. Their subject, in contrast to most of the others whose history has become a part of medical literature, was accustomed to introduce his nutriment in the form of a semifluid mixture of milk or bouillon cooked with bread, together with additions of egg and wine. As the stomach was thus filled a feeling of agreeable fulness ensued. The influence of habit in relation to the sensation of hunger is well brought out. Whenever the appropriate time for the usual repast was allowed to pass even for a brief interval, a sense of exhaustion and emptiness of the stomach was at once experienced and could be readily dispelled by the introduction of nourishment. Thirst likewise was relieved in a few minutes after the direct introduction of liquids into the stomach. The occurrence of hunger at meal-times is most natural, for, as the regularity of defecation indicates, the alimentary tract has habits. As Cannon has pointed out, gastric activity in the form of the contractions associated with hunger returns at the usual meal-time as the result of custom. By taking food regularly at a definite hour in the evening for several days, a new hunger period can be established.

In distinction from these well-developed sensations of hunger, thirst and satiety the specific psychical response to foods of different flavor and composition was far less conspicuous. Bitter or sweet left no distinction in respect to gastric sensation when the varied flavors were introduced without allowing the subject to taste them. Bouillon or saline were not mentally discriminated when they were not previously tasted. But the stomach evidently can make sharp chemical distinctions. The presence of bouillon provoked a speedier appearance of acid in the stomach contents, and the patient appreciated in a vague way that bouillon afforded him a more agreeable digestion; it "braced" him up. Bread, likewise, left a peculiarly favorable impression; and wine was effective in proportion to its alcoholic content. These striking impressions deserve notice as something more than mere whims of the individual. Pawlow and others have shown that milk and meat extractives (bouillon) are almost the only common alimentary substances which, by themselves, provoke efficient gastric digestion even when they are introduced into the stomach without the knowledge of the animal. Bread is known to be comparatively rich in a gastric secretory stimulant; and alcohol has a demonstrated record as a direct incitant of secretion. Almost instinctively, therefore, Albertoni's patient has selected for his regimen those dietary substances which have an immediate effect on gastric secretion independent of the gustatory or psychic factor. The normal course of the digestion and the excellent utilization of the nutriment may therefore be attributed in good part to its composition, which corresponded to all the physiologic exigencies of perfect alimentation despite the exclusion of the processes which are ordinarily initiated in the mouth.

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[1] The Stomach in Hunger, editorial, The Journal A. M. A., Feb. 8, 1913, p. 448.

[2] Albertoni, P., and Tullio, P.: Mem. d. r. Accad. d. sc. d. Ist. di Bologna, 1911-1912, ix, Series 6a.

The Italian investigators have placed considerable emphasis on the quantitative aspects of the diet of their unique subject. Greatly emaciated at first, he had gradually brought himself back to his original satisfactory nutritive condition. As his weight increased he was observed gradually to reduce somewhat the intake of milk, bread and eggs until a stationary level, so to speak, was reached. This occurred with a diet of about 3,000 calories, containing more than 100 gm. of protein — figures in accord with the long-accepted standards of physiologists. Ordinarily our food intake is regulated by a large number of external factors which may modify the appetite and control our habits of eating. In this fistulous individual the diet might be regarded, in the opinion of Albertoni and Tullio, as corresponding to a real requirement of the organism, for it has not been modified in quantity by any agreeable or other sensations such as ordinarily attend the usual manner of eating. One might debate, however, whether so limited an experience suffices to permit any profound decision in the many-sided question of the true nutritive need of mankind. Far more striking is the fact that the requirement was so satisfactorily met in this instance in respect to both the quantity and the quality of food by a kind of dietary judgment reached independently of the sensory data and psychic impressions that ordinarily guide us at meal-time.

THE LAYMAN, MEDICAL ADVERTISEMENTS AND THE NEWSPAPER

Whenever one has been identified for some time with any movement for the promotion of the public welfare, or with a propaganda directed against cherished traditions or acquired habits of a people or a class of the population, it is wholesome to engage in retrospect. The success of any worthy reform must always be measured by the effects which it actually secures rather than by the motives of those who are ambitious in its behalf. No one will deny the persistency of THE JOURNAL in stating its policy with regard to what it considers to be undesirable or fraudulent advertising. The campaign in behalf of the same honesty in the advertising columns of our medical journals that is avowedly cultivated in their editorial and original contributions has been carried on unrelentingly and without regard to usual courtesies of statement or the interchange of meaningless compliment. It has been an exhibition on our part of what we firmly believe to be the unvarnished truth and a readiness, we trust, to do justice and to make reasonable allowances.

The effects of the propaganda are beginning to manifest themselves slowly yet forcibly. The probable outcome has been sufficiently obvious to keep the advertiser himself alert; and the study of the changes which the wording of many an advertisement has undergone in recent times would form an interesting chapter in the psychology of the subject. A dietary product long brought to the attention of the medical and lay reader under the name of *diabetic* food has deftly been altered to read *dialetic* food. Such illustrations mean little by themselves; but they indicate the response which is unconsciously or stealthily being made to the pressure of publicity and enlightened public opinion.

It is gratifying, above all, to discover evidences of progress and changing sentiment in strictly lay circles. Our attention has been directed to this recently by a contribution published in one of the dailies of the eastern United States. The article in question[1] exhibits a keen analysis of the problem of medical advertising in the lay press. The editor can no longer shirk responsibility for a fake medical announcement or the advertisement of a fraudulent claim or worthless product. Let us follow the writer's argument. We base our value of news items, or editorial utterance, he says, on the reputation of the newspaper in whose pages they appear. Why is it that when a newspaper's advertising is considered, too often we find an entire change of policy and an almost complete absence of responsibility? We hold a newspaper responsible for the news it gives us; we respect its editorial opinions as representing its editor's honest thought; why should we not hold him responsible for the wares he allows to be advertised in the columns of his paper? The better newspapers are quite unanimous in excluding the advertisements of "get-rich-quick" concerns, or fake mining schemes, and of obscene or immoral literature. Rarely nowadays do we find the "personal" column of a newspaper to be simply a more or less disguised directory of panders and prostitutes. In these respects the daily press has shown a constant improvement; but when we consider the advertising of medicaments generally we find another story. It is true that the majority of our leading magazines keep their advertising columns wonderfully clean, this is also true even of some of the religious papers which in the past have been notorious offenders. But the daily newspaper, with few exceptions, lags far behind in the crusade for decent advertising.

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[1] Street, J. P.: A Question of Advertising, New Haven (Conn.) Morning Journal-Courier, Feb. 8, 1913.

A statistical analysis of the "medical advertising" in the four daily newspapers of a city of 130,000 inhabitants in an eastern state showed one advertising thirty-nine patent medicines or quack treatments, another thirty-five, another twenty-seven, and the fourth two. The latter record for "clean" advertising is equaled by few of the newspapers of the country; yet, strange to say, the sheet in question promulgates the fame of Lydia Pinkham in its columns, indicating how difficult it has been to eradicate the last traces of this preposterous group even in an issue which contains the forceful statement that "self-medication, except for the most trivial disorders, is generally foolish and futile; in some cases it may be positively dangerous."

One of the four newspapers under investigation showed 105 medical advertisements of a questionable type in one day — 255 inches, equivalent to over twelve columns of the newspaper. An argument has sometimes been made in apparent good faith that patent medicines are a boon to the poor man. "It is remarkable," writes the incisive contributor above referred to, "how many money-making manufacturers keep the good of the poor man constantly in view!"

An insidious innovation has lately crept into the sporting pages of some of these papers. "Old Dr. So and So" has gained space there to promise relief to boys and men in familiar terms. The evil of the suggestiveness of such advertisements is well appreciated (and the editor of the paper is sometimes most outspoken about it in another place). Their appearance on the page most read by boys and young men shows "rare business acumen, but complete disregard of public decency."

The tide is turning; and the day can be foreseen when it will no longer be a difficult problem for the editor of a daily newspaper to reconcile the pleadings of his editorials with the practices of the counting-room of his publisher. Until then the campaign of education must be continued.

A Filler

To fill these holes with sundry bits
Would rob the wisest of his wits.
They come in such a lot of sizes
That when they're filled the great surprise is
—that we were able to get anything to fit the blessed cubby-holes!—*Inland Printer*

Current Comment

THE DOCTOR AGAIN PICKED OUT FOR AN EASY MARK

The latest get-rich-quick scheme presented to the unsuspecting doctor is the opportunity to make money from confiding aspirants for nurses' diplomas. If we may judge from the comments of physicians who send us the circulars, the utter crudeness of the scheme will save most men from the trap. It offers physicians the alluring possibility of inveigling friends into presenting sixty dollars to the Rhode Island College of Nursing. In return for this fee, the candidates are led to believe that they may be turned out efficient graduate nurses after a year's study by correspondence with the school — and all this without giving up their regular occupation, if need be. In addition, the promise is held out to them of an opportunity to do postgraduate work at a hospital to be established by this corporation in the dim and distant future when a sufficient number of the gullible ones of this earth shall have been induced to part with their money. But the most captivating point in the scheme is this: The optimistic philanthropists who have founded this "college of nursing" declare that they "want to give you $100 each year during the balance of your life." That is, for every one that the doctor succeeds in inducing to purchase a paid certificate for the course, he will receive one share, ostensibly worth $20, of the valuable stock of the company. And what doctor cannot find in his community five young ladies a year who wish to become nurses? Then comes the final joker. The doctor may instruct these probationers (mayhap 'twill ease his conscience) by placing them on his less fortunate cases. A neat and pleasing scheme for money-making; surely one must be hypercritical who asks if the rewards are sufficient to repay the most pliant conscience for its surrender!

ENZYMES AND THE PATHOLOGY OF INFANTILE NUTRITIVE DISORDERS

In diseased conditions in which symptoms of disturbed nutrition manifest themselves, it has been a common though by no means logical hypothesis to postulate the absence or deficiency of certain enzymes on which the organism is usually dependent for adequate and correct functioning. Particularly has this been true in the case of digestive disturbances. No one would assert that there is never any justification for such conclusions. The failure of pancreatic secretion may at once be cited as an illustrative instance of a serious withdrawal of essential enzymes from the digestive functions. The primary defect in such conditions, however, is usually not to be sought in a failure on the part of a gland to produce enzymes but rather in some interference, such as obstruction, through which they fail to reach the goal of their activities. In the field of alimentary disorders of children, in particular, there has existed a tendency to correlate some of the manifold pathologic upsets with a lack of some of the digestive enzymes. The reason for this doubtless lies in the assumption that the equipment of the organism in respect to these agencies is perfected along with other features of growth, so that the appearance of this or that enzyme might easily be delayed owing to some imperfection of bodily development. We know that certain functions are not manifested at birth and are initiated only as the growth of the individual proceeds and the full complement of its powers is brought into exhibition. Why not postulate a similar delay in the case of the digestive enzymes to account for the pathology of nutrition in the very young? An examination of the stools of both healthy and sick infants for residual enzymes justifies the belief that, with a few possible exceptions, a deficient functional capacity of the digestive glands cannot be made to account for common disorders of the alimentary processes. Lust[1] has gone a step further in Professor Moro's pediatric clinic at Heidelberg and examined the various organs of the gastro-intestinal tract which are concerned with the elaboration of digestive ferments. This search for alimentary enzymes in the tissues of children failed to disclose any noteworthy lack of these digestive agencies, even in cases of pronounced nutritive disorder. It is scarcely necessary to repeat here the various categories of enzymes which were sought and found in this investigation. The outcome of Lust's examination strengthens the conviction, rapidly gaining ground, that in the pathology of the digestive disorders of infancy the enzyme question plays a very subordinate rôle.

THE ARTIFICIAL RIPENING OF BITTER FRUITS

It is well known that bananas are removed from the tree and shipped while in a green condition and are ripened on the stalk in warm store-rooms. Other fruits which are artificially ripened are persimmons and dates. It is found that dates in California and Arizona only exceptionally reach maturity, but, as shown by experiments of the United States Agricultural Department, they can be matured by artificial means. In an interesting article Prof. Francis E. Lloyd[2] explains the chemistry of this ripening process and how it is brought about. He explains that fruits, the astringency of which in the unripe state is due to tannin, after ripening contain just as much tannin as before, but that it has undergone a change or combination with some other substance which prevents the solution of the tannin in the saliva and hence obviates its astringent taste and action. This effect may be brought about, in the case of dates and persimmons, by means of heat, alcohol, carbon dioxid or acetic acid. Tannin is a colloid which readily dissolves in water or in the juices of the mouth. It exists in such fruits as dates and persimmons in separate little sacs or membranous cells which swell and burst when brought into contact with water, thus permitting the tannin to escape; the familiar astringent bitter taste is the result. When the natural ripening process takes place or when heat or any of the chemical agents named is applied, a coagulation of the contents of the tannin sacs takes place, so that when the fruit is eaten the tannin is not dissolved at all or is so slowly dissolved that the bitter, astringent taste is not observed. The case of the California oranges recently condemned by the federal government under the Food and Drugs Act does not come in the same class. Oranges have no starch to be converted into sugar; hence the sweating process to which these oranges were subjected merely colored them artificially instead of ripening them. Indeed, the ground on which the government seized and disposed of the fruit mentioned above was that it was misbranded as naturally ripened fruit. Fruit actually ripened by artificial means cannot be said to be unwholesome.

MEDICAL EDUCATION IN IOWA

After the close of the present college year, Iowa will have but one medical school, the College of Medicine of the State University of Iowa. In 1907 there were five separate institutions in that state located in Iowa City, Des Moines, Keokuk and Sioux City. Hereafter, medical education in Iowa will be entirely under the direct control of the State University, and will be financially supported by that university—a parallel to what has already taken place in other states, as for instance Minnesota, Indiana and Colorado. This has been made possible through the recent decision of Drake University to merge its medical school at the close of the present session with the College of Medicine of the State University. Among the reasons given for this decision[1] in a published interview with President Bell, the following statement was made:

> The merging of the medical school of Drake with the state university will relieve the institution of a great burden that was being carried at tremendous sacrifice, and will enable it to emphasize those departments which are recognized throughout the country as doing the highest grade of work. Hence this action does not mean a step backward from an educational point of view, but rather a long step forward. The trustees of the institution are gratified that they are able to merge these departments with those of a sister institution in Iowa that has unlimited means to develop a first-class medical school, and maintain it in that position.

It will be remembered that three years ago it had been decided to close this school,[2] but the action at that time resulted in the raising of a sum of money which led to the hope that in time the school might be amply financed. The sum raised, however, has proved to be quite inadequate, and meanwhile an increase in the entrance requirements resulted in a material reduction in the number of students and a corresponding decrease in the college's income. It was quite clear, therefore, that if the college was to maintain a standing equal to that of the State University medical school a very large endowment was necessary. Since the securing of that endowment seemed impossible, the faculty again decided to close the school, this time to merge its interests with the College of Medicine of the State University, rather than to continue as other than a college of the first grade. While it is a matter of regret that so high-grade a school as the Drake University College of Medicine finds it necessary to close its doors, nevertheless this merger is clearly in the interests of better medical education in Iowa. How strange it is that the colleges which are willing to close in the interests of better standards of medical education are usually those which are themselves of so high a grade! Schools with no such valid excuse for their existence usually require more vigorous methods to arouse their sleeping consciences. This action by the medical faculty of Drake University is but another instance showing the characteristic decisiveness of high-grade medical men in doing the right thing even though it means the laying aside of personal advantages.

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[1] Lust, F.: Ueber den Nachweis der Verdauungsfermente in den Organen des Magendarmkanals von Säuglingen, Monatsh. f. Kinderh., 1912, xi, 411.

[2] Lloyd, Francis E.: Science, Dec. 27, 1912, p. 879.

[1] See also page 619, this issue.

[2] Drake University and Medical Education, editorial, THE JOURNAL A. M. A., April 23, 1910, p. 1381.

PUBLIC PROGRESS VERSUS MEDICAL STAGNATION

One of the most encouraging phases of the campaign carried on by the American Medical Association against fraud in medicine is the rapidly changing attitude of the lay press toward "patent medicine" advertising. In the Propaganda for Reform Department in this issue, we give a few quotations from some of the many letters received by The Journal from the editors or publishers of newspapers and magazines regarding the attitude of their publications to the nostrum evil. These letters are worth reading. We cannot help feeling that if our profession were fully alive to the tremendous change that has taken place in public opinion on the subject of fraudulent medical advertising, the present disgraceful conditions within the profession itself would soon be things of the past. Medical journalism would be forced, by the pressure of professional opinion, to clean its own Augean stable.

EDEMA OF THE LIVER AND NEPHRITIS

There is a wide-spread belief that the edemas which are so frequently associated with renal disease stand in direct relation to the inability of the kidneys to excrete compounds which normally leave the organism in the urine. In so far as this is true the accumulation of products of metabolism and the retention of salts might be looked on as the causes of osmotic changes which manifest themselves in the form of edema. There are probably few instances, however, in which a single factor is responsible for such fluid retentions. The mechanical factor of blood-pressure is rarely sufficient to occasion edema, although it may be a contributory feature. The remote local factors, such as the increased permeability of the capillary walls, as well as some of the local changes in reaction emphasized by Fischer, presumably play a more conspicuous part in the edemas associated with nephritis than is commonly assumed. Edema of the liver and gall-bladder sometimes occurs in association with nephritis, and the question of the relation between the renal and the hepatic factors is thus presented for consideration. Does the hepatic edema depend primarily on the kidney alterations, or is it a simultaneous manifestation attributable to a common cause? Experiments which Professor Opie of the Washington University Medical School in St. Louis has conducted afford an interesting contribution on this point.[1] They indicate that the liver edema is coincident with the production of the renal lesion and not the result of disturbance of renal function. By the use of cantharidin, which is well known to be capable of causing acute nephritis in man and animals, he has shown that such drugs exert an important influence on both the liver and the flow of lymph. A poison which is capable of causing nephritis increases the flow of lymph from the thoracic duct; it acts as a lymphagogue. Pathologic separation of columns of liver cells from adjacent capillaries may simultaneously occur. A fibrinous coagulum may arise within the sinuses of the regional lymphatic nodes, the shreds of fibrin radiating from partially or completely necrotic cells. Such factors in turn induce an obstruction within the regional lymphatic nodes, and edema results. It is a simple illustration of the result of distention of the lymphatics of the liver through obstruction attributable in the beginning to the effect of a toxic agent on this organ. The observations thus support the view, as Opie maintains, that dropsy in association with nephritis is caused by the action of an irritant which injures the kidney and simultaneously increases the permeability of vessel walls elsewhere in the body.

THE PHYLACOGENS — A MENACE TO VACCINE THERAPY

In two, three or four years — according to the amount of money that the exploiters are willing to spend in advertising the shotgun mixtures sold under the proprietary name Phylacogens — these products will have been relegated to that drear limbo of therapeutic shadows whose substance was born of men's thoughtlessness, or worse, cupidity. The existence of the Phylacogens, commercially speaking, is due to the vast resources of the corporation that fathers them. The time will come, as it comes with all therapeutic agents whose value rests on no more substantial basis, when the combined experience of an exploited profession will overcome the counterforce of lavish and prodigal advertising. Then the Phylacogens will cease to interest any but the historian. Possibly that time may come sooner than we expect, for the physician of to-day is not so easily misled as the physician of yesterday and, more important yet, the public of to-day is more critical than the public of a decade ago. But whether it takes four years or one year for this therapeutic rocket to flare itself out, the tragedy lies not in the widely heralded reputed successes, but in the many unreported failures, perhaps deaths, following the use of experimental novelties. Bacterial derivatives, like the Phylacogens, are poisons, powerful, dangerous and little understood. Yet physicians are asked to use them on evidence submitted wholly by those who will benefit financially from their employment. Human nature being the same in the medical profession as elsewhere, the untoward effects will seldom or never be reported; the deaths which follow their administration will be ascribed, unconsciously perhaps, to "unforeseen complications." More than this, the confidence of the public in serotherapy — a therapy which, scientifically applied, holds greater hope for the treatment of human ills than any other yet discovered — will be rudely shaken by this rash use of dangerous and unproved products. How much of a setback scientific medicine will receive from the orgy of advertising in which the exploiters of the Phylacogens are at present indulging can only be surmised. Ten years from now, when the Phylacogen craze is recalled to their memories, thousands of our readers will blush with shame for the profession which tolerated it.

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[1] Opie, E. L.: Lymph Formation and Edema of the Liver with Experimental Nephritis Produced by Cantharidin, Jour. Exper. Med., 1912, xvi, 83.

THE TOXICITY OF WHITE LEAD

Occupation is undoubtedly the most important factor in the etiology of lead-poisoning; and among the occupations the most dangerous are those in which lead is freely handled. This applies particularly to working in white lead and lead colors. The grinding of white lead with oil was formerly a large source of lead-poisoning, because the pigment was dry, and consequently the grinding-mill attendants and the lead-work laborers inhaled lead carbonate dust; but since in many factories the paint is now made with the lead carbonate in the moist state, by the gradual displacement of the moisture with oil during the process of grinding, this source of danger has decreased. There is said to be more danger in the process of grinding basic lead sulphate into paint-oil than there is when grinding the moist lead carbonate in oil. The dangers incidental to the manufacture of red lead are extremely serious. A recent writer in one of the trade journals[1] reports that a large decrease in plumbism in the manufacture of white lead has followed the abolition of female labor and youthful labor in England. The decrease is also consequent on ventilation, the use of respirators, overalls, enforced cleanliness and the avoidance of lead dust. No material increase in the cost of manufacture has resulted, but death and suffering have been averted. It is always gratifying to learn of progress in combating occupational diseases, especially when, as in the lead industries, it has been so difficult to induce those employed to cooperate to their own sanitary advantage.

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[1] Line: Drugs, Oils and Paints, xxviii, 255.

Competitive Athletics.—Under the American system of making specialists out of a few individuals, the primary idea of exercise would seem to tend to the creation of a desire on the part of a few to excel in doing feats of skill and strength, and to the many a desire to view such displays; the rounding out, uniform, and healthful development of all individuals being a secondary instead of a primary consideration. It follows that for many individuals there is created no actual liking for exercise, these persons never having really felt the well-being that comes from a proper dosage, exercise for the athletes having been made a drudgery in order to obtain excellence in condition and teamwork, all pleasurable sensations being lost in the lust for conquest. The athletes, therefore, unless they make their living thereby, soon give up their methods of obtaining exercise because of dislike, or inability to gather others together for a contest, or from lack of a field of play, while the non-athletes, having learned no other form of athletic pleasure than that of viewing others perform, go the way of the ignorant.—Murphy in *U. S. Nav. Med. Bull*

Medical News

ALABAMA

Personal.—Dr. J. B. Haralson is reported to be ill at his home in Fort Payne.——Dr. Alston Maxwell has been elected health officer of Birmingham, vice Dr. George Ran, Tuscaloosa, resigned.

New Dispensary for Anniston.—A free medical dispensary was opened at Anniston early this month by the Salvation Army and to this service Drs. J. W. Landham, Anniston, and Baxter Rittenberry, Hartsells, have agreed to give their services free.

Marion Sims Centennial.—The centennial of the birth of Dr. J. Marion Sims, January 25, was celebrated by the Montgomery County Medical Society with a banquet at the Gay-Teague Hotel, Montgomery, at which Dr. Thomas M. Owen, director of the Alabama Department of Archives and History, spoke on the life and work of Sims in Alabama and especially of his achievements in Montgomery where he did the first work which later brought him such renown; and Dr. R. S. Hill, Montgomery, spoke on the secret of Sims' success. The principal address of the evening was delivered by Dr. Edmond Souchon, New Orleans, who told of Sims' triumphal entrance into Paris where Souchon had the honor of acting as interpreter to the French audiences. A movement was started at this meeting, to erect a monument in Montgomery in memory of Sims.

ARIZONA

Hospital News.—The Arizona Sanatorium, Safford, was opened to receive patients, January 15.——The new hospital at Phoenix is rapidly nearing completion.

Personal.—Dr. George D. Troutman, Tucson, has been appointed physician of Pima County.——Dr. Winfred Wyley, Phoenix, has been appointed county physician of Gila County with headquarters at Globe.——Dr. Roderick D. Kennedy, Globe, received a fracture of the clavicle and bruises of the head and chest in an automobile accident.

Physical Examination before Marriage.—The Maricopa County Medical Society, at its January meeting, adopted resolutions recommending that persons applying for marriage licenses be examined by a board of competent physicians not engaged at the time in regular practice. The society endorses the proposal to secure legislation aimed to prohibit marriages of those of unsound mind, of those afflicted with any venereal diseases, of persons suffering from tuberculosis in advanced stages and of chronic alcoholics.

COLORADO

Luncheon to Wiley.—Dr. Harvey W. Wiley was the guest of the Medical Society of the City and County of Denver at a luncheon, January 29.

Banquet to New Staff.—The Sisters of St. Anthony's Hospital, Denver, gave a banquet to the newly chosen members of the hospital staff, January 23, which was attended by more than two hundred guests.

Gift to Library.—The Denver-Gross Association has made a gift of $4,100 to the medical library endowment fund of the Medical Society of the City and County of Denver, which increases this fund to $11,000.

Inhalatorium Provided for Sanatorium.—The Jewish Hospital for Consumptives, Denver, has been donated a large sum by Mrs. Joseph B. Greenhut, New York City, with which to equip an addition to the hospital for the inhalation treatment of tuberculosis.

Personal.—Dr. Mary Elizabeth Bates, Denver, has been elected vice-president and Dr. Agnes Ditson, Denver, secretary of the National Eugenics Society which was organized in Denver, January 25.——Dr. R. Albi has resigned as superintendent of the Steele Hospital, Denver, and has been succeeded by D Oscar Hayes.

DELAWARE

Hospital Fund Completed.—The twelve-day campaign to raise $300,000 by public subscription for an endowment fund for the Delaware Hospital, Wilmington, was brought to a successful termination forty minutes before the expiration of the allotted time.

Personal.—Dr. J. A. Ellegood, Wilmington, who has been ill for several months with septicemia, has recovered and resumed practice.——Dr. Robert W. Tomlinson, Wilmington, has been appointed resident physician in the Presbyterian Hospital, New York City.

DISTRICT OF COLUMBIA

Fund to Fight Bubonic Plague.—Dr. William C. Woodward, health officer of Washington, appeared recently before the committee of appropriations of the House of Representatives, to urge an appropriation of $25,000 for the protection of Washington against a possible introduction of the bubonic plague.

New Officers.—Medico-Chirurgical Society of the District of Columbia, January 23: president, Dr. J. H. Johnson; secretary, Dr. W. H. Wilson.——Association for the Prevention of Tuberculosis of the District of Columbia: president, Gen. George M. Sternberg, U. S. Army, retired; secretary, Walter S. Ufford.

FLORIDA

State Association Meeting.—The Florida Medical Association will hold its annual meeting in Miami, May 13-15.

New Officers for Sanitarium.—Dr. P. C. Perry has been elected president, Dr. J. H. Douglas, vice-president and Dr. John E. Boyd, secretary of the De Soto Sanitarium, Jacksonville.

Physicians Lose License Fight.—The effort of the physicians of Pensacola to avoid payment of licenses has not succeeded, as the supreme court of the state, February 6, sustained the city of Pensacola and declared the license tax valid.

GEORGIA

Meeting of Alumni.—At the annual meeting of the Alumni Association of the Medical College of Georgia, Augusta, January 29, Dr. L. G. Hardman, Commerce, was elected president; Dr. Le Grand Guerry, Columbia, S. C., and Edmund W. Warren, Palatka, Fla., vice-presidents, and Dr. Charles W. Crane, Augusta, secretary.

Mears Entertained at Savannah.—Dr. James Ewing Mears, Philadelphia, was the guest of honor at an informal meeting of the library committee Book and Journal Club of the Georgia Medical Society. Dr. Mears was interested in the founding of the library and has repeatedly given substantial aid to the enterprize.

Personal.—Dr. R. C. Goolsby, Forsyth, sustained serious injury to his eye during an initiation at a lodge in Macon, February 3.——Dr. William P. Nicolson, Atlanta, who was seriously injured in an automobile accident, recently, sustaining a fracture of the clavicle and several ribs, is convalescent.——Dr. W. H. Elliott, Savannah, chief surgeon of the Central Georgia Railroad has retired and has been succeeded by Dr. W. W. Owens.

ILLINOIS

Personal.—Dr. Sidney D. Wilgus, superintendent of the Kankakee State Hospital, has purchased the Ransom Sanatorium, Rockford, from the heirs of the late Dr. Frank Jencks.——Dr. George F. Butler, Wilmette, has resigned as physician of Cook County to become medical director of the Mudlavia Sanitarium, Kramer, Ind. He has been succeeded as county physician by Dr. Haim I. Davis, Chicago.——Dr. Ralph Mills, Decatur, who is on leave from his station as medical missionary in Korea, was operated on recently for appendicitis in Rochester, Minn.——Dr. Jesse A. King, Victoria, fell against his buggy wheel recently, fracturing one rib.——Dr. George W. Fuller, Danville, has moved to Los Angeles, Cal.——Dr. E. E. G. Weiland, Bloomington, who has been ill with septicemia, is reported to be improving.

Chicago

New Dispensary.—A movement has been commenced for the organization of a free dispensary in the neighborhood of Wood and Division Streets. Dr. J. Shanks is at the head of the movement.

New Hospital Opened.—The new building of the German Hospital of Chicago was formally opened, February 16 The building has been completed at a cost of $350,000 and provides accommodation for 150 patients.

Tuberculosis Study.—The first meeting of the Tuberculosis Study Circle of the Chicago Tuberculosis Institute was held February 11. Dr. H. Gideon Wells of the University of Chicago spoke on the chemistherapy of tuberculosis.

Past Presidents' Dinner.—The Chicago Medical Society gave a banquet, February 12, in honor of its past presidents. Between seven and eight hundred were in attendance and twenty of the past presidents were on the platform. Dr. Jacob Frank, president, was toastmaster and the past presidents gave short talks regarding the progress of the society during their respective terms of office. A portrait of Dr. N. S. Davis, the first president, was unveiled by Dr. J. Rawson Pennington.

Personal.—Dr. W. E. J. Michelet was attacked by a thief and seriously injured, February 8.——Dr. Thomas A. Woodruff has gone to Jekyl Island for the remainder of the winter.——Dr. H. H. Mather has been elected vice-president of the Alumni Association of Valparaiso University.

IOWA

State Society Meeting.—The annual meeting of the Iowa State Medical Society will be held in Des Moines, May 7-9.

College to Close.—Drake University College of Medicine will merge with the State University as detailed on page 619 of this issue.

Detention Hospital Opened.—The small-pox hospital, Des Moines, was opened, February 9, with one patient. The institution has room for fifty patients.

New Medical Societies.—Waterloo Medical Society was incorporated, February 7, with Dr. W. B. Small, president; Dr. W. M. Shirley, secretary, and Dr. J. Cecil Bickley, treasurer.——Fort Madison Clinical Society was organized recently with Dr. C. F. Wahrer, president and Dr. V. T. Doering, secretary.

Personal.—Dr. G. F. Severs, Centerville, has been appointed a member of the State Board of Health, vice Dr. B. L. Eiker, Leon.——Dr. L. B. Toon, Dow City, was thrown from his buggy in a runaway accident, January 28, and painfully injured.——Dr. W. W. Holmes, superintendent of the Denison Hospital, is reported to be critically ill.——Dr. Royal L. Cleaves, Cherokee, is said to be critically ill with pneumonia.——Dr. and Mrs. O. A. Brownson, Dubuque, have moved to California.——Dr. Evalene E. Peo, Boone, has returned from Europe.——Dr. John Knox, Princeton, suffered dislocation of his right shoulder and fractured three ribs in a collision between his buggy and a train while driving across the railroad tracks at Princeton, February 11.——Dr. and Mrs. F. F. Feeney, New Hampton, sailed for Europe, February 18.——Dr. Mary D. Ardery is reported to be seriously ill at her home in Knoxville on account of a cerebral hemorrhage.

KENTUCKY

New Disease Carrier.—After a number of examinations, the City Health Department has condemned the common fork in use at the saloon free-lunch stands throughout the city, and contemplates asking the general council to pass an ordinance prohibiting its use.

Personal.—Dr. T. W. Taylor, Henderson, suffered a cerebral hemorrhage on his ninetieth birthday, February 4.——Dr. Charles W. Aitkin, Flemingsburg, while leaving St. Joseph's Hospital, Lexington, with a patient, February 3, slipped on the ice and fell down five steps fracturing a rib.

Tuberculosis Hospital Nurses.—Nurses in training under the supervision of the Board of Tuberculosis Hospital must in future take a three-year course instead of a two-year course, before they are eligible for graduation; eight months of the training will be given in the City Hospital Training School for Nurses. This decision was reached recently at a conference between the Board of Public Safety and the Board of Tuberculosis Hospital.

Norton Infirmary Improvement.—The medical staff of the John N. Norton Memorial Infirmary in a recent conference with the board of trustees and the board of managers recommended a number of improvements that should bring this institution thoroughly up to date, including additional operating-rooms, a complete Roentgen-ray equipment, pathologic and chemical laboratories, an intern, additional equipment on each floor for surgical dressing, dressing and consultation room for the staff, etc.

City Hospital Staff.—The Board of Public Safety has been petitioned by the trustees of the Medical Department of the University of Louisville to place the appointment of the visiting staff in their hands so that the hospital may be used as a teaching hospital the year round. A number of the non-school practitioners have petitioned the board to appoint from the ranks of the non-school men a visiting staff for the months during which the school is not in session, which has been the custom heretofore. The negro physicians of Louisville have just presented a petition to the board, signed by twenty members of the Falls City Association of Physicians, Pharmacists and Dentists, colored, in which they request that the colored patients of the institution be looked after by colored physicians, nurses and interns. The board promised to take the matter under consideration.

MARYLAND

Contagious Diseases.—The schools of North Govans have been closed on account of the prevalence of scarlet fever.——A case of small-pox was discovered at Cresaptown, February 13.

Baltimore

Convalescent Farm for Phipps Institute.—The Phipps Institute is to be equipped with a farm where patients under treatment at the psychiatric clinic may remain during convalescence.

Book and Journal Club.—The work of the Book and Journal Club is most valuable in adding new books and journals to the library of the Medical and Chirurgical Faculty of Maryland. There are at present eighty-seven members and about $500 is available from membership fees.

Personal.—Dr. Frank J. Sladen has been appointed head of the department of medicine and Dr. Harry W. Plaggemeyer, associate professor of surgery and director of the department of urologic surgery in the new Detroit General Hospital. Dr. Plaggemeyer will spend the spring and summer in research work in Europe.——Dr. Nathan R. Gorter, the new health commissioner, fell and broke his right arm and wrist at the Church Home and Infirmary, recently.——Dr. Andrew A. Anderson has resigned from the staff of Mercy Hospital and gone to Salt Lake City to practice.——Dr. J. B. Schwatka has returned from Europe.——Dr. Kenneth Jones, assistant in the insane department of Bayview Asylum, has resigned.

NEW YORK

Home for Families of Tuberculosis Patients.—The Urania Society of Otisville has petitioned the State Board of Charities for permission to establish a home in which to care for the wives and children of tuberculosis patients in the Municipal Sanatorium, Otisville.

Personal.—Drs. H. S. Liddle, Frank Vander Bogart, Louis P. Faust, George P. Harran and E. M. Stanton have been elected directors of the Mercy Hospital, Schenectady.——Dr. and Mrs. Frederick Flaherty, Syracuse, have returned from a trip to the West Indies and Panama.——Dr. James H. Glass has been reelected surgeon in charge of Faxton Hospital, Utica.

Open-Air System in Public Schools.—An experiment in ventilation recently worked out by Dr. John B. Todd, Syracuse, has proved very satisfactory. With the temperature at 1 degree below zero, four of the largest rooms in the Sumner School were kept wide open, the windows being protected only by screens covered with unbleached cotton cloth. This open-air system is to be introduced in other schools in the city.

Hospital Notes.—The annex to St. Mary's Hospital, Amsterdam, which cost about $30,000, was formally opened, February 2. The three-story brick annex is directly connected with the old part.——The Mountain Sanatorium, Binghamton, has been turned over by the City Hospital to the health commissioner of the city.——The State Hospital Commission emphasizes the crowded condition of the hospitals for the insane in its annual report, giving a total shortage at the close of 1912 of 4,800 beds. The total number of insane in the state as given is as follows: men, 16,271; women, 17,702.

The Antivivisection Bill.—The McClelland Antivivisection Bill is responsible for an inquiry on the part of one of the state senators as to the reasons why all the best physicians are opposed to the bill. Dr. Simon Flexner in response to the inquiry, especially emphasizes the fact that the secret private laboratory which no one but an officer with a warrant can get into is a figment of the imagination; that there is no information for a commission of investigation to obtain beyond what is obtainable by any responsible individual any day in the year, as no one capable of understanding what is going on is refused admission to the laboratories. The present measure before the legislature carries no appropriation for expenses. It is presumed that the antivivisection societies proposed to pay for the work and would determine beforehand its scope and effect.

Sulzer Commission Continues Its Hearings.—The commission appointed by Governor Sulzer to investigate and make suggestions for the revision of the health laws of the state continues to take testimony. Dr. Porter has given his opinions on a system of sanitary inspection, which, he says, must be inaugurated slowly as the up-state voters will not submit to heavier taxation. He suggests that one supervisor of sanitation have charge of three counties, be allowed a salary of $3,000 a year, and be assured of ten years' tenure of office and in this connection he recommends a state sanitary school. Dr. Walter F. Wilcox pointed out the defects in the present system of collecting vital statistics, and Mr. Jacob H. Schiff made a plea for the state control of advanced cases of tuberculosis. He said that under the present laws it was easy to get tuberculous persons admitted to institutions, but it was not easy to keep them there. Many are now allowed to leave sanatoriums with the disease arrested, with the appalling result that 95 per cent. of them suffer relapses. There should be compulsory isolation for advanced cases, an opportunity for tuberculous patients to go to sanatoriums and on leaving them, to be permitted to go where they will not be victims of their old surroundings.

New York City

Death of Well-Known Medical College Employee.—Joseph V. Standish, for fifty years clerk of the University and Bellevue Hospital Medical College, known to many generations of medical students, died at his home in New York, February 10, from angina pectoris.

Personal.—Dr. M. Allen Starr sailed for Egypt, February 18, to be gone until September.——Dr. Alexis Carrel has been elected corresponding member of the Paris Academy of Medicine and has had conferred on him the decoration of the Legion of Honor.——Dr. Emma C. Hackett has sailed for Europe.

Cartwright Lectures.—Prof. Ludwig Aschoff's lectures, the Cartwright lectures of the Alumni Association of the College of Physicians and Surgeons, will be given at the New York Academy of Medicine, March 12-15. The subject of the first lecture is, "Thrombosis," and of the second, "Contracted Kidney."

First Aid Society Meets.—The Society for Instruction in First Aid to the Injured held its annual meeting February 11. Dr. Theron W. Kilmer was reelected medical director. The organization now has 27 classes in the churches, boy-scout clubs, and schools, and the work among the United States Volunteer Life Saving Corps is progressing.

Death Report Rules Changed.—The Health Department has adopted new rules for the reporting of deaths. Any cause of death which may be the result of an injury and consequently be the subject for investigation by the coroner, must have that fact stated in the death certificate. No certificate will be accepted which gives a mere symptom as the sole cause of death, such as asphyxia, debility, heart failure, etc., unless accompanied by a satisfactory written explanation. The Board of Health has also adopted a regulation forbidding earth burial in Manhattan south of 130th Street.

City Preparing to Clean House.—Health Commissioner Lederle has written to the mayor suggesting a thorough spring house cleaning for the city which shall include the following: Removal of all rubbish and dirt from the city, including thorough cleaning of cellars, roofs, yards and vacant lots; thorough cleaning of all streets; cleaning out catch basins; freeing the city as far as possible from smoke and cinder nuisances, from odors of offensive trades and the dust of streets; the better protection of food from the contamination of dust and flies; fighting the fly not by "swatting" but by prevention of breeding, and fighting the mosquito nuisance by eliminating the breeding places. The mayor has approved.

NORTH CAROLINA

New Hospital.—The Chamber of Commerce of Burlington has planned to erect a hospital at a cost of $30,000, and expects to have it ready to receive patients within a year.

New Officers.—Caldwell County Medical Society at the Foothills Sanatorium, Lenoir, January 22: president, Dr. A. B. Goodman; secretary-treasurer, Dr. C. B. McNairy, both of Lenoir (reelected).

Social Service Congress Organized.—The Social Service Congress of North Carolina held its first annual meeting in Raleigh, February 11-12. The opening address was delivered by Senator Robert L. Owens of Oklahoma.

Personal.—Dr. P. B. Orr has been elected visiting surgeon to the Mission Hospital, Asheville, vice Dr. William D. Hilliard, removed to Washington, D. C.——Dr. Lewis W. Elias has been elected a member of the emergency staff of the hospital.——Dr. Otho B. Ross, Charlotte, is under treatment in an eye and ear hospital in New York City.

PENNSYLVANIA

Hospital News.—The new wing of the Spangler Hospital recently erected at a cost of $6,000 was opened, February 12.——In the budget of appropriations for hospitals, an item of

$18,000 appears for the Robert Packer Hospital, Sayre.——The McKeesport Hospital has asked a state appropriation of $105,000 for the coming biennium, $75,000 for maintenance, the remainder for completion and equipment of the nurses' home.

State Health Department Cuts Death-Rate.—In the early part of this month, Dr. Samuel G. Dixon, State Health Commissioner, made the statement that Pennsylvania, one of the most disease-ridden states in the union, because of its poor water, has in the past year reduced deaths from typhoid 62 per cent., from 4,000 to 1,200; and has reduced diphtheria deaths from 42 per cent. to 8 per cent., which insurance men have estimated saved them $10,000,000. Men are placed on all the watersheds of the state, removing pollution and all water companies are required to install filters before they can secure a permit to operate from the state board. All municipalities are compelled to keep their sewage clean and to obtain permits for all extensions. In discussing the care of tuberculous patients, Dr. Dixon spoke of Mount Alto Sanatorium on South Mountain, where there are 55,000 acres of land and where 1,067 patients are living in pure pine forests. The aim of the department is to cure all consumptives, who can be cured, and to segregate incurables.

Personal.—Dr. Edward B. Shellenberger, for ten years a member of the staff of the State Hospital for the Insane, Warren, has resigned and will practice in Philadelphia.——Dr. B. F. Shires, Patton, is a patient in the Medico-Chirurgical Hospital, Philadelphia.——Dr. Joel D. Brown, Oakes, resident physician at the Montgomery County Home, has been placed in charge of the institution at Black Rock.——Dr. Elizabeth C. Spencer, resident physician in the Women's Department of the State Hospital, Norristown, has resigned to take effect March 1.——Dr. Gustave A. Zimmerman, Johnstown, is said to be seriously ill in Chicago as the result of a pulmonary hemorrhage.——Dr. Louis S. Dunn, Chester, slipped and fell recently, injuring his right leg.——Dr. John A. Hawkins, Pittsburgh, was operated on for cataract, recently, and is reported to be improving.——Dr R. F. Ridgway has resigned from the staff of the Harrisburg City Hospital to accept the position of first assistant physician at the Pennsylvania State Hospital, succeeding Dr. Robert A. Stewart, who has accepted a similar position in the Iowa State Hospital, Mount Pleasant.

Philadelphia

Raises Medical Standard.—The executive committee of the council of the Medical School of the University of Pennsylvania has adopted resolutions that hereafter any student who repeats a year because of failure is ineligible to repeat another year later in the course. Hitherto the time for completing the course has been unlimited.

SOUTH CAROLINA

Medical College Made a State Institution.—A bill passed the South Carolina legislature February 7, transferring the property of the Medical College of the State of South Carolina, Charleston, to the state in trust, to control and operate. The control of the college is turned over to a board consisting of the governor, the superintendent of education, chairmen of two committees and eight members to be elected by the legislature. For the reorganization and for carrying on the work for the current year, $20,000 is appropriated. The medical college is to be strictly an independent state educational institution.

TEXAS

Change of Date of State Meeting.—The date of meeting of the State Medical Association of Texas at San Antonio has been changed from May 13-15 to May 6-8.

Personal.—Dr. Hugh L. McLaurin, Dallas, was reappointed a member of the State Board of Health, February 11.——Dr. William R. Newton, Buckholtz, has purchased Reese Park, Cameron, for $6,000 and will erect there a modern sanatorium to cost $40,000, one-half of the expense of which is to be borne by the city.

WISCONSIN

First County Sanatorium Opened.—The Manitowoc County Tuberculosis Sanatorium, erected at a cost of $15,000, was opened February 1. The building is a two-story "L"-shaped structure and can accommodate at present twelve patients.

Personal.—Dr. G. M. Smith, Mondovi, was operated on for appendicitis recently in the Sacred Heart Hospital, Eau Claire, and is making satisfactory progress toward recovery.——Dr. G. I. Hogue, Milwaukee, has been reelected treasurer of the Wisconsin State Association for the Blind.

Medical Office Building.—A site has been selected for a physicians' building for Milwaukee at the southeast corner of Wisconsin and Jackson streets. The building will probably be eight stories in height, of steel construction and the upper floors will be devoted exclusively to offices of physicians and dentists.

GENERAL AND FOREIGN

Conference on Life Insurance.—The third mid-year meeting of the Medical Section of the American Life Convention will be held at the Hotel Eastman, Hot Springs, Ark, February 26-28.

Missing Physician.—The *Canal Record* asks that anyone having information regarding the whereabouts of Dr. Moses Harold Lindenbaum, formerly of New York City, who is believed to be practicing medicine on the Isthmus, communicate with the American legation at Panama.

Child Labor Conference.—The ninth annual conference of the National Child Labor Committee will be held in Jacksonville, Fla., March 13-16. The general subject of child labor and poverty will be discussed in relation to wages, health, unemployment and the family. A feature will be the collection of pictures and charts regarding child labor, including the exhibit on "home work in the New York tenements."

Missouri Valley Physicians to Meet.—The twenty-fifth semi-annual meeting of the Medical Society of the Missouri Valley will be held in Kansas City, Mo., March 20-21. The meetings will held at the Coates House, and symposiums have been arranged on cancer, rheumatism, the colon and genital tuberculosis in the female. March 22 a series of clinics is to be held at the various hospitals of the city.

International Congress on Ophthalmology.—The Twelfth International Congress on Ophthalmology will convene Aug. 11-15, 1914, at St. Petersburg, with Professor Angelucci of Naples in the chair. The president of the international executive committee is Prof. L. G. Bellarminof, Mochowaja 38, St. Petersburg, and on the committee from the United States are Drs. E. E. Blaauw of Buffalo, G. E. de Schweinitz of Philadelphia, A. Barkan of San Francisco and W. H. Luedde of St. Louis.

Health Work Expense.—In a statement forwarded to the Senate by the Secretary of the Treasury, February 12, in compliance with the terms of a resolution endorsed by Senator Works, it is stated that the annual cost of the health division of the War Department is $5,714,090; that of the Navy, $3,730,522; that of the Agricultural Department, $3,899,202, and the health service of Panama Canal, $1,620,891. There are together 15,632 persons in the employ of the various health services.

New Review on Industrial Hygiene.—A new monthly has appeared devoted to reviews of articles bearing on industrial hygiene, means of prevention and treatment of industrial accidents and occupational affections. It is backed by the institute for industrial hygiene at Frankfort-on-the-Main, and the editor-in-chief is Dr. F. Curschmann, Greppin-Werke, Kr. Bitterfeld. Its official title is the *Zentralblatt für Gewerbehygiene.* The opening number contains an article on the importance of industrial hygiene for the physician and the worker, as the borderland between medicine and technology; another on the dangers inherent in making rubberized goods, and one on post-traumatic mental and nervous affections.

Bequests and Donations.—The following bequests and donations have recently been announced:

Massachusetts General Hospital, Boston, $60,000 for free treatment of the insane at the McLean Asylum, Waverly, Mass., under the will of Sarah E. Cazenove.

Home Hospital, Lafayette, Ind., about $50,000 by the will of John Kyle.

Jefferson Hospital, $15,000 for the establishment of three beds, one in the surgical ward in memory of Phineas J. Horwitz, late medical director and surgeon general U. S. Navy, a second in the gynecologic ward in memory of Caroline Norris Horwitz and a third in the genito-urinary ward in memory of Orville Horwitz, by the will of Dr. Orville Horwitz.

Philadelphia Home for Incurables and the Home for Consumptives, Chestnut Hill, are made residuary beneficiaries of the estate of Mary M. R. Rand, valued at $21,000.

Troy (N. Y.) Hospital Association, $25,000 for the erection of a new building by the will of Peter McCarty.

Evanston (Ill.) Hospital, the income on $5,000 for maintenance of a free bed by the will of George M. Sargent.

New England Baptist Hospital, $250,000 for a building to be known as the Samuel Newell Brown Memorial Hospital; Brockton Hospital, $50,000 to be called the Franklin and Martha K. Ames Fund in memory of the testator's father and mother, $10,000 to the same institution in memory of the testator's niece, Charlotte Ames Gruver, to be used for the childrens' ward; $5,000 for the Home for Incurable Children, Boston, and $10,000 to the Cullis Consumptives' Home by the will of Mrs. Charlotte Thompson Ames Brown, Boston.

South Baltimore Eye, Ear, Nose and Throat Charity Hospital, $10,000 from Mr. William Grecht.

Philadelphia Polyclinic Hospital, $8,000 annually for research work in diseases of the skin, by an anonymous donor.

Methodist Hospital, Philadelphia, a contingent bequest of $5,000 under the will of Rev. John W. Sayres.

Jewish Maternity Hospital, Philadelphia, a contingent bequest of $10,000 by the late Julia Moss.

Jewish Hospital, Philadelphia, $50,000 for a surgical ward by the will of Samuel Kohn.

Presbyterian, St. Vincent's and Mt. Sinai Hospitals, New York City, each $25,000 by the late John J. Clancy.

New York Academy of Medicine, $10,000, anonymous.

Tuberculosis Preventorium for Children, $10,000 for the construction of a new school building, anonymous.

National Jewish Hospital for Consumptives, Denver, $50,000 for an infirmary building, from Samuel Grabfelder, Philadelphia, president.

For antituberculosis work in Georgia, $50,000 by the will of Capt. William Green Raoul.

New York Nursery and Childs Hospital about $16,000 by the annual charity ball.

New York Policlinic Hospital, $5,000 from Mrs. Russell Sage.

Mt. Sinai Hospital and German Hospital and Dispensary, New York City, each $40,550 for maintaining free wards, and Columbia University, $40,550 as the Openhym Research Fund, the income to be used for research into the cause, prevention and cure of cancer, by the will of Augustus W. Openhym.

CANADA

Fire in Hospital.—A fire in a hospital at Big River, Sask., February 4, caused a loss estimated at $20,000. The thirty patients were removed without casualty.

Personal.—Dr. C. N. E. Brown, Toronto, has been appointed superintendent of the new Detroit General Hospital.——Dr. Fred L. Burdon has been elected chairman of the London, Ont., board of health.

Improvements at Selkirk Asylum.—Changes and improvements are being made in Selkirk (Man.) Asylum along the lines indicated in the recent report of the grand jury. The scheme of improvements include the building of a convalscent home.

Small-Pox in Hamilton.—There are said to be 100 cases of small-pox in Hamilton and the situation is believed not to be improved by the friction said to exist between the medical health officer, who has practically ordered compulsory vaccination, and other members of the profession of the city.

Hospital News.—The contract for the tuberculosis hospital to be built at Union, Ont., by the Daughters of the Empire of Windsor, has been awarded. A site of 16 acres with a lake frontage of1,200 feet has been purchased and buildings are to be erected to cost about $25,000.——A new home for the Montreal Foundling and Sick Babies' Hospital is to be erected this year on St. Urbain Street at a cost of $60,000. Over $50,000 has been collected toward the building fund and the site has been secured at a cost of $40,000.——A new hospital is to be established by the sisters of the St. Eugene Hospital at Sturgeon Lake, B. C.

LONDON LETTER

(From Our Regular Correspondent)

London, Feb. 8, 1913.

The National Insurance Act

In the House of Commons the chancellor of the exchequer, Mr. Lloyd George, in reply to criticisms, made an animated speech in which he asserted that the opposition to the insurance act was political rather than medical and was almost entirely confined to London. In spite of the agitation against it the act was working well. There were now 14,000,000 insured persons paying contributions regularly. Already 5,000 were receiving sanatorium treatment for consumption. The panel physicians numbered 13,000, or one physician for every 1,100 insured. One thing the act had brought to light was that the poorer districts were largely understaffed with physicians. A result of the act was that physicians were beginning to drift into those districts, and in future they would be as well paid there as in the well-to-do districts. With regard to the quality of the physicians working the act, in all the great industrial cities the vast majority of the physicians engaged in industrial practice were now on the list, and up to the present the number of complaints had been infinitesimal. Comparing this country with Germany, the chancellor said that here the benefits of the insurance had begun six months after the commencement of the levying of contributions, whereas in Germany two years were allowed to run.

THE BRITISH MEDICAL ASSOCIATION AND THE ACT: FINANCIAL DEFICIT

In obtaining modifications of the insurance act and in resisting it the British Medical Association has incurred considerable expense which seriously deranges its finance. In 1910, the year in which it was first affected by the act, it spent $25,000 more than in 1909. In 1911 it spent $50,000 more than in 1910, and in 1912 it spent $56,500 more than in 1911. Since the introduction of the act an additional expenditure of $180,000 has taken place. Of this sum from $25,000 to $30,000 was incurred in connection with litigation (described in previous letters to The Journal) which had nothing to do with the act. For the campaign against the act the association had to find $150,000 toward which it received about $67,500 from the guarantee fund. On the other hand, as the result of increased membership the revenue of the association has been increased by $10,000 per annum. The net result was that the revenue for 1912 is insufficient by $80,000 to meet the current expenses for the year. Much of the increased expenditure was due to the payment of railway fares for the members of the council and the representatives to the meetings which were constantly taking place in connection with the act. The fares for a representative meeting cost about $2,500. It was pointed out that if the association was to continue to concern itself with political questions it must raise sufficient funds to do so adequately.

GREATER FACILITIES FOR OBTAINING THE OPINION OF THE ASSOCIATION: A POSTAL VOTE

The unfortunate position in which the British Medical Association placed itself in its attempt to defeat the insurance act is now apparent to both friend and foe. Relying on the 27,000 pledges, the representative body decided by a large majority that the profession should not work the act. This was only an endorsement of the poll taken at the divisional meetings, in which 9,331 members and 1,888 non-members voted in favor of refusing to work the act, while 1,963 members and 445 nonmembers voted against this decision. It was pointed out in my previous letters that this poll did not include half of the whole profession, which numbers 31,000. A controversy arose as to whether the voting represented the opinion of the majority of the profession. Some maintained that the large abstention showed that it did not, while others pointed out that the exigencies of practice and other causes prevented a fuller attendance, and that therefore the poll was representative. When a few days after the refusal of the association to work the act the government was able to announce that nearly half of the profession had gone on the panels, it became evident that a large proportion of the absentees must have been against the refusal to work the act. The mortifying sequel then followed in which the association formally released the profession from a pledge which half of them had already ignored. The reasons for justifying the ignoring of the pledge have been given in previous letters to The Journal. The insurance committee of the association has asked the council to consider in what way it may be possible to obtain the views of the profession more quickly and accurately than by the divisional meetings which are attended usually by a minority of the members. A postal vote has been suggested. Discussing the question in the *British Medical Journal*, the president of the association, Dr. Henry Davy, admits that there is a strong consensus of opinion that recent events have shown that the representative meeting may completely fail to represent the majority of the profession. That this might happen under a constitution under which a large proportion of the busiest practitioners throughout the country have to travel distances from six to forty miles in order to have a voice has already been foreseen. The president thinks that the association can never be successful in formulating a policy for the profession until every physician, no matter how busy, has an opportunity of recording his opinion as to what the policy of the association should be before it is declared. A postal referendum is one way of solving the difficulty, but the president does not think that it can be solved by this alone. The question is, How can the busy physician living from six to forty miles from his divisional center have a voice in the policy of the association before it is declared? If he is deprived of his opportunity of giving his voice he will not feel bound to carry out the policy. The president suggests the following changes in the constitution of the British Medical Association: 1. Every division should choose its representative by a postal vote. 2. A representative should speak and vote at a representative meeting in accordance with the wishes of his constituents, but a plan should be devised to replace the present haphazard system under which a representative may receive instructions from a meeting attended by perhaps less than 10 per cent. of the members of a division. He suggests that a division meeting should not be competent to "instruct," its representatives unless at least two-thirds of the members are present. A decision of the association is a very serious act, and the council in preparing the agenda which it issues for the information of members should state in plain and unmistakable language the matters on which formal decisions fixing the policy of the association are to be invited. If a sufficient number of members of a division cannot attend the meeting of the division, then the representative of the division who has been elected by the postal vote, which gives every member a choice in his selection, should be free to speak and vote in accordance with his judgment after hearing the arguments in the representative meeting. 3. The council should have the power of taking a postal referendum on the principle embodied in the Swiss constitution on all matters which they cannot settle by a two-thirds majority.

The Compulsory Notification of Tuberculosis

A new order for the notification of tuberculosis has been issued by the Local Government Board. Previously notification was confined to pulmonary tuberculosis. Now it is extended to all forms of the disease. Every physician will henceforth be required to make a "primary" notification of tuberculosis to the health officer of the district, for which a fee of 50 cents will be paid. Medical officers of institutions, such as hospitals, asylums, poor-law institutions, and sanatoriums are under the same obligation as private practitioners. In addition they are required to make "secondary" notifications for all admissions and discharges of patients suffering from tuberculosis. Under the present system the officers of institutions merely notify the local authority. Health officers are required to take such steps as are necessary for investigating the source of infection, preventing the spread of infection, and removing conditions favorable to infection. Nothing in the regulations authorizes any action which renders the person notified liable to penalty or subjects him to any restrictions, prohibition or disability affecting himself or his employment on the grounds of his suffering from tuberculosis. As more than half of the deaths from non-pulmonary tuberculosis occur in children under the age of 5 years, and it is probable that a much higher percentage of the total number of persons suffering from non-pulmonary tuberculosis are children of this age, the government hopes that notification of these cases will facilitate investigation of sources of infection and assist in securing improvement in the conditions under which children live. The effect of the new regulations combined with the vast provision for the sanatorium and other treatment of tuberculosis mark an important advance in the campaign against tuberculosis.

PARIS LETTER

(From Our Regular Correspondent)

Paris, Jan. 31, 1913.

The Connection of Bernheim and Dieupart with Dioradin

In an interesting recent lawsuit, light was thrown on the methods of the promoters of Dioradin. (This product was discussed in The Journal, Aug. 24, 1912, p. 669, and Oct. 26, 1912, p. 1556.) For four years Dr. Louis Dieupart was head physician of the dispensary for the tuberculous established at Saint-Denis by the Oeuvre de la tuberculose humaine, at the head of which is Dr. Samuel Bernheim. A falling out between the two physicians ended in the dismissal of Dr. Dieupart, owing to Dr. Bernheim's instruction to his colleague to use Dioradin. Dr. Dieupart protested, on the ground of the inefficacy of Dioradin. At the trial he testified that Dr. Bernheim received a commission on all Dioradin used at the Saint-Denis dispensary. He sued for 5,000 francs ($1,000) as damages for abrupt dismissal. He lost the case, as the court held that a distinction must be made between a municipal hospital and a dispensary founded and maintained by private charity. In the hospital the physician, chosen at a meeting, enjoys full liberty in treatment and the choice of drugs, while in a private clinic or in a dispensary, as that at Saint-Denis, he is under the direction of the president of the charitable society and must follow his instructions. Be this as it may, those who brought this suit are not at all in favor of Dioradin and its promoters.

Knighthood in the Legion of Honor Conferred on Madame Déjerine-Klumpke

Among the appointments made to the Legion of Honor, that of Mme. Déjerine-Klumpke deserves special notice. Mme. Déjerine, born Klumpke, was the first woman to receive an appointment as intern in the hospitals at Paris; she received this at the meeting in 1886. She married Dr. Déjerine, now clinical professor of diseases of the nervous system at the Faculté de médecine de Paris, and in collaboration with him published the "Anatomy of the Nervous Centers." She had already won distinction by her researches on the radicular paralyses of the brachial plexus and on polyneuritis. One of the types of radicular paralysis has been named after Mme. Déjerine-Klumpke.

Cause of the Death of Jean Jacques Rousseau

The recent celebration of the bicentenary of Jean Jacques Rousseau called attention anew to the cause of the death of the celebrated philosopher. Every conceivable hypothesis has been entertained on this subject. It was at first thought that he died a natural death of serous apoplexy; ten years later he was considered a suicide; then he was held to have been murdered. The last-named opinion was lately advanced by Dr. Julien Raspail, who owns the death mask executed by the famous sculptor Houdon. Now Dr. A. Lacassagne, professor of legal medicine at the Faculté de medecine de Lyon, has published an article in which he presents convincing proofs of the natural death of Rousseau, based on information which is possessed concerning the nature of the last illness of the philosopher, and also on a careful study of the death mask which he was able to examine with Dr. Raspail. Lacassagne is of the opinion that Rousseau did not commit suicide and that he was not the victim of an assassin: he died of uremia. The attack of uremia was terminated by an accidental fall, which caused a wound in the head. This wound in itself was not serious enough to cause death as it was superficial and made no depression in the skull. In fact, the report of the exhuming of the remains of Rousseau, made at the Pantheon, Dec. 18, 1897, stated that "the skull was intact, with no trace of perforation or fracture." Conclusively, Rousseau died a natural death attended with an accident. The suddenness of his death was not due to the accident.

BERLIN LETTER

(From Our Regular Correspondent)

Berlin, Feb. 1, 1913.

Foreigners as a Problem of German Universities

The strike of medical students at Halle, which I have mentioned several times in my letters, has stirred up the question of foreign students in other universities also, in which similar measures as in Halle have been adopted. This circumstance has also caused the organization for the first time of the clinical students in Berlin. In a meeting which was attended by about eight hundred students, the insufficient accommodation in the local clinics and the difficulties resulting from this lack of space for the German students were discussed. The number of foreign medical students in the last semester is reported as about six hundred, including about four hundred Russians. It is not the intention to limit German hospitality toward foreigners, but to prevent German students from being put to any serious disadvantage on their account.

The fact that the measures adopted by foreign universities, especially the Russian, against the admission of German students are considerably more severe than those employed by us, is also of great weight. The demands presented by a student of Halle, as a representative of the society of German clinical students (Deutscher Klinikerverband), are as follows: 1. The foreigners must bring with them a government certificate corresponding to our certificate admitting one to the university. 2. At matriculation they must present a passport issued by the authorities of their respective countries. 3. The permission for practice as well as for the admission to doctors' examination shall be conditioned on the presentation of a German certificate as to an examination in the German language. 4. Only those foreigners who have passed a preliminary physicians' examination or an equivalent of such will be allowed to practice. 5. The number of foreigners must be proportionally limited (this should not be interpreted as an arbitrary, limited number, but as a limitation according to the circumstances of the individual university). 6. The foreigners are to pay double fees. 7. The foreigners are not to be granted a respite in paying their registration fees. 8. They must record their names in a special list, so that the authorities may be able to investigate whether or not they possess the right to practice. 9. Foreigners may be considered for the positions of assistants only after the native students have been given consideration. There is the further requirement that the first four rows of seats in the lecture-rooms be reserved for the native students. The foreigners may not select their places until two weeks after the commencement of lectures. These resolutions have been adopted and will be passed on (no certain date for this has yet been set) to all the other faculties.

Mortality in Prussia

As compared with 1910, the year 1911 shows a marked increase of mortality in Prussia. On July 1 there were on the average among each thousand inhabitants 17.2 deaths (excepting the still-born) against 16 in 1910, which indicates an increase of nearly 7 per cent. The mortality of infants has increased as compared with the previous year by about 16 or 17 per cent., a fact which is especially worthy of notice if the already high infant mortality—of over three hundred among each thousand infants—is considered. The death-rate among persons over 80 years of age shows a similar increase. In all other age periods a slight increase has also been noticed. The number of deaths varies considerably in different districts; on the whole, the mortality is higher in the east than in the west. This increase of mortality is especially alarming in connection with the surprisingly rapid decrease of births.

Physiology in Medical Examinations

According to the old order of examinations, physiology was considered one of the most important subjects in the preliminary examinations; present examination in physiology has been completely omitted, and instead of it more practical subjects have been added. As the German physiologic association has stated in a petition directed to the department of education, the standard of physiologic training of physicians has been essentially lowered by this change, which was clearly shown by the sad experience in examinations in physiology for the medical degree. There are two causes for this. In the first place, it is a fact repeatedly stated by older physicians that the meaning of many physiologic phenomena for medical practice is not understood by physicians to the full extent until they possess the knowledge which they have gathered in pathology and the clinics. On the other hand, by limiting the examination in physiology to the preliminary test, the impression is created beforehand among students that when this examination is once passed, the training in physiology is accomplished and that it is best to forget all physiologic matters as quickly as possible so that the brain may be free for pathology and clinical practice.

If no further examination in physiology is required in the state examinations, the need of considering physiologic facts during and after the acquisition of pathologic and clinical experience is eliminated. In this way, however, the standard of scientific education of physicians is sinking, as physiology is one of the central sciences in all branches of medicine. For this reason the petition pleads that in summing up the results of medical and dental examinations, physiology should have the same value as anatomy. In reestablishing physiology among the subjects of the state examination, the error of the older order may be corrected, which was caused by giving the preference to anatomy and physiology above all others. In the old days the candidate had to pass the examination in anatomy and physiology first. Only after these were successfully passed, was he allowed to report for the rest of the examinations. As a result of this, the candidates for examination prepared themselves first exclusively for anatomy and physiology, anatomy taking up most of the time on account of its enormous material necessary to be memorized. This error can easily be avoided in reestablishing physiology in state examinations.

Cases of Appendicitis in Prussia in 1911

Appendicitis was the cause of a marked increase of deaths in Prussia in 1911. There died of this disease 2,547 persons, as compared with 2,220 in 1910 and 2,128 in 1909. The increase amounted to 327, or 14.7 per cent., while in 1910 an increase of only 92, or 4.3 per cent. was noted. The age between 5 to 25 years is represented with special frequency among the mortality statistics. With the increasing years the number of deaths caused by appendicitis is smaller. While among all the deceased in 1911, only 1.46 per cent. were between the ages of 10 and 15 years, among those who died of appendicitis 10.72 per cent. were of these ages. The same is true of those who died between 15 and 20 years of age. The percentage of all deaths in this age is 2.37, while deaths caused by appendicitis amount to 10.29 per cent. On the other hand, in the period between 60 and 70 years the percentage of all deaths is 11.30, and 6.16 per cent. of the deaths are caused by appendicitis; in the period from 70 to 80 years the percentages are 12.21 and 4.20, respectively.

Manufacturers Attempt to Lower the Standing of Physicians

When the German physicians founded their Leipsic League and pointed out the difficulties which were arising from the state sickness insurance, the Krankenkassen asserted that these conditions were solely due to the great number of physicians. However, as the majority of physicians became members of the Leipsic League, it consequently grew to be difficult for the Krankenkassen which were in conflict with physicians to find doctors willing to work, in spite of their large number. The wholesale manufacturers who had established branches of the industrial sickness insurance tried by means of newspaper notices to direct the attention of as many young people as possible to studying medicine. Experience had taught them that the greater the number of unemployed, the easier the problem for the employer. The physicians, however, considering that their profession is actually overcrowded in Germany, published explanatory articles particularly directed to the gymnasium graduates in order to dissuade them from studying medicine. The association for the maintenance of interests of the German industrial sickness insurance, the Verband zur Wahrung der Interessen der deutschen Betriebskrankenkassen, is trying to frustrate these efforts of physicians. The association held it necessary to address a petition to the department of education, in which it is pointed out how few physicians there are at present and that this deficiency will be still worse in the future. A request is made in this petition that attempts to dissuade students from the study of medicine be forbidden in the institutions of learning, and also that the names of the next gymnasium-graduates be not published. It is hardly to be expected that the department of education will comply with this request.

Organization of the Dentists

Like physicians and members of other professions, the dentists have thought it advantageous to institute a professional organization which is recognized by the state. By an imperial decree, a Prussian dental chamber was established the latter part of December, to be located in Berlin. The business of the dental chamber will be to attend to all affairs and questions which arise in connection with the dental profession, especially the education of dentists, the interests of the dental profession and dental hygiene. The chamber will be authorized to make suggestions and propositions within its field of activity to the state authorities; the state authorities shall give it opportunity for expressing opinions on questions referring to dentistry. The members of the dental chamber will be elected separately by provinces. The provincial police district of Berlin represents its own voting district. Each voting district elects two members. If the number of voters reaches 200, then three members may be elected, and for each further 200 one more member. The president who represents the chamber publicly is elected by the members of the chamber.

Establishment of a Municipal Housing Bureau in Berlin

In order to alleviate and gradually eliminate the bad conditions which are found in the dwellings of Berlin, the city council has decided to establish a new organization for the supervision and inspection of buildings, which will begin its activity during this year. At the head of this new organization is put a committee on housing conditions. The foremost task of this committee will be to investigate and explain the existing conditions of the housing system in Berlin, so that improvements can be made where necessary. Another very important practical task incumbent on the committee is to learn how the oversight and inspection of housing conditions are already carried on in a number of other cities, for instance Frankfort-on-the-Main. Efforts are to be made in the interest of tenants and landlords that conditions in the dwellings be brought to a certain standard and thus maintained, so that evils may be eliminated. Although it is not the function of a municipal housing bureau to extend financial help to those affected, the city council thought it advisable to help temporarily, to a certain extent, where bad conditions are found which are not caused intentionally and where a reference to charity is out of place. There is no appropriation made for this purpose from the public funds; however, employment of endowments appears advantageous and unobjectionable. Cooperation of citizens is contemplated through the organization of special housing commissions, corresponding to the medical districts. It is intended to bring the committee into existence on April 1, while the housing bureau will not begin its activity until October 1, after all necessary preliminary work is finished. The cost of the complete project, not including rent and other similar expenses, will amount to about $25,000 (100,000 marks). For the year 1913 an appropriation of $22,500 (90,000 marks) will be included in the budget. A motion to this effect will be made at the next city council meeting.

Miscellany

Hypnotics, Analgesics and Antipyretics

The propaganda against the abuse of habit-forming remedies, especially those recommended for the relief of pain, has tended to create a desirable caution in the mind of both physician and patient. At the same time there is presented the serious problem to determine which will be likely to do the greater harm, the temporary administration of an analgesic or the continuance of the pain. There is a point at which the physician must decide which is the lesser of two evils, continued nervous irritation or functional damage from the action of the medicine. Insomnia should be removed if possible by hygiene, but if this fails, hypnotics may often be employed with advantage. By many it is regarded as preferable to lower an excessive temperature by antipyretics, if other means fail, rather than to permit the patient to become exhausted by the fever and its consequences. On the other hand, the remote consequences of an antipyretic should always be borne in mind. According to Manquat's "Principles of Therapeutics" (p. 102), antipyrin even in benign affections sometimes prolongs the disease. This author gives the following excellent advice:

"The physician must therefore observe the delicate features of symptomatic therapeutics if he wishes at once to safeguard the interests of the patient and his own authority. A conscientious and learned physician, who sees farther than the symptom, will do well to explain his conduct when he does not combat a symptom. By virtue of his solicitude for the patient and his knowledge of nosography, which enables him to foresee the prognosis, he can persuade his patient to accept the probable evolution of the disease. He will generally (not always!) have the satisfaction of being understood and be able to palliate only the most marked symptoms, while watching the functional disturbances in order to correct them at the opportune moment, and lead the patient to recovery.

"On the other hand, the physician should not systematically refuse a symptomatic measure. A patient who has already profited, or believes he has profited, by the soothing of a symptom through a certain treatment, should not be deprived of the same treatment unless there be good reasons for hoping for better treatment or else fear of some inconvenience. In this respect there is a general rule. As it is always well to let patients speak, even when they speak a great deal, because by speaking they give themselves up and by listening to them we study them and know them better, so it is well, in therapeutics, to be informed by them and take into account their experience of the medicines, without, however, overlooking the possibilities of autosuggestion. This is particularly true as regards the employment of purgatives, sedatives and hypnotics. It is also wise to consider the mentality of certain persons and not to insist on correcting their errors. What is the use of fatiguing a patient by unprofitable discussions? Is it not more sensible to give him the satisfaction of an infinitesimal dose, incapable of any harm, and let him profit by the nervous dynamism which the joy of hope and assurance is capable of arousing?"

Disease Prevention in the Canal Zone

Nearly every one is familiar in a general way with the excellent sanitary work done by the medical authorities in the Canal Zone. In the *Scientific American*, Nov. 9, 1912, Dr. A. J. Orenstein, of the department of sanitation, gives some interesting figures concerning yellow fever and malaria, showing the effect of mosquito extermination. The *Stegomyia calopus*, the yellow fever mosquito, was attacked first by methods which he describes, including the installation of public water-supplies in the cities, and the breeding-places of the *Stegomyia* were practically destroyed. From having been the most numerous species of mosquitoes in Panama and Colon in 1905, the *Stegomyia* has now become the species least frequently encountered. A *Stegomyia* mosquito is now hard to find. The results of this work were soon manifested, as the following figures will show: From July 1, 1904 to June 1, 1905, 77 cases of yellow fever originated on the Isthmus; in June, 1905, 62 cases; in July, 42; in August, 27; in September, 6; in October, 3; in November, 2; December (in Colon), 1. During 1906 there was only one case of yellow fever on the Isthmus, in Colon. Since then not a single case of yellow fever has occurred on the Isthmus, although a continuous influx of non-immunes is taking place.

Malaria was next attacked. Orenstein says that malaria is a disease that undermines a man's health insidiously and lowers his working efficiency to an extent not approached by any other disease with the possible exception of hookworm. After describing the methods employed in the eradication of the anophelines mosquito, which are quite different from those employed in attacking the yellow fever insect, he says that these measures, conscientiously and painstakingly carried out, resulted in reducing the number of malaria cases treated in the hospitals from 6.83 per cent. of the working force per month in 1906 to 1.53 per cent. of the working force per month in 1911, and the death from malaria among employees from 233 in 1906 to 47 in 1911. In 1906 a good deal of preventive work had already been accomplished. What malaria would have done to the working force, had conditions remained as they were in 1904, is indicated by the fact that among 150 U. S. marines stationed at Empire in the Canal Zone in 1904, 170 cases of malaria developed in four months. In addition to the measures employed in reducing the mortality and morbidity from these two dangerous diseases, the steps taken to provide the employees working on the canal with comfortable quarters and wholesome food and recreation, Orenstein says, undoubtedly contributed greatly to the health of the employees as is illustrated by the history of pneumonia among the negroes. In 1906, before provision had been made to feed the laborers, and when housing had not been brought up to the present standard, a number of cases of pneumonia occurred among the negro laborers. The mortality from pneumonia was 413 in 1906 and 328 in 1907. A board appointed to study this disease recommended that the laborers be fed by the government and that certain improvements in their housing be made. When these recommendations were carried into effect the number of cases of pneumonia immediately diminished. In 1908 there were but 93 deaths; in 1909, 70; in 1910, 73, and in 1911, 94.

From An Australian Visitor.—Through the courtesy which is extended so warmly to all visitors, I had the opportunity of inspecting the home of the American Medical Asssociation in Chicago, of being present at the annual meeting at Atlantic City, and of there conveying to the House of Delegates of the Association the invitation of the . . . Australasian Medical Congress. . . . The organization of the American Medical Association is very thorough. . . . Its history has not been smooth, but it has found itself, and during the last ten years the development has been amazing. . . . It has become abundantly clear in Australia that our small congress cannot satisfactorily transact business when sitting as a whole. The American Medical Association remits all business matters to a body known as the House of Delegates, which comprises about 150 members, that is, approximately one delegate to every 500 members. . . . It is this separation of the purely scientific from the business side which is, in my judgment, giving the Association such strength. The delegates are sufficiently numerous to be thoroughly representative, and can divide into committees and appoint external committees for many diverse purposes. At Atlantic City the perfection of the organization was obvious. The House of Delegates sat continuously while the scientific business was transacted elsewhere. . . . The facts relating to the Association are worth recording. The home is a seven-story fire-proof building in Chicago, which provides accommodation for a modern printing office, chemical laboratories for food and drug testing, administrative offices, an educational department and a complete index department, and thus we find among the activities of the Association the establishment of a record of the career of every medical student and practitioner, so that in future the professional career of a medical man will be followed and recorded step by step. Furthermore, the organization and the work done by every medical school in the country is inspected and recorded, and the facts are published. It is largely owing to this sagacious step that so many inferior schools have been closed and others have raised their standards. Any practitioner desiring information about any "patent medicine" or drug can obtain it promptly. Those, for example, who wish to know the composition of Odol, the value of Sanatogen, or the therapeutic value of serums, have simply to write and at once learn what they are using. In other words, a rational therapy is in sight. The Association has dealt with the "patent-medicine" problem. If any manufacturing firm wants to advertise in The Journal, the nature of the compound must be disclosed . . . and verified. Every testimonial given by a medical man to a drug-house is recorded and examined. On the "quacks" a straight-out warfare is waged by a proper method of simply publishing the facts. Furthermore, the Association periodically produces a bulletin of useful medical information and forwards it to the lay press of the United States, so that the public may know in a proper way what is occurring in the medical world. These achievements have not been effected without opposition, and references have been made to the "Great Medical Trust," and so forth. The public has cause to understand, however, that the game is being played honestly and intelligently. Among other work done are propaganda for the prevention of blindness, institution of health day in the schools, when lectures are given by medical men, the establishment of a modern museum of safety appliances, and the organization of postgraduate work. . . . Is there any reason why we in Australia should not build up an analogous organization? . . . Is there any reason why, in Melbourne, we should not have suitable buildings, with a permanent staff, and in a similar way emulate our American brethren?—Dr. James W. Barrett, Melbourne, in *Australian Medical Journal*.

Quackery in England.—The answer to that question [protection to human beings] reveals a state of affairs that constitutes a blot on our national intelligence. Any ignorant person, such as a farm laborer, a blacksmith or a hairdresser, may claim to cure any disease under the sun, and may, without fear of punishment, do to death any one foolish enough to trust his nonsensical claims. As a matter of fact, many quacks make large or even princely incomes, whereas the average medical practitioner lives and dies a poor man. Think of the irony of that situation! Imagine a young man in search of a career asking advice of a candid senior as to the prospects of medical practice. "My dear sir," might well be the reply, "if you want a simple competency you will, sooner or later, acquire that as a general practitioner, or, after some longer years of waiting, you may secure a much larger income as a specialist or consultant. Truth compels me to add, however, that as a bone-setter, or as the universal provider of cures by physical exercises, or as the proprietor of a nostrum, you may within a few years attain a huge fortune. Needless to say, neither of these unlicensed methods demands a particle of study, whereas at least five years of hard work and the expenditure of a large sum of money are needed to secure a medical qualification."—*Med. Press and Circular.*

Tropical Residence and Copious Water-Drinking.—The late Dr. Paul C. Freer, in a study of the effects of tropical sunlight (*Philippine Journal of Science*), arrived at two interesting conclusions concerning residence in the tropics and the use of water by soldiers on the march. He believed that in a climate like that of the Philippines, with the sea modifying the extremes of temperature, and with a large proportion of cloudy weather, the white man, by taking proper precautions, should not find it deleterious, and need only seek the shade to avoid danger from even the greatest insolation. Soldiers on the march or other persons compelled to spend much time in the sunlight should wear white underclothing and helmets and should be supplied with an abundance of safe water, the two canteens allowed the soldiers not being sufficient, in Freer's opinion, to maintain a proper equilibrium of body fluids, allowing sufficient perspiration to carry away the excess of body heat. Likewise copious water drinking in any country in hot weather, with free perspiration, tends to reduce discomfort from excessive heat. The vice of iced drinks is that they are too cold to be taken into the stomach in large enough quantities for free and cooling perspiration, and their coldness defeats the very purpose for which they are taken—to cool the body.

Marriages

Marcus Denis Cronin, M.D., Albany, N. Y., to Miss Helen Margaret Doyle of Syracuse, N. Y., in Watervliet, N. Y., February 1.

Joseph A. Valenta, M.D., Iowa City, Ia., to Miss Maud Claire Katzenmeyer of Lone Tree, Ia., at Iowa City, February 4.

William Herbert Pearce, M.D., Baltimore, to Miss Sarah Francis Ferguson, at Charleston, S. C., February 4.

Jacob Casson Geiger, Jr., M.D., Berkeley, Cal., to Miss Florence Gourrier of Alexandria, La., January 30.

Alfred W. Brinham, M.D., Scalp Level, Pa., to Miss Wilhelmina Meyer of Wellersburg, Pa., January 29.

Charles Robert Mullong, M.D., Norfolk, Neb., to Miss Ethel C. Givens of Sioux City, Ia., January 11.

Frederick William Lamb, M.D., Cincinnati, to Miss Ninon Lenox Traver of New York City, January 29.

Ralph Walker McDowell, M.D., U. S. Navy, to Miss Ruth Noyes of Washington, D. C., February 17.

Andrew F. Tuttle, M.D., Spray, N. C., to Miss Daisy King Jones of Ridgeway, Va., January 30.

L. Lafayette Bond, M.D., Denison, Ia., to Miss Florence Faulkner of Helena, Ark., recently.

John George Johnson, M.D., to Miss Emma Bellows Roe, both of Brooklyn, February 7.

Phillip H. Stewart, M.D., to Mrs. Lula Lincoln, both of Paducah, February 3.

Deaths

Henry Downes Geddings, M.D. Medical College of the State of South Carolina, Charleston, 1880; for seven years assistant surgeon-general, U. S. P. H. Service; died at his home in Washington, February 13, from cerebral hemorrhage, aged 54. After his graduation Dr. Geddings practiced for eight years before entering the public service. He was an assistant surgeon from 1888 to 1892, serving in the Marine Hospital at Stapleton, Staten Island, and at the Key West (Fla.) Quarantine. He received his promotion to passed-assistant surgeon in 1892 and while in this grade, served at the South Atlantic Quarantine and at Washington; he was made surgeon in 1904 and from that time until 1909 was retained on duty in Washington, later being ordered to Naples, Italy, which was his last station. He was an excellent administrative officer and a veritable genius in the organization and administration of quarantine camps established during epidemics. Dr. Geddings was a member of the American Medical Association, represented his service at three international sanitary conventions and was a delegate from his service to the International Congress on Hygiene and Demography. On his return from Italy, Dr. Geddings was taken ill with cerebral embolism and never regained his health thereafter.

Francis F. Corson, M.D. University of Pennsylvania, Philadelphia, 1869; a member of the Medical Society of New Jersey; at various times a member of the staff of Kirkbride's, the State Hospital for the Insane, Trenton, and the Home for Feeble-Minded Women, Vineland, N. J.; first physician in charge of the State Hospital for Epileptics, Skillman; for ten years a resident of Bridgeton; died suddenly from heart disease, February 1, aged 65.

Benjamin Forbes Graham, M.D. Starling Medical College, Columbus, O., 1865; a member of the American Medical Association; a veteran of the Civil War and one of the oldest specialists on diseases of the eye and ear of Minneapolis; died suddenly at his home in that city, February 2, from influenza aged 73.

Lewis W. Steinbach, M.D. Jefferson Medical College, 1880; a member of the American Medical Association; professor of surgery in the Philadelphia Polyclinic; recorder of the Philadelphia Academy of Surgery; visiting and consulting surgeon for the Philadelphia and Jewish hospitals; noted for his work among Hebrew charitable institutions; died at his home in Philadelphia, February 10, from pneumonia, aged 61. The resolutions of the members of the staff of Mount Sinai Hospital remark on Dr. Steinbach's continual self-sacrifice in his "devotion to the poor and sick at whose appeal he was ever ready to respond. His conscientiousness and energy . . . were an inspiration to us all."

Edward Hanna Small, M.D. University of Pennsylvania, Philadelphia, 1885; formerly a member of the American Medical Association, and chairman of the Section on Pediatrics in 1895; first member elected in the Pittsburgh Academy of Medicine and the founder of its library; lecturer on pediatrics, Western Pennsylvania Medical College; physician to the Pittsburgh Home for the Friendless and a member of the staff of the Pittsburgh Hospital for Sick Children and the South Side Hospital; prominent in all professional activities—scientific, sociologic and philanthropic; died in Saranac Lake, N. Y., February 3, from tuberculosis, aged 52.

Thomas Overton Meredith, M.D. Baltimore Medical College, 1887; of Harrodsburg, Ky.; a member of the American Medical Association; local surgeon at Harrodsburg for the Southern and Cincinnati, New Orleans and Texas railways; formerly president of the Central Kentucky Medical Association and president of the City Bank of Burgin, Ky.; died at a hospital in Rochester, Minn., January 30, after a surgical operation, aged 49.

John W. Dal, M.D. Northwestern University Medical School, Chicago, 1878; a member of the American Medical Association and Chicago Medico-Legal Society; for many years an esteemed practitioner of northwest Chicago; aged 58; died at his summer home in West Olive, Mich., February 14, from carcinoma of the tongue and throat, for which operation had been performed a year ago at Wesley Hospital.

Henry Francis Ballard, M.D. Rush Medical College, 1882; a member of the American Medical Association; for thirty years a practitioner of Chenoa, Ill., and for nearly fifteen years secretary of the board of education; died in St. Francis Hospital, Peoria, February 7, two weeks after an operation for perforating ulcer of the stomach, aged 60.

William Beattie Nesbitt, M.D. Trinity Medical College, Toronto, Ont., 1887; president of the Farmers Bank of Toronto which failed in 1910; formerly a member of the Ontario legislature; a veteran of the Riel Rebellion and registrar of West Toronto; died at his home in Toronto, February 1, from nephritis, aged 45.

Thomas Gulick Birch, M.D. Yale Medical School, 1865; Harvard Medical School, 1866; surgeon of U. S. Volunteers during the Civil War and later a medical officer in the British Service in India; one of the founders of St. Luke's Hospital, Newburgh, N. Y.; died at his home in that city, February 1, aged 75.

Augustus R. Wright, M.D. Atlanta (Ga.) College of Physicians and Surgeons, 1900; of Lumpkin, Ga.; a member of the Medical Association of Georgia; died in the Pilcher Hospital, Brooklyn, N. Y., January 29, after an operation for decapsulation of the kidney for interstitial nephritis, aged 46.

Eli James Smith, M.D. University of Michigan, Ann Arbor, 1878; a member of the American Medical Association; for the last twenty years a practitioner of Neenah, Wis.; was found dead in a bathroom in the Theda Clark Memorial Hospital in that city, January 31, from heart disease, aged 56.

Peter Willett, M.D. Western Reserve University, Cleveland, 1860; surgeon of the One Hundred and Eighty-Second Ohio Volunteer Infantry during the Civil War; for forty-seven years a practitioner of Elmore, O.; died at his home, January 2, from disseminated sclerosis, aged 79.

Hamlin Smith, M.D. Medical College of Ohio, Cincinnati, 1860; since 1863 a resident of Brownstown, Ind.; postmaster for eleven years; deputy U. S. Revenue Collector from 1864 to 1866 and deputy U. S. Marshal in 1870; died at his home in Brownstown, January 28, aged 74.

Charles Allen Peterson, M.D. College of Physicians and Surgeons, New York City, 1884; a member of the Hawaiian Territorial Medical Society; died at his home in Honolulu, January 2, from septicemia, aged 57.

William Green Clark, M.D. University of Tennessee, Nashville, 1903; died at his home near Goodlettsville, Tenn., January 19, from pneumonia, aged 32.

Coleman Nathaniel Clark, M.D. University of Buffalo, N. Y., 1865; a member of the American Medical Association; for more than thirty years a practitioner of Winona County, Minn.; at various times health officer, alderman or member of the board of education of St. Charles; died at his home in that place, January 30, from influenza, aged 73.

Henry Goodwin MacKaye, M.D. Harvard Medical School, 1885; a member of the Rhode Island Medical Society and for nearly twenty-five years a member of the board of trustees of the Newport Hospital; died at his home in Newport, February 2, aged 56.

George W. Taylor, M.D. Syracuse Medical College, Eclectic, Rochester, N. Y., 1853; one of the oldest practitioners of Princeton, Ill.; for many years a minister of the Christian Church; died at his home, January 26, from senile debility, aged 97.

Arthur Stanton Fletcher, M.D. Tufts College, Boston, Mass., 1906; a member of the Maine Medical Association and secretary of the Waterville Clinical Society; died at his home in Waterville, January 31, from bronchial pneumonia, aged 31.

Edward Pius O'Donnell, M.D. University of Pennsylvania, Philadelphia, 1906; a member of the Medical Society of the State of Pennsylvania; died at the home of his father in Heckscherville, February 2, after a long illness, aged 34.

Clarence W. Zurcher, M.D. College of Physicians and Surgeons, Baltimore, 1911; an intern for fifteen months thereafter at Mercy Hospital, Baltimore; died at his home in Leetonia, O., Dec. 27, 1912, from scarlet fever, aged 25.

Samuel Newton Burgen, M.D. Keokuk (Iowa), 1868; formerly of North Topeka, and a member of the local board of health; died at his home in Oklahoma City, Okla, December 2, from cerebral hemorrhage, aged 71.

William Wormley, M.D. Jefferson Medical College, 1883; formerly a practitioner of Lancaster, Pa., and later a druggist in Philadelphia; died at his home in the latter city, January 29, from pneumonia, aged 60.

William D. Brown, M.D. University of Louisville, Ky., 1894; formerly of Slaughtersville and Julian, Ky.; died at his home in Hopkinsville, Ky., January 27, from the effects of an overdose of morphin, aged 63.

Frank A. Hausneck (license, Missouri, 1900); a practitioner since 1863; formerly of Kansas, but for twenty years a resident of St. Louis; died at his home, January 30, from cirrhosis of the liver, aged 76.

William Bazaliel Carpenter, M.D. Long Island College Hospital, Brooklyn, 1886; a member of the State Medical Association of Texas; died at his home in Mart, February 4, from pneumonia, aged 64.

Edward H. Parker, M.D. Hahnemann Medical College, Chicago, 1879; a member of the American Medical Association; died at his home in Eau Claire, Wis., February 8, from heart disease, aged 57.

Isaac B. Sensenig, M.D. Bellevue Hospital Medical College, 1869; a member of the Medical Society of the State of Pennsylvania; died at his home in Harrisburg, February 5, from dropsy, aged 65.

William Francis Decker, M.D. Jefferson Medical College, 1878; for more than twenty-five years a practitioner of Philadelphia; died at his home in Newfoundland, Pa., January 26, from pneumonia.

William Sandel, M.D. New Orleans School of Medicine, 1858; for more than half a century a practitioner of Ouachita Parish, La.; died at the home of his son in Monroe, January 29, aged 74.

David William Jump, M.D. University of Michigan, Ann Arbor, 1872; a member of the Will County (Ill.) Board of Supervisors; died at his home in Plainfield, about February 3, aged 65.

Helen Amanda Goodspeed, M.D. Eclectic Medical College of the City of New York, 1870; died at her home in Worcester, Mass., January 23, from diabetes, aged 69.

Kate B. Peterson, M.D. Bennett Medical College, Chicago, 1885; died at her home in Chicago, January 20, from sepsis, due to a phlegmon of the leg, aged 76.

William Espey Srofe, M.D. Cincinnati College of Medicine and Surgery, 1892; died at his home in Norwood, O., January 12, from intestinal toxemia, aged 40.

Curtis R. Willson, M.D. University of Louisville, Ky., 1856; of Ola, Ark.; died, January 16, at the home of his son in Ola, from senile debility, aged 84.

The Propaganda for Reform

In This Department Appear Reports of the Council on Pharmacy and Chemistry and of the Association Laboratory, Together with Other Matter Tending to Aid Intelligent Prescribing and to Oppose Medical Fraud on the Public and on the Profession

SUPPORTING THE COUNCIL

What One Editor Thinks of the Matter

The letter given below has been received from an aggressive member of the American Medical Association who recognizes the evils that afflict our profession and desires to fight them. He is the editor of a medical journal that is owned by one of the state medical societies and one, it is needless to say, that is supporting the Association in its fight against fraud in proprietary medicines. In other words, no advertisement of proprietary medicines is acceptable to the journal he edits unless such remedies have been passed on and approved by the Council on Pharmacy and Chemistry for inclusion in New and Nonofficial Remedies. We believe the reading of his letter—which, by the way, was a personal one—will bring some of the apathetic ones to a realization of the problems that beset us. Here is the letter in part—of course it was not intended for publication:

". . . I do not believe that you realize just what the conditions are in the smaller communities. In your position it is easy to think that everything is going along in a satisfactory manner, for I presume that you do not come in contact to any great extent with the evils of the profession. [On the contrary, we do realize to the fullest extent the conditions to which our correspondent refers. The editor of a medical journal can hardly remain in ignorance of the abuses that have crept into the medical profession, even if he would. In fact, the doctor himself recognizes the vantage-point he, as an editor, has in learning the unpleasant things within the profession.—Ed.] It is easy for men who have good positions or practices to be rather self-satisfied and give little attention to the evils and inconsistencies that exist on every hand. Were it not for my position as editor probably I would be numbered among the apathetic ones, for I have more than I can do in a professional way and prosperity always has a tendency to make a man easy-going. . . .

"Then the question of supporting the Council on Pharmacy and Chemistry is another one which merits more consideration than we have given it. [We think so, too.—Ed.] I do not believe that we are justified in making such strenuous efforts to reform the daily press and protect the public until after we have cleaned up our medical journals and made an effort to protect the public from the evils of incompetency and dishonesty in the medical profession. [The very thing that we have been hammering on to the point of weariness.—Ed.] The only criticism I have of The Journal A. M. A., is its lack of nerve in attacking some of these problems that confront us. [The Journal is seldom accused of lack of nerve; it is more often charged with having too much!—Ed.] The Journal A. M. A. is the best medical periodical in the world without exception. [The doctor's judgment is unimpeachable.—Ed.] and it has done a remarkable amount of reform work, but it has only touched the edges of evils in the medical profession. [This is true.—Ed.] . . .

"Concerning this question of support of the Council, it is no wonder that Parke, Davis & Co. and some other manufacturers feel that the Council's work is not counting for much when leaders in the profession are positively ignoring the work of the Council. [Just what we have been saying for years.—Ed.] I know of a number of prominent physicians who are prescribing some of the preparations that have been condemned by the Council . . . [So do we, we are sorry to say.—Ed.]

"So far as I am personally concerned I am through with temporizing, and the 'kid glove' manner of handling the vital subjects. I propose to hit the nail on the head when I know that I am right. [May he have the hammer of Thor.—Ed.] I do not desire a libel suit on my hands, but when I have the facts I shall publish them if I think the information will help the medical profession. It is a little hard for the average editor to look over the advertising income and do the right thing at the expense of the purse, but I think the medical profession should be given to understand that such effort is to be supported or else the medical profession should cease to own and operate medical journals. [No doubt about it.—Ed.] . . .

"The state journals that are trying to do the right thing are having a struggle. They need all the support and encouragement that they can obtain. The support they obtain from their own state associations is very faint-hearted and lacking that sincerity and enthusiasm that makes for good. [Unfortunately, this is true.—Ed.] I do not believe that very much, if any comment would be offered if I lowered the bars and ran my journal the way that some other state journals are run." [This also, we may sorrowfully admit. Right here lies our weakness. The work of the Council on Pharmacy and Chemistry and the attitude of those medical journals that are supporting the Council, are, apparently, too far ahead of the procession. The position they take is looked on by physicians as utopian, when it should be considered a matter of course. When the average physician—and it is the *average* physician who counts—views the proprietary evil in its true light, it will be a pleasure to conduct a medical journal with a due regard for decency. At present it is a "demnition grind."—Ed.]

THE LAY PRESS AND THE NOSTRUM EVIL

What Some Editors and Publishers Think of It

Hardly a day passes that we do not receive letters from editors, publishers or advertising managers asking for information about this, that or the other "patent medicine" or quasimedical device. We believe that it will prove both interesting and instructive to the readers of The Journal if we give portions of some of the letters that we are receiving so frequently. Here are some quotations from letters picked out at random:

Mr. Robert S. Walker, Chattanooga, Tenn., president and managing editor of the *Southern Fruit Grower*, wrote, in part:

> "We thank you very much for the book which you recently sent us entitled, 'Nostrums and Quackery.' We have been using our energies trying to educate our readers to the dangers in patent medicines, and in this, we have succeeded very well. We are in hearty sympathy with your efforts for suppressing this evil, and wish you much success."

The editor of another journal devoted to fruit-growing, Mr. E. H. Shepard, Hood River, Ore., writes regarding his publication, *Better Fruit:*

> "I want, personally, to thank you for your book on nostrums, etc., and in reply would say that we do not carry any 'patent-medicine,' quack-doctor or nostrum advertisements, neither any other questionable advertising."

Nor are the city dailies behind, as the following letter from Mr. E. G. Lee of the *Minneapolis Journal* testifies:

> "I am interested in the censoring of advertising of these medicines, and believe that your reports would contain just the information that I am looking for."

And this, also, regarding the *Detroit Times*, written by Karl D. Murchey:

> "Our attention has been called to the publications of the American Medical Association and we believe that we could make good use of the pamphlets that have been issued from time to time if you will send us a set."

While religious journals, as a class, were, a few years ago, among the worst offenders in the acceptance of fraudulent advertising, some of them have always rejected such material while others have thrown it out as soon as the matter was brought to their attention. The following from a letter by Mr. Fitzgerald S. Parker, editor of the *Epworth Era* tells its own story:

> "I thank you very much for your recent letter giving me information concerning Foso Co., who are seeking entrance to the pages of the *Era* for advertising. Your information in this and similar cases has been of important service in enabling us to keep undesirable advertisements out of the *Era*."

And this by Mr. J. Pressly Barrett, editor of the *Herald of Gospel Liberty:*

> "The Vitae-Ore pamphlet you sent has not yet been received. I hope it will yet come, as I am anxious to know the facts. I do not like to trouble you so often, but I am determined to rid our paper of every unworthy advertisement, as soon as I can find it is unworthy."

The following from R. E. Skelton of *Sunset Magazine* shows what effect one of The Journal's many articles on medical frauds had:

> "In your issue of Feb. 10, 1912, you published an article on Plapao, which latter, I believe, has been proved a fake.
>
> "You no doubt have seen the advertising in our magazine and I am very desirous of having this bogus advertising taken out of our columns. For that reason won't you mail me the issue mentioned so that I may send it to our home office; in that way we can get rid of the only objectionable advertising carried by *Sunset.*
>
> "I can assure you that had we known he was a bogus advertiser his ad. would never have appeared in our columns."

The advertising pages of the better class of farm journals have for some time been remarkably clean. The following letter from Mr. John M. Stahl, president of the Illinois Farmer Company is particularly well worth reading. The closing paragraph expresses, tersely and forcibly, the whole problem:

> "We notice that in your last bulletin you commend a certain religious paper because it does not insert patent medicine or fraudulent advertising. The paper that thus carefully guards its advertising columns is entitled to your commendation, and you should know that very nearly every farm paper thus guards its advertising columns.
>
> "For more than twenty years past, it has been the settled policy of the *Illinois Farmer* and *Farmer's Call* not to insert any advertising that will cheat or offend any of its readers, and it goes to all members of the family. *Of course we do not insert any medical advertising.*" [Italics ours.—Ed.]

What newspapers in the smaller cities can do to protect the public, is illustrated by this letter from Mr. J. Frank Keeley, advertising director of the *Four States Press*, Texarkana:

> "For a number of years I have steadfastly refused to handle advertising from grafters and others of their ilk, purporting to have a cure-all for such diseases as are commonly recognized as incurable, and recently declined to accept a rather large advertising contract for the 'United Doctors' and was instrumental in having the evening paper here also decline to accept this advertising. The result is that the 'United Doctors' did not come to Texarkana."

It is such matter as this that makes the fight seem worth while. If the same degree of interest were exhibited by the publishers and editors of medical journals the "ethical proprietary" evil would be well on the way toward solution as the "patent medicine" evil already is.

DIGIPOTEN—WHAT IS IT?

A correspondent, who wishes to sign himself "A Pharmacist Subscriber," writes:

"What is Digipoten? Has it been passed on by the Council on Pharmacy and Chemistry? An advertisement states:

> "It contains several active glucosids of digitalis leaves, practically without a trace of inert matter.

"Further on the same advertisement states:

> "Dissolved, it makes a beautiful, green fluid.

"The last statement reads much as if Digipoten was merely another name for a powdered extract of digitalis, but as the green coloring matter of digitalis is not medicinally potent, so far as I know, it does not agree with the first claim quoted.

> "We standardize it (by tests on the frog) to an exact strength, so the doctor may regulate the dosage to a nicety, avoiding dangerous cumulation.

"How does the standardization by frogs help the doctor to 'regulate the dosage to a nicety?' And then, too, is it possible that the manufacturer of Digipoten—the Abbott Alkaloidal Company—really places any dependence on frogs when in years gone by it has preached that only clinical results were worth while? If the Abbott Alkaloidal Company standardizes this digitalis preparation has it possibly also undertaken to standardize its other heart drug, Cactin?

> "Its chemistry being done, it does not irritate and distress the stomach as the fluid preparations so often do.

"'Its chemistry being done' is almost artistic, provided you read it sufficiently rapidly; but as for sense or meaning, I fail to find any. Besides, is it not a proved fact that its effect on the stomach is a property of the digitalis principles themselves?

> "It is not 'cumulative.'

"Is this not a rank falsehood? The reason I ask these questions is that I fear that the advertisement contains a misprint and that the statement 'See that your druggist is stocked' probably should read 'See that your druggist is stuck.'"

Digipoten seems to be an ordinary extract of digitalis diluted with sugar of milk. It has not been accepted by the Council on Pharmacy and Chemistry. Evidently "A Pharmacist Subscriber" is not familiar with the fact that many statements occurring in the literature advertising proprietaries are not to be taken too seriously. Of course digitalis glucosids are not of a beautiful green color, but glucosids in pure form are rather expensive and difficult to prepare, while an extract is comparatively easy to make and inexpensive. In calling attention to this really harmless, beautiful, green color the manufacturers of Digipoten seem willing to make a virtue of necessity. While Digipoten is not claimed to be more active than digitalis, it sells at a little more than $40 a pound wholesale, or one hundred times the price of digitalis leaf of equal activity. "Its chemistry being done," etc., is merely one of those statements which appear so frequently in advertisements of this sort, and to which no particular meaning is to be attached. At any rate, the facetious comments of our correspondent serve quite as well as any we can offer.

TURNER OBESITY CURE—MR. TURNER EXPLAINS

The following letter received from the titular head of the "Dr. Turner Co.," throws further light on the methods of that concern:

> On June 22, 1912, an article appeared in The Journal of the American Medical Association dealing with a fraudulent obesity cure concern, the "Dr. Turner Company" of Syracuse, N. Y. May I ask you to publish the following facts to show my very slight connection with the company that bore my name and to show also that I was not wilfully guilty of wrong-doing?
>
> In 1909, E. Virgil Neal [of the Tokalon Company] asked me to write a short article on obesity. It was to be based on personal experience and was not written as a medical treatise, since I am not a physician, the title M.D. being added to my name by the Syracuse concern. Neal purchased my article on a royalty basis by contract. My impression was that it would be sold as a booklet and I had no idea that it would become part of a fraudulent "obesity cure." I did not at the time fully comprehend the terms of the contract which gave the right to use my name in the business but to me no control of the business methods. Indeed, it distinctly stipulated that I should have nothing whatever to do with the management and conduct of the business.
>
> After getting my article, Neal "revamped" it and added the sensational features. The various adjuncts to the "system" including the "Concentrated Food Tablets," etc., were developments of his fertile brain and were entirely absent in the matter given him. In the early part of 1912, the advertising of the "Dr. Turner Co." was called to my attention. It was so fraudulent that pressure was brought to bear and the "Dr. Turner Co." was wound up, all advertising discontinued and a refund of money to any dissatisfied customer was agreed on.
>
> Francis M. Turner, Pittsburgh, Pa.

Mr. Turner's letter is a verification of The Journal article. It was there stated that he was "but a figurehead in the obesity company that bears his name" and that E. Virgil Neal (alias X. La Motte Sage) was the evil genius that controlled the "Dr. Turner Company." This letter further bears out the supplementary statement made by us in the new edition of "Nostrums and Quackery," namely, that pressure had apparently been brought to bear on the "Dr. Turner Company" so that it was no longer advertised in the United States. The fraud, however, is still being advertised, or was a few weeks ago, in that lush and verdant field for discredited American medical fakes, the British Isles.

Patent Medicines and Public Health.—While much that is now sold in the drug-stores represents merely a harmless or sometimes useful physician's prescription, the aggregate result of the "patent medicine" is the building up of gigantic systems of robbery on the one hand and a corresponding damage to public health on the other.—David Starr Jordan, *Science.*

Correspondence

Gerster's Disapproval of the Haslam Traction Bar

To the Editor:—My article, describing a turnbuckle and clamp method for reducing fragments of fractures of long bones in the open operation, was considered by you worthy of an abstract in the Current Medical Literature Department (The Journal, Nov. 30. 1912, p. 2002). It may therefore interest your readers for me to serve notice for their protection that an instrument put on the market and called by some "Haslam's or Haslam's modification of Gerster's" (traction bar) and called by others "Gerster's traction bar," does not fulfil the requirements outlined in my article.

John C. A. Gerster, M.D., New York.

A copy of the letter given above was sent to the manufacturer referred to, who replies:

To the Editor:—We designed our instrument but one of our competitors copied it and called it Gerster's traction bar. We will continue to sell our traction bar, but we will not call it by any other name than Haslam's. We thought it a compliment to Dr. Gerster to call it Haslam's modification of Gerster's traction bar, but since he objects we will drop his name and take it all ourselves, being the rightful owners.

Fred Haslam & Co. Inc., Brooklyn, by John J. Douglass.

Phylacogens

To the Editor:—I am pleased with the editorial in the Feb. 1, 1913, issue on "Phylacogens." While I was an intern at the Boston City Hospital, I assisted Parke, Davis and Company's agent to administer the "filtrates" to a number of patients. In the majority of cases, I saw no marked improvement. The type of case that improved with "filtrates" had improved with the same rapidity under ordinary hospital treatment. In some cases relapses occurred under filtrates with such a marked increase in symptoms that the patients refused to receive any more injections. The company's representative appeared unduly enthusiastic over his results. His aim seemed to be that of gathering brilliant clinical results at any cost. There was no check put on his results in the form of control cases.

H. J. Cronin, M.D., Cambridge, Mass.

P. S.—I assume that "Phylacogens" is the proprietary name for the "filtrates" of gonococcus, streptococcus, etc.

Misstatement Concerning Phylacogen

To the Editor:—I wish to correct, through your columns, a statement which occurs in Parke, Davis and Company's *Therapeutic Notes*, Special Phylacogen Number, January, 1913. On page 56, it is said that Phylacogens were discussed at a meeting of the Fayette County Medical Society, Connellsville, Pa., June 18, 1912. On that date the physicians of Connellsville were invited by a local druggist to assemble in the parlors of the Arlington Hotel to hear a talk on "Serums and Vaccines." About a dozen attended and were plentifully supplied with cigars, beer and Phylacogen claims by one of Parke, Davis and Company's hired men.

The Fayette County Medical Society held no meeting in June, 1912, and has at no time discussed Phylacogen or any other proprietary medicine.

E. B. Edie, M.D., Connellsville, Pa.
Secretary, the Fayette County Medical Society.

The Role of Prevention.—In the future of medicine, the mere removal of disease must play more and more a subordinate part. Most disease can be prevented. Above all therapeutics stands sanitation. It is possible to remove causes of disease long before any disease begins. It is possible to heal our patients long before they are sick. Our knowledge in many fields is now adequate for this result. No one can be attacked by an infectious disease unless we have somehow or other permitted the infection.—David Starr Jordan, *Science*.

Association News

THE MINNEAPOLIS SESSION

Announcement of the Local Committee for the Next Annual Session of the Association

Dr. Frank C. Todd, chairman of the local Committee on Arrangements for the next annual session of the American Medical Association, in Minneapolis, June 17-20, announces the following physicians as officers of subcommittees. All communications to this committee or to any of the subcommittees should be addressed to 1106 Donaldson Building, Minneapolis, where a clearing-house has been established for all matters pertaining to the arrangements for the session.

Committee on	Chairman	Secretary
Finance	George D. Head	Earl R. Hare
Clinics	James E. Moore	A. C. Strachauer
Entertainment	T. S. Roberts	J. F. Avery
Outside Excursions	H. H. Kimball	John H. Morse
Section Entertainment	A. E. Wilcox	R. T. LaVake
Scientific Exhibits	Thomas G. Lee	Fred L. Adair
Automobile Drives	E. C. Robitshek	C. E. Dutton
Registration	Arthur T. Mann	A. S. Hamilton
Hotels	S. Marx White	E. J. Huenekens
Halls and Meeting-Places	H. E. Robertson	J. W. Bell
Post-Office and Phones	C. A. Donaldson	C. C. Maland
Alumni Meetings	Richard J. Hill	E. K. Greene
Printing	J. G. Cross	E. S. Strout
Allied Meetings	Horace Newhart	W. H. Condit
Press and Publicity	Richard A. Beard	
Program	John W. Bell	E. J. Huenekens
Women Physicians	Eleanor Hill	Laura Lane
Reception at Railroads	F. A. Knights	M. J. Lynch
Commercial Exhibits	C. H. Bradley	A. E. Hedback
General Hospitality, Information and Attendance	A. E. Benjamin	C. H. Keene
Local Transportation	A. H. Parks	E. A. Moren
President's Reception	A. A Law	Henry W. Cook
Section Meetings	J. P. Sedgwick	A. E. Johann
Ladies' Entertainment	Mrs. W. A. Jones	
St. Paul Entertainment	J. W. Chamberlain	
St. Paul Finance	T. W. Stumm	C. E. Smith.

Queries and Minor Notes

Anonymous Communications will not be noticed. Every letter must contain the writer's name and address, but these will be omitted, on request.

LIABILITY FOR OBSTETRIC OPERATION WITHOUT THE CONSENT OF THE HUSBAND

To the Editor:—In delivering a woman, if the physician sees fit to use instruments, does he have to secure the consent of the husband? Should the husband not consent, would the physician be held legally responsible for the consequences? H.

Answer.—The law recognizes no difference between an obstetric operation and a surgical operation. The consent of the patient to an operation is, of course, necessary, if she is conscious or in a condition to give or withhold consent. If she is unconscious or for any other reason unable to decide, then the consent of the husband or next of kin must be obtained if possible. If the woman agrees to the operation, the husband has no right to withhold his consent. The Court of Appeals of Maryland in the well-known case of Janney vs. Housekeeper says: "The husband has no right to withhold from his wife the medical assistance which her case might receive."

It is hardly proper to say that a physician is legally responsible for the consequences of an operation. The law holds that anyone undertaking to render medical services as a physician or surgeon must possess a reasonable degree of knowledge, skill and experience; he must exercise ordinary care and diligence and he must use his best judgment in all cases of doubt as to the best method of treatment. He is liable for damages resulting from lack of knowledge, skill or experience, from negligence or from poor judgment. In the case of any obstetric operation his liability is just as great when the husband has given his consent as when that consent is withheld.

It should be remembered that when an injury is done to the wife there is a double cause of action. One lies in favor of the husband for the loss of her services and society during the time she was suffering from the injury and also for the cost of nursing and caring for her while ill. The other is in favor of the wife for the injury inflicted on her to compensate her for the suffering caused thereby.

A suit for malpractice may be brought against a physician on the most flimsy pretext in cases in which there is no reasonable ground for complaint and may cause him much inconvenience and result in considerable harm to his reputation. Should a physician operate on a woman without the consent or against the veto of her husband, he would incur more risk of a malpractice suit. For this reason, it is always desirable for an operator to secure the consent of the husband as well as that of the wife. Consent should not be limited to any specific operation but should include any operation deemed necessary by the physician. It is advisable to have a nurse or some other witness for the physician present when the arrangement is made.

It is possible, however, that a physician may feel compelled to operate without the husband's consent. Suppose a case of cord prolapse with a head presenting in the pelvis, the cervix dilated and all other conditions favorable for a forceps extraction. The patient consents but the husband absolutely refuses. There is no time for a long discussion. The life of the child is at stake. To save the child the physician may feel compelled to operate in spite of the opposition of the husband and the risk of a malpractice suit. In such cases he undoubtedly would be sustained by the courts.

CAUSES OF EXFOLIATION OF THE EPIDERMIS

To the Editor:—In what diseases is there a dermatitis which is followed by very general exfoliation?

During an epidemic of "sore throat" a man with a beginning tonsillitis produced contused penetrating wounds over both tibiae by striking them against the axle of his automobile. Portions of the clothing and dirt from the axle were in the wounds. The tissues became inflamed for 2 inches around these wounds, and the feet and ankles would pit on pressure, but there was no swelling above the wounds. The tonsillitis—of which he had had many attacks—was very severe, and of the follicular character. Three days after the injury, and five days after the beginning of the tonsillitis, the feet became scarlet. When the foot was lifted from the bed the skin became pale—abnormally so. When the foot was again put on a level with the body it again became scarlet. This redness gradually spread over the entire body. Except in its scarlet hue the eruption—if it could be called an eruption—did not resemble scarlet fever, neither was the tongue characteristic of scarlet fever; but, about ten days after the patient recovered from the tonsillitis, and while the wounds were still unhealed, exfoliation became general.

T. L. D.

Answer.—Exfoliation of the epidermis may occur from any cause which results in an acute hyperemia of the skin. The process is usually thought of in connection with the so-called eruptive fevers or exanthems, but it also follows drug eruptions, thermic exposure, etc., in short, the hyperemia causes it. And anything which causes the hyperemia of the skin naturally is the cause of exfoliation. Under this head come the acute infectious diseases, many skin diseases, belladonna and other drug eruptions. The case in question looks like a scarlatiniform dermatitis from some drug, probably an iodin application, such as iodoform or orthoform.

ANESTHOL

To the Editor:—I wish to obtain some information regarding the anesthetic "Anesthol," referred to in the recent "Anesthesia Number" of The Journal (Nov. 23, 1912). Where can I get it? Is it being used to any extent in the North? Druggists here seem to know nothing about it.

Jamas M. Moser, M.D., Washington, D. C.

Answer.—A mixture of ethyl chlorid, ether and chloroform termed Anesthol was described by Willy Meyer in The Journal, Feb. 28, 1903, p. 553. Anesthol was stated to be composed by volume, of 17 per cent. of ethyl chlorid, 35.89 per cent. of chloroform and 47.10 per cent. of ether. A further discussion of the use of Anesthol by the same author appeared in The Journal, March 7, 1903, p. 642. The mixture, according to Dr. Meyer, is not proprietary, but one which any pharmacist may put up. We are not aware that it has come into general use.

TRANSMISSIBILITY OF BRIGHT'S DISEASE

To the Editor:—Will you kindly inform me through The Journal where I can find literature, or articles published, concerning the theory that Bright's disease is either an infectious or a transmissible disease? Is Bright's disease so considered?

Henry A. Jones, M.D., Howard, R. I.

Answer.—We find no references in recent literature dealing with Bright's disease as an infectious or transmissible disease. It is not so considered.

AGE OF PARENTS AS A FACTOR IN HEREDITY

To the Editor:—Could you give me references to literature on the influence that the age of parents may have over the mental heredity of their children?

J. H.

Answer.—The literature on this subject is usually included in articles or works with titles which do not indicate this special topic.

Lapage in his book on "Feeble-Mindedness in Children of School Age" says:

> The age of the mother may have some effect, but many deficient children are born early in the family. Mongolian imbeciles are often the last children of a large family, and it has been suggested that this condition is the result of a wearing out of the reproductive powers of the mother by repeated pregnancies.

E. L. Hunt, in his article on "Hereditary and Congenital Causes of Exceptional Development," in the Proceedings of the Exercises and Conferences of the National Association for the Study and Education of Exceptional Children, April 1, 1910, says:

> Most authors agree that the relative age of the parents at the time of conception is a factor. Duncan, for instance, was of the opinion that premature and late marriages were influential in the production of idiocy. Langdon Down found that in one-quarter of the idiots which he examined there was a disparity of more than ten years in the ages of the parents. I am of the opinion that a man produces better, stronger and more intellectual posterity before 40 rather than after. I believe that this is so because the average city dweller is a better man physically before 40. I believe that a great disparity in years has some slight detrimental effect. These are two causes, however, which do not play any great part in the etiology of the subject. . . .
>
> Primogeniture is often spoken of as a factor. I do not believe that the first-born child is more apt to be the weak-minded one than the last-born. But I do believe that if there is a defective hereditary factor it will be more apt to appear in the eldest and in the youngest than in the intermediate children. This is probably to be accounted for by the fact that the reproductive powers of the mother in the case of the first-born child are not well established; in the last, have begun to flag.

THE RELATION OF MODERN EDUCATION TO DYSTOCIA

To the Editor:—In view of the fact that modern education is conducive to increase of the difficulties of parturition by causing a greater average in the size of the child's head, without an increase in the pelvis, would it be advisable to terminate pregnancy from seven to twenty days before term? Can you advise me of any literature on the subject?

M.D., Anaheim, Cal.

Answer.—This question is an illustration of illogical mental processes—assumption of false premises and drawing unwarranted conclusions. There is no evidence that modern education has any more tendency to increase the size of the child's head than the education of former times. If education did increase the size of the child's head there is no reason to believe that the enlargement would be transmitted to offspring. It is generally believed that acquired characteristics are not transmitted. Could it be shown that the average size of the child's head at birth is greater for any reason than formerly, it would not follow that the female pelvis had remained stationary. It is quite possible or even probable that the pelvis as well as the whole skeleton would also increase in size. Hence there is no reason for the question regarding the induction of premature labor as a routine practice. The indications for inducing premature labor in cases of contracted pelves and other pathologic conditions are given in all text-books on obstetrics.

BLUMBERG'S SIGN IN APPENDICITIS

To the Editor:—Can you tell me something about Blumberg's sign in appendicitis?

E. C. Brush, M.D., Zanesville, Ohio.

Answer.—This is the short, acute pain which is felt by the patient when the hand pressed over McBurney's point is lifted suddenly. It occurs in all forms of peritoneal inflammation. In active peritonitis one will find that the pain caused by the pressure of the hand on the abdomen is less than that caused by the sudden removal of the pressure; on the other hand, during the subsidence of the inflammatory process, the pain of pressure is greater than that produced by sudden relief of pressure.

NO STOMATITIS NEED BE EXPECTED DURING LACTATION

To the Editor:—I occasionally see an anemic, debilitated, middle-aged woman suffering from some apparent intestinal condition, giving a history of having had "nursing sore mouth" at some time or other, so diagnosed and treated by an older physician. Is there any condition that would cause, particularly during the lactation period, any special form of stomatitis or gastritis in the mother?

J. N. H.

Answer.—So far as we can learn, no special condition of the kind mentioned is recognized.

VOLKMANN'S ISCHEMIC PARALYSIS

To the Editor:—Please give me literature, published since 1906, on Volkmann's Ischemic paralysis or contracture.

C. J. Habhegger, M.D., Watertown, Wis.

Answer.—The following may be referred to:

Huntington, T. W.: Ischemic Paralysis and Contraction Treated by Bone-Shortening, *Cal. State Jour. Med.*, July, 1907.
Powers, Charles A.: The Ischemic Paralysis and Contracture of Volkmann, The Journal, March 2, 1907, p. 759.
Boynton, Frances N.: A Case of Volkmann's Paralysis and Contracture, The Journal, May 18, 1907, p. 1675.
Sayre, R. H.: Volkmann's Ischemic Paralysis and Contracture, *Am. Jour. Orthop. Surg.*, November, 1908.
Allen, C. W.: Case of Volkmann's Ischemic Paralysis, *New Orleans Med. and Surg. Jour.*, January, 1909.
Thomas, J. J.: Nerve Involvement of Ischemic Paralysis and Contracture, *Ann. Surg.*, March, 1909.
Taylor, A. S.: Volkmann's Ischemic Paralysis, *Ann. Surg.*, September, 1908.
Avyagi, T.: Ischemic Paralysis, *Deutsch. med. Wchnschr.*, Feb. 1, 1912.
Goett, H.: Prevention of Postoperative Ischemic Paralysis, *Zentralbl. f. Chir.*, Feb. 10, 1912.
Burianek, B.: Postoperative Ischemic Paralysis, *Wien. klin. Wchnschr.*, Feb. 29, 1912.
Kansch, W.: Ischemic Paralysis, *Zentralbl. f. Chir.*, April 13, 1912.
Powers, C. A.: Fourth Account of a Previously Reported Case of the Ischemic Paralysis and Contracture of Volkmann, The Journal, May 11, 1912, p. 1436.
Lanenstein, C.: Prophylaxis of Ischemic Paralysis, *Zentralbl. f. Chir.*, May 25, 1912.
Sayre, R. H.: Treatment of Volkmann's Ischemic Paralysis and Contracture by Method of Robert Jones, *Am. Jour. Orthop. Surg.*, May, 1912.
Hull, R. L.: Ischemic Paralysis, *Jour. Oklahoma State Med. Assn.*, September, 1912.
Orve, H. W.: Simple Operation for Relief of Deformity in Certain Cases of Volkmann's Paralysis, *Am. Jour. Orthop. Surg.*, November, 1912.

PRACTICE OF MEDICINE AS A LIFE-WORK

To the Editor:—Please give references which will be of assistance in preparing a talk on the practice of medicine as a life-work.

C. L. N.

Answer.—The following may be consulted:

Baum, W. L.: The Medical Profession and the Public, *Illinois Med. Jour.*, July, 1908.
Cathell: The Physician Himself, F. A. Davis Co., 1914 Cherry Street, Philadelphia.
Lawbaugh: The Physician, His Duties and Relation to the Profession, *Jour. Michigan State Med. Soc.*, Detroit, October, 1909.
McWhorter: Relation of Medicine to Other Professions, *Alabama Med. Jour.*, Birmingham, May, 1909.
Morrison, I. T. J.: Aspects of Medicine as a Profession, *Brit. Med. Jour.*, Oct. 14, 1911.
Wilson, J. C.: The Relation of the Medical Profession to the People, *Med. Fortnightly*, Nov. 10, 1911.
The Medical Profession, *Med. News*, April 16, 1904.
The Practice of Medicine as a Career, The Army and Navy Medical Service (and a number of other articles of interest to the student), *Med. Rec.*, New York, April 24, 1909.
The Third Annual Report of the Carnegie Foundation, Washington, D. C., discusses medicine as a business and as a profession, ideals of the profession, etc.

THE PAN-AMERICAN MEDICAL CONGRESS

To the Editor:—Please tell me where I can obtain information regarding the Pan-American Medical Congress at Lima, Peru?

D. C. B., M.D., Omaha.

Answer.—The Journal published notices of this meeting, June 1, 1912, p. 1698, June 22, p. 1964, and November 2, p. 1636. Dr. Ramon Guiteras, 80 Madison Avenue, New York, is the secretary of the International Executive Committee. Members of the committee at Lima are Drs. D. Alvarez and P. Espada. Dr. Julian Arce of Lima, Peru, is president of the section on medicine. Dr. E. Odriozola, also of Lima, is president of the National Academy of Medicine of Peru. The meeting will be held Aug. 3-10, 1913, in connection with the fifth Latin-American Medical Congress and the Congress on Hygiene.

COMPOSITION OF FOLIN AND MACALLUM'S URIC ACID REAGENT

To the Editor:—Please give the composition of the uric acid reagent used by Folin and Macallum in the process described in the abstract published in The Journal, Jan. 11, 1913, p. 161.

J. H. S.

Answer.—This reagent is a phosphotungstic acid prepared by boiling 100 gm. of sodium tungstate with 80 c.c. of 85 per cent. phosphoric acid and 750 c.c. of water for a few hours and then diluting to one liter. This formula was published by Folin and Denis in the *Journal of Biological Chemistry*, 1912, xii, 239.

OPEN TREATMENT FOR BURNS

To the Editor:—Please explain what is meant by the "open treatment for burns"; what are its advantages and how is it carried out? Is my understanding correct that absolutely nothing is put on the burn—that it is merely washed and left open to heal?

E. S. Dupuy, M.D., Summerlee, W. Va.

Answer.—The uncovered skin is left exposed to the air, blebs are removed, the area gently dried, dusted with stearate of zinc or other bland-dusting powder, and fanned to hasten drying and the formation of crusts. The unburned portion of the surface should be bathed and cleansed often, and the temperature of the room should be high in order to favor the action of the skin. The air must be kept as pure as possible and the utmost cleanliness maintained about the bed linen and everything else that comes in contact with the patient to guard against infection. The patient is quickly relieved of pain by this method of treatment.

The question was answered in this department of The Journal, Aug. 18, 1906, p. 529, and Sept. 22, 1911, p. 1076, but an article by Dr. Haldor Sneve of St. Paul, July 1, 1905, p. 1, took the matter up in detail. There was an editorial comment in the same issue, page 48.

CAUSE OF HAIR-SPLITTING IN HYPERTRICHOSIS

To the Editor:—Please give me some information as to the possible cause of the terminal splitting of the hair of a woman's head in hypertrichosis. What therapeutic measures are adopted in these cases?

J. J. S. S.

Answer.—The condition is apparently a nutritional disturbance of trophic origin, concerning which little is known. The brittleness and splitting are in part overcome by oiling the hair, which is usually abnormally dry. If the splitting occurs at the tips, it can be prevented from extending by clipping off the split ends. Nothing is gained by the barber's common procedure of singeing.

TOBACCO AND THE CIGARET

Prof. L. Allen Highley, Fulton, Mo.: See The Journal, Nov. 16, 1912, p. 1798, and Jan. 30, 1909, p. 386.

PROCHOWNICK'S DIET IN PREGNANCY

Dr. F. C. Floeckinger, Taylor, Tex.: You will find this given at some length Oct. 28, 1911, p. 1474.

Medical Economics

This Department Embodies the Subjects of Postgraduate Work, Contract Practice, Legislation, Medical Defense, and Other Medicolegal and Economic Questions of Interest to Physicians

RECENT LEGISLATIVE DEVELOPMENTS

ARKANSAS

The senate has passed S. B. 30, creating a State Board of Health.

CALIFORNIA

A bill, drafted by a prominent member of the California Federation of Women's Clubs and introduced in the senate, requires a health certificate as a condition for a marriage license, establishes a bureau of marriage and child welfare, and provides for the appointment of two physicians in each county to carry out the objects of the bill.

ILLINOIS

S. B. 66 provides for the registration of births and deaths. The Illinois Commission on Uniform Marriage and Divorce Laws has recommended the passage of bills nullifying marriages contracted in one state to avoid prohibitions in other states. An interval of fifteen days between the application for and the issuance of a marriage license, the publication of all details regarding both parties, and the refusal of applications from imbeciles and persons under the influence of liquor, are also recommended.

INDIANA

The Keegan bill, regulating the sale of habit-forming drugs, has been amended following a conference with the State Board of Health so that physicians, dentists and veterinary surgeons may dispense opiates. A bill has been introduced reducing the number of health officers in the state from 533 to 103, requiring health officers to give their entire time, and fixing salaries on a basis of population, ranging from $1,200 in counties having a population of less than 5,000, to $2,500 in counties having a population of more than 50,000. The bill for the extermination of rats passed the senate by a vote of 43 to 2. The bill prohibiting common drinking-cups passed the senate by a vote of 39 to 1. A chiropractic bill has been introduced in the senate.

IOWA

A bill creating a department of vital statistics under the State Board of Health has been introduced. This bill was drafted by the secretary of the State Board of Health, and follows the general plan of the model bill.

KANSAS

H. B. 617 is a sterilization bill. A bill approved by the State Board of Health provides for a fine of $100 and six months' imprisonment for failure to use preventive methods for ophthalmia neonatorum. The nurses' registration bill has passed the senate and the house.

MASSACHUSETTS

The Conant bill provides that when application is made for marriage license, the clerk receiving the application shall issue a physical examination blank to each applicant. The blank, filled out and signed by a registered physician, is to be sent in each case by registered mail to the other party in the marriage agreement. The parties are permitted to marry regardless of the contents of the report, the only aim of the bill being to give each a knowledge of the exact physical condition of the prospective mate.

MINNESOTA

Bills have been introduced providing a contagious disease hospital for Minneapolis, increasing the term of coroners to six years, prohibiting common drinking-cups and providing for whole-time health officers.

MISSOURI

Bills have been introduced separating the business and medical departments of the state hospitals, creating the office of medical supervisor for the four state insane hospitals, forbidding fee-splitting and amending the medical practice act.

NEBRASKA

The legislative committee of the State Medical Society has indorsed S. F. 100, requiring the reporting of occupational diseases; S. F. 142, prohibiting marriage licenses to those physically unfit; S. F. 155, regulating the marking of manufactured articles; S. F. 159, providing for the sanitation of factories, mills and workshops; S. F. 188, prohibiting misleading advertising; S. F. 310, prohibiting the division of fees by physicians; S. F. 420, increasing the quarantine powers of the State Board of Health; H. R. 120, prohibiting common drinking-cups; H. R. 215, providing for the inspection of public schools and private hospitals; H. R. 425, appropriating $5,000 for a state board of health laboratory, and $7,000 for maintenance; H. R. 541, forbidding the sale of certain drugs and catarrh cures, except on physicians' prescriptions; H. R. 660, providing for medical examination of school-children; H. R. 685, appropriating $5,000 for the investigation of criminal abortion; H. R. 697, forbidding the selling of any patent medicine or food article if false statements regarding them are made on the container or in newspaper advertisements; H. R. 825, providing for the sterilization of criminals. The committee has disapproved of two bills restricting the State Board of Control, as well as S. F. 97, authorizing the practice of "suggestive therapeutics"; S. F. 132, a sterilization bill; S. F. 134, a bill regulating marriage; S. F. 209, regulating non-medical healing; S. F. 402, exempting mental and spiritual healers from the medical practice act; H. R. 25, providing for the exemption of non-medical healers; H. R. 94, a sterilization bill; H. R. 141, a bill regulating marriage; H. R. 243, requiring all physicians to write prescriptions in English; and H. R. 631 and 736, legalizing non-medical healing.

NEW JERSEY

H. B. 49 provides for a State Board of Osteopathic Examiners.

NEW YORK

Two bills have been introduced regulating the sale of habit-forming drugs; also a bill authorizing counties to condemn sites for tuberculosis hospitals.

NORTH CAROLINA

Bills have been introduced in the house providing for inspection and regulation of railroad stations, coaches, hotels, boarding-houses and cafés.

NORTH DAKOTA

A sterilization bill has been introduced in the senate.

OKLAHOMA

A bill regulating marriages has been defeated in the house. The senate has passed a bill appropriating $10,000 to stamp out the small-pox epidemic now existing in the southeastern part of the state. The following bills have been introduced in the senate: S. 26, a chiropractic bill; S. 27, regulating cold storage; S. 29, providing for the medical inspection of rural schools; S. 219, defining the practice of medicine. The following bills in the house are in committee: H. B. 315, providing for a state tuberculosis sanatorium; H. B. 316, defining the powers of local boards of health in preventing tuberculosis; H. B. 333, authorizing an annual school of instruction for local health officers. The following bills have been recommended for passage: H. B. 335, a sterilization bill; H. B. 337, providing for the reporting of contagious and infectious diseases; H. B. 338, providing for the inspection of all penal and charitable institutions of the state; H. B. 343, regulating the sale of patent and proprietary remedies and prohibiting misbranding; H. B. 347, providing for the sanitation of all places where foods or drugs are prepared or sold. H. B. 353, regulating railway hotels, has passed the house. H. B. 334, providing for the reporting of births and deaths has been indefinitely postponed. H. B. 282, regulating marriage has been defeated. The following new bills have been introduced: H. B. 567, regulating marriage licenses, and requiring health certificates for men; H. B. 500, fixing the fees of physicians and surgeons; in the senate, S. 335, repealing the state board of health act, and substituting a superintendent of health; S. 341, requiring a special license for physicians performing major surgical operations.

OREGON

The senate has passed S. B. 346, requiring male applicants for a marriage license to present health certificates. Both houses have passed bills forbidding spitting and the pollution of streams.

OHIO

The following bills have been introduced: a sterilization bill, a naturopathic bill, a bill providing for the physical inspection of school children, a bill removing tuberculous patients from county hospitals to state tuberculosis hospitals, a bill requiring the reporting of occupational diseases, a bill creating a state board of examination for trained nurses, and an optometry bill.

PENNSYLVANIA

A bill has been introduced, making it a misdemeanor for any physician or surgeon to practice while under the influence of intoxicating liquor or of any drug; also, a bill establishing a bureau of child hygiene.

RHODE ISLAND

A bill has been introduced in the senate, creating a state hospital for advanced cases of tuberculosis.

SOUTH DAKOTA

H. B. 78 is an optometry bill. H. B. 227 provides one day's rest in seven for employees in certain occupations. H. B. 251

provides for the position of county health officers. H. B. 256 creates a board of public health and medical examiners.

TEXAS

A bill has been introduced in the house, limiting the fees of physicians and surgeons to $5 for obstetric cases, $100 for surgical operations and $2 for visits. Other bills prohibit misrepresentation as to the curative power of drugs, define medical malpractice, and prohibit medical services by any physicians intoxicated or under the influence of any drug.

UTAH

The State Board of Health has asked for legislation protecting the state water-supply, regulating marriage, providing for the prevention of tuberculosis, appointing a state tuberculosis commission and increasing the power of the board.

VERMONT

Governor Fletcher has vetoed the sterilization bill.

SUPERVISORY COUNTY HEALTH OFFICERS

A plan for the creation of a county health officer to have supervision over the health of the rural communities in New York in connection with the local health officers, except in the larger cities, was presented recently to the special health commission appointed by Governor Sulzer by Dr. Charles F. Boldnan, of the Health Department of New York City (*American Practitioner*, January, 1913).

The plan provides for the retention of the present town and village health officers, but subordinates these to a new official, the county health officer, who is to be a trained public health expert. Town and village boards are to be abolished and present officers are to be governed by a set of rules and regulations of state-wide application. The supreme health authority of the state would be vested in the "State Health Session," composed of all the county health officers, together with the State Commissioner of Health. This body would have the power of making public health regulations. Provision is also made for a "Health Council" composed of three county and the city health officers selected by the "State Health Session" and the state health commissioner, and the general medical officer of the city of New York. The duties of the council would be to regulate and coordinate intercounty public health affairs and act in the place of the "Health Session."

The plan also provides for the qualifications and manner of appointment of these officers, etc., and sets forth the duties of present health officers, who would under the plan become medical and sanitary inspectors. The county health officer would be held responsible for health conditions in the county, and would play an influential part in educating the public in health matters, keep posted on the vital statistics of the county, investigate and take measures to check epidemics, etc.

Another feature of the plan is the establishment of facilities for making laboratory examinations in the case of infectious diseases, etc. The financing of the plan is also provided for; the charges would be so distributed that they would largely be borne by the state as a whole, thus enabling sparsely settled counties to have as efficient service as any others.

Medical Cooperative Association.—One of the advantages of the organization of the profession in Belgium is the Coopérative Médicale of Liége which secures reductions on the prices of books and instruments for its members and is now considering whether to make similar arrangements for supplying dressings and other druggists' sundries, etc. The membership is restricted to physicians and medical students. The annual fee is 40 cents (2 francs), and this fee is reduced to 10 cents (50 centimes) for the members of various medical societies which grant the Coopérative Médicale an annual subsidy of $20. Each member of the Coopérative is further obligated to buy a $2 share of stock redeemable in two years. The reduction on books amounts to 14 or 17 per cent. and on instruments from 5 to 20 per cent. The president of the Coopérative for the current year is Dr. A. Leroy, rue Ed. Wacken 21, Liége, Belgium.

Medical Education and State Boards of Registration

COMING EXAMINATIONS

Connecticut: Regular, City Hall, New Haven, March 11. Sec., Dr. Charles A. Tuttle, 196 York St.; Homeopathic, New Haven, March 11. Sec., Dr. Edwin C. M. Hall, 82 Grand Ave.; Eclectic, New Haven, March 11. Sec., Dr. Thomas S. Hodge, 19 Main St., Torrington.

Iowa: Lincoln School Building, Des Moines, March 4-6. Sec., Dr. Guilford H. Sumner, State House.

Maine: City Hall, Portland, March 11-12. Sec., Dr. Frank W. Searle, 776 Congress Street.

Massachusetts: State House, Boston, March 11-13. Sec., Dr. Edwin B. Harvey, Room 159, State House.

Missouri: St. Louis, February 24-26. Sec., Dr. Frank B. Hiller, State House, Jefferson City.

Wyoming: State House, Cheyenne, March 5-7. Sec., Dr. A. B Tonkin, Riverton.

The Drake-Iowa Medical School Merger

The following resolutions were adopted by the faculty of the College of Medicine of Drake University, February 10:

Whereas, The Medical Faculty of Drake University has been informed by the trustees of the University that all their efforts to secure the necessary funds for the endowment and permanent support of the medical school, in accordance with the highest standards of requirement, have been unsuccessful; and

Whereas, The faculty recognizes its responsibility to the members of the teaching staff, many of whom are dependent for their academic careers on the standards maintained by the institution with which they are connected, and to the students who place their confidence in the school for the proper training in the professional work with which they are to serve humanity, and as it seems impossible to secure the material assistance necessary to maintain the medical school in the front rank of institutions of its kind; be it

Resolved, That the trustees of Drake University be recommended to merge the medical school at the close of the present session with the College of Medicine of the State University of Iowa; and be it further

Resolved, that with the merger of the Drake University Medical School, this faculty urges that all the interests of its members, and the medical profession of the state be centralized in the College of Medicine of the State University of Iowa, at Iowa City, and that this faculty wishes to go on record as expressing its fullest confidence in the State University to assume this responsibility and fulfil its mission in every respect.

South Carolina June Report

Dr. A. Earle Boozer, secretary of the South Carolina State Board of Medical Examiners, reports the written examination held at Columbia, June 11-13, 1912. The number of subjects examined in was 8; total number of questions asked, 105; percentage required to pass, 75. The total number of candidates examined was 128, of whom 91 passed including one osteopath and 34 failed including 2 osteopaths. Three candidates did not complete the examination. Two candidates were licensed through reciprocity. The following colleges were represented:

PASSED

College	Year Grad.	Per Cent
George Washington University	(1908) 77.9; (1909)	82.2
Howard University, Washington, D. C.	(1910)	83.5
University of Georgia	(1912)	80.7, 83.4
Atlanta School of Medicine	(1912)	77.5
Atlanta College of Phys. and Surg.	(1912)	75, 75.5, 78.7, 83.6
University of Louisville	(1912)	86
Tulane University of Louisiana	(1910)	83
Johns Hopkins University	(1901)	90.5
University of Maryland (1910) 76.7; (1911) 83.5;	(1912)	84.4, 85, 86.7, 87.2, 87.5, 89.9.
Tufts College Medical School	(1911)	79.7
College of Phys. and Surg., Boston	(1910) 81.6; (1911)	81.5
University of Michigan, Dept. of Med. and Surg.	(1910)	88.1
Leonard Medical School	(1912)	77, 79.5
Jefferson Medical College	(1912)	87.6, 91
Medical College of the State of South Carolina	(1892) 75; (1910) 75, 75.4; (1911) 76.1, 79.9; (1912)	75, 75.4, 75.5, 76.9, 77.1, 77.6, 77.7, 77.9, 77.9, 78, 78.1, 78.4, 78.5, 79.2, 79.5, 79.7, 80, 80.5, 80.5, 80.6, 80.6, 80.9, 81.4, 81.5, 81.5, 82.4, 82.5, 82.6, 82.7, 82.7, 82.7, 82.9, 83, 83.6, 83.9, 84.1, 84.6, 84.6, 84.6, 84.7, 84.7, 84.9, 85.4, 85.4, 85.9, 86.1, 86.2, 86.2, 86.4, 86.9, 87.2, 88.1, 89.

Vanderbilt University	(1912)	83.1, 88.6
Medical College of Virginia	(1912)	76.5

FAILED

University of Georgia	(1912)	59.9, 69.5
Atlanta College of Physicians and Surgeons	(1912)	71.2
Georgia College of Eclectic Medicine and Surgery	(1912)	46.5, 63
Hospital Medical College, Atlanta	(1911)	42.2
Southern College of Medicine and Surgery, Atlanta	(1912)	62.6
College of Physicians and Surgeons, Baltimore	(1910)	73
Lincoln Memorial University	(1912)	72.4
Leonard Medical School..(1906) 68.2; (1910) 70;	(1912)	43.1
Medical College of the State of South Carolina (1908) 69; (1909) 66.2, 72.5; (1911) 60.5, 68.5, 70; (1912) 64, 68.7, 69.2, 70.1, 70.6, 73.2.		
Meharry Medical College. (1907) 64; (1909) 71.7;	(1911)	60.1
University of West Tennessee	(1910)	67.2
University of Tennessee	(1905)	40.2
Memphis Hospital Medical College	(1911)	54, 66.6
Gate City Medical College	(1910)	66.6

LICENSED THROUGH RECIPROCITY

College	Year Grad.	Reciprocity with
University of Maryland	(1910)	Maryland
Medical College of Virginia	(1890)	Virginia

California December Report

Dr. Charles L. Tisdale, secretary of the California Board of Medical Examiners, reports the written examination held at Los Angeles, Dec. 3-6, 1912. The number of subjects examined in was 10; total number of questions asked, 100; percentage required to pass, 75. The total number of candidates examined was 134, of whom 89 passed including 20 osteopaths and 45 failed including 20 osteopaths. The following colleges were represented:

PASSED

College	Year Grad	Per Cent.
Univ. of California..(1911) 85.4, 86.1; (1912) 81.1, 82.5, 82.9, 90		
College of Physicians and Surgeons, Los Angeles (1909) 85.1; (1911) 81.3; (1912) 77.6, 78.2, 80.1.		
College of Physicians and Surgeons, San Francisco	(1912)	75
Oakland College of Medicine and Surgery (1912) 77.5, 78.3, 79, 84,4, 85.6.		
University of Southern California	(1905)	78.4
Cooper Medical College	(1912)	75.8, 81
Denver and Gross College of Medicine	(1906)	81.3
University of Colorado	(1911)	80
George Washington University	(1912)	86.2
Northwestern Univ. Medical School..(1902) 85.8;	(1911)	81.5
Rush Medical College (1891) 89; (1897) 81.5; (1902) 86.2; (1905) 80.6; (1912) 85.8.		
Northwestern University Woman's Medical School	(1887)	87.8
College of Physicians and Surgeons, Chicago (1891) 87.4; (1911) 85.8; (1912) 84.4, 84.8, 85.8, 88.		
Chicago Medical College	(1880)	90
Central College of Phys. and Surg., Indianapolis	(1886)	85.2
Drake University	(1897)	82.2
Baltimore Medical College	(1900)	91.3
Harvard Medical School..........(1911) 89.3;	(1912)	80.1, 83.5
Detroit College of Medicine	(1894)	86
University of Minnesota, College of Medicine and Surgery (1902) 82.4; (1910) 81.9.		
Creighton Medical College	(1912)	79.9
Albany Medical College	(1908)	84.9
New York Homeo. Medical College and Hospital	(1904)	77.1
Cornell University Medical College	(1907)	86.4
New York University Medical College	(1893)	80.4
Ohio Medical University	(1906)	80.2
Miami Medical College	(1873)	81.7
Eclectic Medical College, Cincinnati	(1905)	77.8
Western Reserve University	(1892)	94.4
Univ. of Pennsylvania..(1897) 87.6; (1900) 96.1;	(1902)	88.3
Medico-Chirurgical College, Philadelphia	(1895)	81.8
Vanderbilt University..(1891) 91.5; (1908) 86.7;	(1912)	85.4
University of the South	(1901)	77.8
University of Virginia	(1911)	84
Wisconsin College of Physicians and Surgeons	(1903)	75.8
University of Toronto, Ontario	(1911)	80.4
University of Genoa, Italy	(1905)	75
University of Florence, Italy	(1904)	76.5

FAILED

College of Physicians and Surgeons, Los Angeles	(1912)	65.7
University of Colorado	(1902)	68.9
Bennett Medical College	(1900)	72.4
Hahnemann Medical College, Chicago. (1890) 73.2;	(1905)	64.5
Coll. of Phys. and Surg., Chicago. (1896) 62.2, 74.1;	(1912)	71.6
Rush Medical College...(1883) 72.1; (1890)* 76;	(1899)*	75.7
University of Louisville	(1905)	70.5
Louisville National Medical College	(1889)	52
Baltimore University	(1899)	66.2
Barnes Medical College	(1911)	67.2
Central Medical College, St. Joseph	(1898)	72.5
Missouri Medical College	(1881)	56.4
Lincoln Medical College	(1906)	69.2
Omaha Medical College	(1895)	64.9
New York University Medical College	(1886)	71.4
Cleveland University of Medicine and Surgery	(1897)	74.2
Eclectic Medical Institute, Cincinnati	(1890)	71.4
Willamette University	(1904)	70.5
Chattanooga Medical College	(1908)	73.1
Tennessee Medical College	(1908)	56.6

* Fell below 60 per cent. in one or more branches.

Book Notices

Dunn's Pure Food and Drug Legal Manual. Federal, State and Territorial General and Special Food, Drug, Paint, Oil and Turpentine Laws, Rules and Regulations, Food Standards, Food Inspection Decisions and Leading Decisions of the Courts. Uniformly Classified and Arranged Cyclopedia of Information. Edited by Charles Wesley Dunn, A.M. Volume 1. Cloth. Price, 2 volumes complete, $12. Pp. 2347. New York: Dunn's Pure Food and Drug Legal Manual Corporation, 32 Liberty St., 1912-1913.

The size of this book illustrates concretely how extensive has been the agitation during the past decade, for purity in food and drugs. But its more than two thousand pages represent only Parts 1 and 2 of Dunn's plan; a second volume is promised, to contain special food and drug laws and an index. The manual is valuable for its actual material. National laws aiming to regulate interstate commerce in the articles mentioned are here given; also those of individual states for business within the state. While the state laws differ widely, yet their aim purports, within state limits, to be similar to that of the federal laws, the protection of individual health. A study of the rendered judgments, here quoted or referred to, would afford valuable information as to how far these aims are being actually realized, and how far their rulings are "inoperative through lack of appropriation" or other causes. This suggests the thought that the book might have been made still more valuable had the "laws repealed" been named—or, better, summarized.

The compiler has recognized the importance of clear arrangement to such a work. His table of topics is a detailed analysis of the contents of both this volume and that which is to come. A layman might perhaps be puzzled at first by such apparent gaps as those between Nos. 52 and 57, or 139—144; his work of examination would have been facilitated by the addition of one line in the text itself indicating the regulations omitted at this point to avoid duplication and referred to only in the table. Abundant footnotes will make verification of statements possible as well as further research. The manual is a most useful book of reference.

Cerebellar Functions. By Dr. André-Thomas, Ancien Interne des Hôpitaux de Paris. Nervous and Mental Disease Monograph No. 12. Translated by W. Conyers Herring, M.D. Paper. Price, $3. Pp. 222, with 89 illustrations. New York: The Journal of Nervous and Mental Disease Publishing Company, 1912.

Sufficient praise cannot be given the editors of the Nervous and Mental Disease Monograph Series for having made the celebrated monograph of Dr. André-Thomas accessible to English readers. The translation is fair; in fact, it is better than some of the others of this series. The monograph itself furnishes an up-to-date account of a most intricate subject in nervous physiology, that of the cerebellar functions, so much of which is still to be explored. The author is one of the most ardent original workers in the field of cerebellar physiology. In the complete bibliography on the cerebellum his name occurs no less than twenty-three times. An adequate review of this book would require many pages of reading-matter. It will be sufficient to state that neurologist and otologist alike must feel a sense of gratitude to the author for having produced this splendid summary of our knowledge of the cerebellar functions.

Outlines of Psychiatry. By William A. White, M.D., author of "Mental Mechanisms," Superintendent Government Hospital for the Insane, Washington, D. C. Nervous and Mental Disease Monograph Series No. 1. Fourth Edition. Paper. Price, $3. Pp. 318. New York: Journal of Nervous and Mental Disease Publishing Company, 1913.

This edition has several features which especially commend it to new readers. In the running text quotations from case records have been interspersed to aid one in forming a correct idea of a given psychosis. Besides numerous changes of small import calculated to bring the book into harmony with contemporaneous thought the author has added the useful chapter on the Binet-Simon scale for measuring intelligence. We can only reiterate the statement made in a review of a former edition that this book is one of the best small texts on psychiatry in the English language.

Studies in the Psychology of Intemperance. By G. E. Partridge, Ph.D. Cloth. Price, $1 net. Pp. 275. New York: Sturgis & Walton Co., 1912.

The author appeals to those interested in the problem of intemperance. To him the principal reason for the existence of intemperance, which is as old as mankind, is to be found in psychologic and social conditions, rather than in the physical constitution of those addicted to drink. In this opinion he is at variance with many physicians who believe in a hereditary tendency to drug and alcohol addiction. The author traces intoxication to the social life and the religious ceremonial of early nations. He even goes to the extent of saying that "alcohol and its kindred have been of great importance in fostering those social characters on which our present civilization rests. It is difficult to conceive, in fact, what the social life of uncivilized man might have been without the use of alcoholic drinks." The saloon he calls the workingman's club. Under the heading of "Cure" he denounces so-called prohibition and attempts to show its ineffectiveness. Instead he proposes a betterment of social conditions and a complete change of the individual's environment. The book is well written and gives food for reflection. On the whole it reminds one very strongly of Prof. Hugo Münsterberg's article on the alcohol question published in one of the monthly magazines, which produced an endless series of condemnatory criticisms.

The Psychology of Insanity. By Bernard Hart, M.D., Lecturer in Psychiatry, University College Hospital Medical School; Medical Superintendent, Northumberland House Asylum. Cloth. Price, 40 cents net. Pp. 176. New York: G. P. Putnam's Sons, 1912.

Whoever wishes to read an elementary treatise on the new psychology as applied to the neuroses and the psychoses by the Freudian school will find this primer extremely interesting. In our opinion the careful perusal of this small volume by the general practitioner and the non-reading specialist will have a tendency to make the Freudian controversies more dignified. Hitherto the battles between pro- and anti-Freudians have been uninteresting to the spectator owing to ignorance of the terms of the controversy. Henceforth this may be changed; for a few hours' reading of a small pocket-volume may put any one in possession of all the essentials of the new psychology as elucidated by Freud and his school. Those who have been impelled to condemn the new movement because its terminology was unintelligible will henceforth be compelled to seek for weightier arguments. The author of this book deserves credit for having converted a difficult subject into one easily comprehensible.

A Text-Book of Obstetrics. By Barton Cooke Hirst, M.D., Professor of Obstetrics in the University of Pennsylvania. Seventh Edition. Cloth. Price, $6.50 net. Pp. 1013, with 895 illustrations. Philadelphia: W. B. Saunders Company, 1912.

In this edition the author has adhered to his former plan of including in the work diseases, operations and procedures which by most authors have been treated in works separate from obstetrics. There seems to be good reason for this plan, as no one should know better than the obstetrician the diseases which accompany or follow the reproductive function in women. The book has been rearranged to follow a more logical succession of subjects, and has been extensively revised. The section on diseases of the breast has been largely added to. There is a great profusion of illustrations, many of them in color. This book, combining the two usually separate subjects, obstetrics and gynecology, is a convenient and authentic one for the student and general practitioner.

Selected Papers on Hysteria and Other Psychoneuroses. By Prof. Sigmund Freud. Authorized Translation by A. A. Brill, M.D., Ph.B., Chief of Nervous Department, Bronx Hospital. Nervous and Mental Disease Monograph Series No. 4. Second Edition. Paper. Price, $2.50. Pp. 215. New York: The Journal of Nervous and Mental Disease Publishing Company, 1912.

The translator has incorporated in this, the second edition of Freud's selected papers, two new and important chapters. The one, a translation of the essay on "Wild Psychanalysis," is timely and calculated to prevent unjust criticism of the entire school because of the ignorance of certain so-called disciples of Freud. Parenthetically we may remark that Freud's psychanalysis may at this time be compared with the x-ray treatment before we knew of its dangers. Much damage may be done by those unskilled in its use and those others who lack that indescribable something which we call tact. In the essay under consideration Freud calls a halt to what he names "wild" psychanalysis, as followed by those who are unqualified to practice it because they either are not thoroughly familiar with its principles or else lack the necessary qualifications. The other new chapter in this edition deals with "The Future Chances of Psychanalytic Therapy," pronounced a masterpiece of philosophic writing by Freud's followers. Judging from the fact that a second edition of this monograph has become necessary, it would appear that Freud is gaining ground in this country.

Brain and Spinal Cord. A Manual for the Study of the Morphology and Fiber-Tracts of the Central Nervous System. By Dr. Med. Emil Villiger, Privatdozent in Neurology and Neuropathology in the University of Basel. Translated by George A. Piersol, M.D., Sc.D., Professor of Anatomy in the University of Pennsylvania. From the Third German Edition. Cloth. Price, $4. Pp. 289, with 232 illustrations. Philadelphia: J. B. Lippincott Company, 1912.

This book is extremely popular in Germany first, because of its conciseness, a virtue not often encountered in German texts, and second, because it is sufficiently exhaustive for teaching purposes. Part I gives a detailed account of the morphology of the nervous system, Part II furnishes a splendid description of the fiber tracts, while Part III illustrates the architecture of the brain-stem by a series of consecutive sections. This series is so well executed that it may be said actually to represent the natural preparations, and should be closely studied by those not having access to satisfactory specimens. The translation is so perfect that the reader is never reminded by a clumsy phrase or peculiar paragraphing that he is reading a translated work. The translator has even seen fit to improve the book by the addition of a selected bibliography for the purpose of enabling those who wish to pursue the subject further to find the original papers or the more comprehensive works dealing with the anatomy of the central nervous system. This volume may be worthily placed by the side of those of Obersteiner and Edinger, and we predict that it will soon become the accepted text-book in the leading medical schools.

Therapeutische Technik für die Aerztliche Praxis. Herausgegeben von Prof. Dr. Julius Schwalbe, Geh.San.-Rat. Third Edition. Paper. Price, 24 marks. Pp. 1044, with 586 illustrations. Leipsic: Georg Thieme, 1912.

The third edition of this excellent handbook exhibits several improvements on the previous ones. Perhaps the most important is a new chapter on the technic of immunotherapy by Prof. A. C. Wassermann and his assistant, M. Wassermann. The technic and indications of prophylactic and curative serum and vaccinations are briefly described. A number of other new sections are added and the older chapters have been carefully revised to bring them up to date. The whole work is now published in one volume of somewhat more than a thousand pages, well illustrated. The work must appeal strongly to the practicing physician, for it deals almost entirely with technic in the treatment of disease without which the most extensive theoretical knowledge is of little avail.

Diseases of the Stomach, Intestines and Pancreas. By Robert Coleman Kemp, M.D., Professor of Gastro-Intestinal Diseases in the New York School of Clinical Medicine. Second Edition. Cloth. Price, $6.50 net. Pp. 1021, with 388 illustrations. Philadelphia: W. B. Saunders Company, 1912.

This work, which has reached its second edition, covers a wide field. The reasons for limiting its scope must have been lack of space rather than logical arrangement. The pancreas is included, but not the liver. Logical grounds for including typhoid fever and not pellagra or for including Brill's disease, now known to be a form of typhus, are not apparent. Drug therapy is given in the needed detail. A somewhat undiscriminating mention is made of various proprietaries, such as Sanatogen, Listerine, Bacillac, Glycothymolin, Urotropin, Hepptine, etc. Carelessness is indicated in the prescriptions, which are a various mixture of Latin, English and undeclined Latin.

Obstetrics. A Text-Book for the Use of Practitioners and Students. By J. Whitridge Williams, Professor of Obstetrics, Johns Hopkins University. Third Edition. Cloth. Price, $6 net. Pp. 977, with 684 illustrations. New York: D. Appleton & Co., 1912.

The author is an obstetrician who has pronounced opinions on the teaching of obstetrics, much of which, in this country at least, he believes to be incomplete and defective. In this he does not except his own school. With definite ideas of what should constitute good obstetric teaching he has prepared this book; it bears the impress of thoroughness in every line, and is at the same time a practical exposition of obstetric practice. Since the last edition was reviewed, the book has been revised materially in many respects, and expresses what the author believes to be sound conclusions from later research on many moot points, such, for instance, as eclampsia. The text offers an exceptionally clear exposition, taken together with the many excellent illustrations, of the management of normal as well as of complicated labor, and of obstetric accidents. The many other procedures connected with the puerperal woman and the new-born infant are equally satisfactory. The matter of artificial feeding has been left almost entirely for the works on children, as only a page is devoted to this subject.

The Healthy Baby. The Care and Feeding of Infants in Sickness and in Health. By Roger H. Dennett, M.D., Instructor in Diseases of Children in the New York Post-Graduate Medical School. Cloth. Price, $1 net. Pp. 235. New York: The Macmillan Company, 1912.

This book is an unusually practical one for a new mother, in that it deems few things too insignificant to explain. Dennett has put himself in the place of the worried mother, anxious to have her baby cared for to the best of her ability, and he answers clearly the thousand and one questions that arise in her mind. Dennett makes careful distinction throughout between symptoms that are immaterial, those that indicate simple treatment by the mother and those that call for a doctor's attention. The tables for records, found in the rear of the book, will prove serviceable.

The Care of The Body. By R. S. Woodworth, Professor in Columbia University. Cloth. Price, $1.50 net. Pp. 359. New York: The Macmillan Company, 1912.

This is a popular book on physiology and hygiene, intended primarily for young men. It gives the reader definite instructions as to how he can keep himself in good condition, and at the same time gives him a reason for his actions, in nontechnical but scientifically accurate terms. The book is well and interestingly written, and is attractive in its printing and binding. Physicians needing a book on this subject for their patients will find Woodworth's book a satisfactory one to recommend.

The Home Nurse's Handbook of Practical Nursing. A Manual for Use in Home Nursing Classes in Young Women's Christian Associations, in Schools for Girls and Young Women, and a Working Text-Book for Mothers, "Practical" Nurses, Trained Attendants and All Who Have Responsibility for the Home Care of the Sick. By Charlotte A. Aikens. Cloth. Price, $1.50 net. Pp. 276, with illustrations. Philadelphia: W. B. Saunders Company, 1912.

Physicians will be glad to know of this book. It is suitable for placing in the hands of lay persons who desire to inform and guide themselves concerning the care of the sick at home. It is practical and helpful, and the advice is well guarded to protect the sick from errors on the part of amateur attendants.

The Prevention of Dental Caries. By J. Sim Wallace, D.Sc., M.D., L.D.S., Dental Surgeon and Lecturer on Dental Surgery and Pathology, London Hospital. Second Edition. Cloth. Pp. 70, with illustrations. London: The Dental Record, Alston House, Newman Street, W., 1912.

This is a treatise worthy of the attention of the general practitioner, who has opportunities for giving advice as to tooth conservation to his families. One interesting recommendation is that the mouth be rinsed after each meal; another is that no child should end a meal with mush, jam, cake, candy, etc., which are prone to lodge about the teeth, but rather should end with fresh fruit, particularly an apple, which the author calls an excellent cleanser of the teeth.

The Carrier Problem in Infectious Diseases. By J. C. G. Ledingham, M.B., D.Sc., Chief Bacteriologist, Lister Institute of Preventive Medicine, London, and J. A. Arkwright, M.D., Assistant Bacteriologist, Lister Institute of Preventive Medicine, London. International Medical Monographs. Cloth. Price, $3.50 net. Pp. 319. New York: Longmans, Green & Co., 1912.

This book is almost a pioneer in the field of text-books on carriers of disease, a subject that is of vast importance in the modern understanding of infectious diseases. The authors have abstracted and summarized the writings of the various workers and writers on the carrier problem, covering typhoid and paratyphoid fevers, diphtheria, epidemic cerebrospinal meningitis, dysentery and cholera. The history, detection and cultural and differential methods are first given in the instance of each specific bacillus or coccus, followed by an abstract of statistical and other information on the rôle of the organism in producing the disease through carriers. The literature seems to be well covered, the authors taking up only the six diseases named because the information concerning them is better worked out. The subject in its definite details is a comparatively new one, and the enterprise of the authors and publishers in thus early presenting the subject is to be commended.

Manual of Human Osteology. By A. Francis Dixon, M.B., Sc.D., University Professor of Anatomy and Surgery, Trinity College, Dublin. Cloth. Price, $3 net. Pp. 316, with 178 illustrations. New York: William Wood & Co., 1912.

A concise and helpful handbook, well illustrated.

Medicolegal

Constitutionality of Medicolegal Practice Act—Who Unlawfully Practice Medicine—Need Not Claim to be Physicians—Prayer Treatment by Hindu—Sufficiency of Information—Admissibility of Evidence

(Singh vs. State (Tex.), 146 S. W. R. 891)

The Court of Criminal Appeals of Texas affirms a conviction of the defendant Singh, a Hindu from East India, of unlawfully practicing medicine under chapter 123 of the acts of the thirtieth legislature, overruling a motion for rehearing. The court says that the state introduced one Ball as a witness, who testified that he took his wife to Dallas to be treated for a tumor and cancer of the stomach, and was induced to go to the defendant. He described the treatment given by the defendant, which included present and absent treatments, stating that the defendant would rub the palms of his hands together; that he would lay his hands on the tumor, then draw his hands across the tumor; that he repeated this a number of times, and would throw his hands as if casting it behind him, telling Mrs. Ball that the tumor would go away. He was about thirty minutes in giving the treatment. As to the absent treatment, he told her at a given hour "to look at a picture he had, and to lie straight out, and put her mind on that and be quiet, and not let any noise or person bother her at all."

The defendant contended and introduced witnesses to prove that the only treatment he gave was by prayer; that he did not claim to effect the cures himself, saying his power was from God, and that God effected the cure; and he requested that the jury be instructed that if from the evidence they believed that the defendant used prayer only in his treatment, and held himself out as treating disease through the will of God only, that that was not the practice of medicine as defined by the statute, and they should find the defendant not guilty. There was no error in refusing that instruction and charging the jury, instead, that "any person shall be regarded as practicing medicine within the meaning of this charge who shall treat or offer to treat any disease or disorder, mental or physical, by any system or method, or effect cures thereof, and charge therefor directly or indirectly money or other compensation." Section 13 of the medical practice act defines the meaning of the words "practice of medicine," and it means under that act to treat or offer to treat disease by any system or method. In those states where the term is not defined by statute, it is construed to relate only to the practice of medicine as popularly understood, but where the term "practice of medicine" has been given a definition by statute, and so worded as to cover all treatment of disease by whatever nature or means, it has been held that the legislature had that power and authority.

The most important of police powers is that of caring for and preserving the health of the citizens of a state, and this power is inherent in sovereignty, and the legislature may pass all such laws as are reasonably necessary to accomplish that purpose. The act of the legislature in question is a reasonable exercise of the police power, for in the act it is provided that nothing in the law shall be construed so as to discriminate against any particular school or system of medical practice.

However, it does provide that no one shall treat, or offer to treat, any disease, mental or physical, or any physical deformity or injury by any system or method, and charge therefor, unless such person has obtained a license from the board of examiners appointed by the governor, and said board is required to examine applicants as to their knowledge of anatomy, physiology, chemistry, histology, pathology, bacteriology, physical diagnosis, surgery, obstetrics, gynecology and hygiene. If a person is of good moral character and passes an examination in the subjects named, he may practice whatever method he deems best for effecting the cure of disease. The subject of the public health being a matter subject to the police power of the state, the legislature has the power to pass laws requiring a certain amount of knowledge on given subjects, which it in its wisdom deems essential to the proper diagnosis and treatment of disease. In the law there is no discrimination as to persons or methods, but all are required to undergo the same examination, and then each and every person licensed may treat disease in the way by him deemed best. The legislature has not sought to say how disease shall be treated by any one, but has simply required that all persons who shall treat or offer to treat disease shall have a knowledge of given subjects; the legislature deeming this essential to the preservation of the health of the citizens of the state. It is not for the courts to say that this is wise or unwise; that the requirements are too onerous or are insufficient to accomplish the purposes intended. The law is not violative of any provision of the constitution, and is but an exercise of the police power on a subject that all the law-writers of note declare is within that power.

The legislature having defined the meaning of the words "practice of medicine" to embrace all "who shall publicly profess to be a physician or surgeon and shall treat or offer to treat disease, etc., also all persons who shall treat or offer to treat disease, etc., for compensation," the court holds that in so defining the words the legislature has rendered liable to the provisions of the act all persons who shall treat disease and charge therefor, regardless of the mode or method used in so doing. Any one who holds himself out as a physician or surgeon is liable under the law, whether he receives compensation or not, while one who does not so hold himself out must be shown to have received compensation either directly or indirectly. In this case the defendant may not have advertised himself as a physician, but he did advertise that he was capable of treating disease, and, when it was shown that he received compensation for his services, he was liable to the penalties provided in the act. And one who made no charge directly, but told all who applied for treatment that he "would receive free-will offerings," would be receiving compensation within the purview of the law, for "indirectly" was used to cover just such evasions.

Other points decided in the case are that the complaint was not insufficient because it did not contain the name of the affiant in the body thereof, when the name of the affiant was at the bottom of the affidavit, and was the party making the same, with the jurat of the officer taking it. Nor was the information insufficient because it did not set forth the school of medicine to which the defendant was alleged to belong, did not set forth the method or system by which it was alleged the defendant effected cures and treated for pay, and did not set forth the particular branch or department of medicine that the defendant practiced or was alleged to have practiced. As a general rule, it is sufficient to charge an offense in substantially the language of the statute creating it.

A check for $10 given by Mr. Ball to the defendant, payable to the latter or order, and containing the words: "1 week's medical treatment for wife," which check was "Paid" and was indorsed on the back with the defendant's name, was admissible in evidence as a circumstance showing that the defendant accepted checks in payment for treating the witness' wife. It was also proper for the witness to state that the defendant had told him he did not give receipts, that it was not necessary as he could not collect by law, for it would show that the defendant was aware of the provisions of the medical practice act and that the business he was pursuing was prohibited by law. Neither was it error to permit the witness to state that the defendant had prescribed for him for catarrh. The defendant was being prosecuted for unlawfully engaging in the practice of medicine by offering to treat diseases and effect cures thereof for money, and all this testimony was admissible as tending to show that he was practicing medicine.

Nor was there error in permitting another witness to state that he had called on the defendant at the "Temple" and asked him if he could cure his wife of neuralgia, and that the defendant stated that he could, and what his charges would be. The main issue in this case was whether or not the defendant was treating and offering to treat diseases for pay, and any statement made by him bearing on that point would be admissible in evidence.

The law does not denounce the treatment of each individual as a separate and distinct offense, but the offense defined is for a person to treat or offer to treat any disease or disorder without having been licensed so to do by the state board, and, while under the information it would be necessary to prove that he did treat the person named and receive pay therefor, yet the state would not be limited to this proof alone under the information in this case, but could introduce other evidence which showed, and tended to show, that the defendant was treating and offering to treat various diseases for compensation. Especially would this be true under the evidence in this case, as the defendant by his evidence was contending that he did not charge for such treatment directly or indirectly, but only accepted free-will offerings.

A Retiring Partner May Sell His Influence and Good Will

(Mills vs. Ressler (Kan.), 125 Pac. R. 58)

The Supreme Court of Kansas holds that a physician, who is a member of a firm practicing a specialty and making use of certain remedies and formulas in such practice, may, on retiring, sell his influence and good will to the firm or its successors, and, having done so, he and any one in collusion with him may be enjoined from doing any act which would prevent the purchasers thereof from enjoying the benefits of such influence and good will to the same extent as they were enjoyed before the sale. While contracts in general restraint of trade or business are void, contracts less restrictive are invalid only when inimical to the public welfare, and they are to be judged, not by the arbitrary measure or extent in time or extent space, but by their reasonableness under all the circumstances, having regard both for the liberty of a person to make beneficial use of his own and the public consequences of such use. And a contract reasonably limiting the right of a physician to practice a specialty is valid.

X-Ray Plates Admissible in Evidence

(Chicago, Burlington & Quincy Railroad Co. vs. Upton (U. S.), 194 Fed. R. 371)

The United States Circuit Court of Appeals, Eighth Circuit, holds that *x*-ray plates taken, showing the extent and character of the plaintiff's (Upton's) injuries, were properly admitted in evidence, after their correctness had been verified by competent evidence. The court does not agree with the contention that prints taken from the plates are alone admissible in evidence, and the plates themselves inadmissible.

Current Medical Literature

AMERICAN

Titles marked with an asterisk (*) are abstracted below.

American Journal of Medical Sciences, Philadelphia

February, CXLV, No. 2, pp. 157-312

1 Disputed Problems Associated with Surgery of Large Intestine. W. J. Mayo, Rochester, Minn.
2 *Relation of Anaphylaxis to Immunity and Disease. V. C. Vaughan, Ann Arbor, Mich.
3 Chronic Purpura and Its Treatment with Animal Serum. H. L. Elsner and F. M. Meader, Syracuse, N. Y.
4 Present Value of Wassermann Reaction. L. S. Milne, Kansas City.
5 *Diaphragmatic Hernia; Report of Case. K. M. Vogel, New York.
6 Factor of Fatigue, with Reference to Industrial Conditions. W. A. White, Washington, D. C.
7 *Topography of Cardiac Valves as Revealed by Roentgen-Rays. G. W. Norris and G. Fetterolf, Philadelphia.
8 Rôle of Stethoscope in Physical Diagnosis. H. Sewall, Denver.
9 *Clinical and Experimental Investigation of Therapeutic Value of Camphor. J. D. Head and R. C. Brooks, Pittsburgh.
10 Some Interesting Negative Results with Phenolsulphonephthalein Test. O. H. P. Pepper and J. H. Austin, Philadelphia.
11 Primary Adenomata of Liver Simulating Hanot's Hypertrophic Liver Cirrhosis. H. C. Gordinier and H. P. Sawyer, Albany, N. Y.

2. **Relation of Anaphylaxis to Immunity.**—All the problems of protein sensitization have not been solved. It seems to be a physiologic law, Vaughan says, that the specific ferments elaborated by living cells are determined by the proteins brought into contact with them, but as yet we know little concerning these bodies which we call ferments. That they are labile chemical bodies resulting from intramolecular rearrangement in the protein molecules of the cell seems a plausible theory, but at present it is only a theory. But little is known of the action of these so-called ferments on their homologous proteins. Knowledge of the chemistry of protein sensitizers is exceedingly limited, and it is highly desirable that work in this direction should be prosecuted with vigor, because sensitizers free from the poisonous group are needed. Furthermore, there is the question, why small doses of protein induce fever while large doses have no effect. At present there is no satisfactory answer to this question. If it could be demonstrated conclusively that the toxins are ferments, the subject of the etiology of disease would be greatly simplified. Vaughan formulates what he believes to be two biologic laws: 1. When the body cells find themselves in contact with, or permeated by, foreign proteins they tend to elaborate specific ferments which digest and destroy the foreign proteins. 2. When body cells are attacked by destructive ferments they tend to elaborate antiferments the function of which is to neutralize the ferments and thus protect the cells.

5. **Diaphragmatic Hernia.**—Vogel believes that diaphragmatic hernia is much commoner than generally supposed, and may exist indefinitely without giving rise to symptoms. Dextrocardia and physical signs suggesting those of pneumothorax should always cause the possibility of this condition to be thought of and lead to careful radiographic study of the thorax. His patient came to the hospital suffering from abdominal pain and other symptoms referable to a stenosis of the large intestine, with attending peritonitis, which ended fatally. The history included no symptoms that could be connected with the astonishing dislocation of the abdominal viscera which was revealed at the autopsy. On opening the thorax the colon was seen occupying the left chest through a left-sided diaphragmatic defect. The spleen weighed 180 grams and was about in the position of the heart. The left lung was collapsed and measured 14 cm. in length, 7 cm. in width, and 2 cm. in thickness. The right lung presented numerous firm adhesions to the chest wall, but was otherwise normal. The left border of the heart was 2.5 cm. to the right of the median line, the right border, 11.5 cm. to the right of the median line, the upper border at the third rib, the apex at the sixth rib, 1.5 cm. inside the mammary line. The left chest was filled with omentum, caput coli, transverse and descending colon; a few inches of the ileum were lying above the diaphragm. The descending colon was straight and ran directly to the brim of the pelvis. The gut was much distended. The omentum was adherent to the transverse colon, making a sort of bag, but was not in any way adherent to the chest wall. The stomach lay above the diaphragm with the duodenum passing through the opening. The hernia could be easily reduced. The hernial opening occupied the posterior and lateral portions of the diaphragm, was about 15 cm. in diameter, and had rounded and somewhat thickened edges. A loop of small intestine was adherent to the sigmoid at the brim of the pelvis. The sigmoid was constricted for a distance of 5 cm., so that even the little finger would not pass through the obstruction. The muscle was thickened above the constriction. The mucosa was practically normal except for four pockets with mouths 0.5 cm. in diameter. These pockets varied in depths from a few millimeters to several centimeters. There was a thick collar of firm inflammatory tissue some 12 cm. long about the sigmoid just above the pelvic brim, binding the gut down to the posterior abdominal wall. There was a band of fat and inflammatory tissue over the surface of the sigmoid, aiding in the constriction. The other organs presented no abnormalities.

7. **Topography of Cardiac Valves.**—In order to determine the exact position on the chest wall of the heart valves, cadavers were injected with 10 per cent. formaldehyd solution and then put into cold storage. When thorough freezing had been secured the head and neck, the upper extremities, and the lower part of the trunk were cut off. The thorax was then cut into frontal sections about one inch thick, the cuts being made parallel with the anterior surface of the chest. Each section was then cleaned up by removing all blood-clots and saw detritus from the heart cavities and large blood-vessels. In this manner distortion was avoided, since all parts were hardened in the position which they occupied at death. Each valve leaflet was carefully dried and then painted with the thickest possible lead paint. This was readily done, for the sections were so thin that all the valves were accessible, and in most instances it was possible to paint both surfaces of the entire eleven leaflets. Finally, after the valves were painted, the sections were superimposed, with the anterior one below, and a skiagram taken. In order to show with greater clearness the relations of the valves to the sternum and ribs, that section of the thorax which comprised the posterior portion and included the vertebral column, the posterior section of the ribs and the thick spinal muscles, was not used. By discarding this portion nothing was lost and much was gained in clarity, since the vertebrae and the posterior part of the ribs were eliminated from the pictures.

In the course of these investigations fifteen bodies were sectioned. It was soon evident, however, that a much larger number would have to be studied before any definite conclusions regarding normal relations could be reached, since many of the cadavers represented pathologic alterations in the topography of the thoracic viscera. Often the heart was displaced as the result of extensive pulmonary tuberculosis, or of hypertrophy of the heart. Other lesions, such as pericardial effusions, atelectatic lungs, etc., furnished additional sources of error. This communication is a preliminary report, and is made in demonstration of an entirely feasible and hitherto unemployed method of studying post mortem the topography of the heart valves in health and disease.

9. **Therapeutic Value of Camphor.**—In planning their bedside study of camphor, the authors limited the investigation to the effects of the drug, as administered hypodermically, on the circulatory apparatus of human subjects exhibiting varying conditions of the cardiovascular apparatus. Camphor was dissolved in oil and administered by single or multiple subcutaneous or intramuscular injection into patients who could be somewhat arbitrarily divided into the following groups: A.—Patients whose circulatory apparatus was apparently normal. B.—Those whose auricles were in clinical fibrillation (confirmed by polygraphic tracings). C.—One patient (two observations) with valvular disease but normal rhythm. D.—

Patients with unclassified cardiovascular diseases, chiefly, however, affecting the myocardium and vascular coats. In addition to the above, two control experiments were conducted. Sterile oil was injected into a patient of Group A and into one of Group B. All the subjects but one were adults in a state of nutrition from fair to good. Records of pulse and of systolic and diastolic blood-pressure were made at frequent intervals covering a period of forty to 270 minutes after the injection of the drug: the usual duration of the observation was about 120 minutes. The patients were frequently questioned as to the presence of subjective symptoms which might be attributable to the camphor, but in not a single instance was there obtained any evidence of drug action, with the exception of a complaint of burning at the point of administration. The latter sensation was frequently accompanied by local redness and swelling, which lasted for several hours. Camphor injected subcutaneously in oil in doses as large as 50 grains failed to produce any definite effects. The variations in pulse and in blood-pressure occasionally following the use of the drug were so inconstant as to make it probable that they had no relation to the medication employed. The authors conclude that while camphor may be an active agent in certain disorders in which there is an abnormally small glycuronic acid content and while experiments indicate that the drug exercises a favorable effect on the heart muscle which is poisoned by chloral, muscarin, or strychnin, nevertheless camphor should neither be relied on as a cardiac stimulant nor feared as a toxic agent in the doses employed by them and under the conditions in which its action was studied.

Annals of Surgery, Philadelphia

February, LVII, No. 2, pp. 145-304

12 *Approach to Hypophysis Through Anterior Cranial Fossa. C. H. Frazier, Philadelphia.
13 *Postoperative Thrombophlebitis. A. C. Burnham, New York.
14 Multiple Myelomata, with Numerous Spontaneous Fractures and Albumosuria. E. W. H. Groves, Bristol, England.
15 Tuberculosis of Breast. C. A. Powers, Denver.
16 *Angulation of Junction of Hepatic and Common Ducts After Cholecystostomy, Simulating Common Duct Obstruction. D. Stetten, New York.
17 Strangulated Inguinal Hernia in Early Infancy. A. N. Collins, Duluth, Minn.
18 Hernia Adiposa. L. Friedman, New York.
19 Formation of Artificial Vagina by Intestinal Transplantation. F. T. Stewart, Philadelphia.
20 Reduction of Old Unreduced Dislocations of Shoulder. T. T. Thomas, Philadelphia.
21 *Chronic (Non-Suppurative) Hemorrhagic Osteomyelitis. G. Barrie, New York.

12. **Approach to Hypophysis.**—Frazier's operation consists essentially in the reflection of an osteoplastic flap from the right frontal region, in the removal *en bloc* of the supra-orbital ridge as suggested by McArthur, with a portion of the roof of the orbit, later to be replaced, and in rongeuring away what remains of the roof of the orbit down to the optic foramen. With the elevation of the frontal lobe and the depression of the orbital contents, a free and adequate exposure is secured, and there remains only to make a short incision in the dura to lay bare the cavity of the sella turcica.

13. **Postoperative Thrombophlebitis.**—Burnham analyzed ninety-eight cases of post-operative thrombophlebitis (excluding those cases due to evident direct extension from contiguous inflammatory areas) in a total of 11,655 operations. Of these ninety-eight cases, ninety-four occurred in one or both legs and are the only ones in which a detailed study is made. He believes that post-operative thrombophlebitis is an infectious disease, a definite entity in some way connected with the absorption of material from the wound. It is preceded by a slowing of the blood-stream, and by local and general disease of the vessel walls. It occurs at an earlier date in "clean" cases than in drainage cases. Rest in bed seems to be the only therapeutic measure capable of exerting any marked influence on the severity and course of the disease. Ichthyol seems to have a direct and constant influence on the local pain. Internal medication deserves a more thorough trial than it has had previously.

16. **Angulation Simulating Duct Obstruction.**—An epicritical review of this case leads Stetten to the following conclusions: After a simple cholecystostomy done in the most approved fashion on a comparatively normal gall-bladder, which was not in the least retracted and which was fixed to the peritoneum of the abdominal wall without the slightest tension, a symptom complex develops which most strongly suggests the presence of a stone in the common duct. On relaparotomy no stone is found, but it is seen that an angulation has developed at the junction of the hepaticus and choledochus. At the angulation a valve has formed so that the flow of bile into the intestine is almost impossible. Hence the pain and jaundice when the biliary fistula was closed and the tendency to persistence of the fistula after it was reopened. Though there was no tension originally when the gall-bladder was fixed to the abdominal wall, there must have been a decided contraction of that organ after the first operation. This contraction, probably aided by the pull of the respiratory movements, resulted in the angulation. The condition was promptly cured by cholecystectomy, which permitted the angle at the junction of the ducts to straighten out.

21. **Chronic Hemorrhagic Osteomyelitis.**—The lesions in the ends of the long bones described as medullary giant-cell sarcoma, myelogenous giant-cell sarcoma, myeloma, and giant-cell tumor, Barrie does not include in the classification of tumors. The process begins as the result of a trauma, and gives all the clinical and pathologic evidence pertaining to a low-grade inflammation. The foundation on which the diagnosis of malignant tumor growth has been based is the presence in the tissues examined under the microscope of numerous giant cells which do not show any uniformity of architectural arrangement of boundary zones. It is an established fact that these giant cells are not tissue-builders, but scavengers, whose function is the removal of debris that is produced by low-grade inflammatory conditions occurring in bone. The whole process is explained on the basis of the lesion being due to a low-grade, ever-present irritation or inflammation, which causes excessive production of vascular granulation tissue masses. From the clinical picture and the gross and microscopic pathology which the condition presents, the term chronic (non-suppurative) hemorrhagic osteomyelitis seems a more correct definition of the lesion than the terms now in use.

Boston Medical and Surgical Journal

February 6, CLXVIII, No. 6, pp. 185-220

22 Some Functions of Free Dispensary. W. S. Thayer, Baltimore.
23 Treatment and Prevention of Obstinate Perineal Fistulas Following Operation for Stricture of Urethra. H. A. Lothrop, Boston.
24 *Circumscribed Epidemic of Diphtheria. H. M. Adler, Boston.
25 Tuberculosis and Public Health in South Africa. J. A. Honeij, Boston.
26 Nature of Feeling of Unreality. J. W. Courtney, Boston.

24. **Circumscribed Epidemic of Diphtheria.**—A female patient was admitted to the Danvers State Hospital in a stuporous condition. The patient was restless, got out of bed frequently to wander about, occasionally would scream. Temperature, normal. Physically nothing unusual was noted, and a provisional diagnosis of dementia praecox, katatonic form, was made. Patient continued restless, delirious and unconscious. Temperature was taken once or twice more during the following few days and was found to be not over 99. On account of her disturbed condition, she was removed from a bed in the main ward to a bed in the annex for two days and one night. Then she was put back in the first bed where she died seven days after admission. A post-mortem examination was made. The pathologic findings consisted of an acute adhesive pleuritis on the right side, an acute bronchitis, a thin gray membrane on the tonsils, and a small necrotic membranous patch on the laryngeal surface of the epiglottis. A smear from the latter showed slender bacilli with deeply staining ends. The culture from the same showed a typical Klebs-Loeffler bacillus, which was injected into two guinea-pigs, resulting in their death within twenty-four hours. A typical pure culture of Klebs-Loeffler bacillus was obtained from the guinea-pigs after death.

Two nurses contracted the disease and throat cultures were positive in eight cases. Although it is not improbable that the patient who introduced the Klebs-Loeffler bacillus into the ward, died of the effects of the same, Adler believes it would be hardly fair to state that she suffered from diphtheria. Just what the relation between this infection and her psychosis was, he does not say. With the known affinity of diphtheria toxin for the nervous system, he believes, it is likely that some connection existed.

Journal-Lancet, Minneapolis, Minn.

February 1, XXXIII, No. 3, pp. 65-95

27 New Public Health and Tuberculosis. H. W. Hill, Minneapolis.

Journal of Biological Chemistry, Baltimore

February, XIV, No. 1, pp. 1-52

28 Researches on Purins. C. O. Johns, New Haven, Conn.
29 Creatin Content of Muscle Under Normal Conditions; Its Relation to Urinary Creatinin. V. C. Myers and M. S. Fine, New York.
30 *New Method for Drying Tissues and Fluids. J. Rosenbloom, Pittsburgh.
31 Protein Metabolism from Standpoint of Blood and Tissue Analysis. O. Folin and W. Denis, Boston.
32 Chemistry of Gluconeogenesis. A. I. Ringer, Philadelphia.

30. **Method for Drying Tissues and Fluids.**—The method described by Rosenbloom is based on the reaction between calcium carbid and water:

$$CaC_2+H_2O=C_2H_2CaO$$
$$CaO+H_2O=Ca(OH)_2$$

and is said to have many advantages, especially when drying tissues preliminary to the extraction of the contained lipins. Most of the water undergoes reaction with the carbid to form acetylene, the mass of material being much less on that account than when using calcium sulphate or sodium sulphate, because the water is taken up by these salts to form the hydrated salt and the water still remains in the material. Also the calcium oxid formed in the reaction is a dehydrating agent and facilitates the drying. Another advantage in the calcium carbid method is said to be that on account of the hardness of the carbid it is unnecessary to add sand in the mixing and grinding of the material. Also after the substance is dried, on treatment with any of the lipin solvents it takes on a granular form, thereby giving the solvent the best chance of reaching the soluble lipins enclosed in the large amount of insoluble substance making up the tissue. Owing to the fact that the reaction between calcium carbid and water is markedly exothermic, it is possible that the heat developed might decompose certain of the constituents. This can be minimized by adding the carbid in small amounts to the material to be dried, contained in a porcelain dish packed in ice. When using the carbid for drying fluids, one simply adds the carbid in lumps until the material has lost its liquid form; then the powdered carbid is added till the drying is complete. The same method is used for tissues, with the addition of thoroughly mixing the carbid by grinding just as in the other methods. On account of the fact that acetylene is explosive and poisonous, Rosenbloom warns that it is wise to carry out the drying under a hood, free from flames.

Journal of Experimental Medicine, New York

February, XVII, No. 2, pp. 117-230

33 *Anaphylatoxins and Endotoxins of Typhoid Bacillus. H. Zinsser, San Francisco.
34 *Organic Matter in Expired Breath, with Special Reference to Its Inhibiting Power on Oxidizing Ferments. H. L. Amoss, Boston.
35 *Comparison of Action of Plasma and Serum on Certain Objects Used in Biological Test for Epinephrin. G. N. Stewart and T. F. Zucker, Cleveland.
36 Action of Hydrocele Fluid and Certain Other Pathologic Liquids on Some of Objects Used in Biologic Tests for Epinephrin. G. N. Stewart and T. F. Zucker, Cleveland.
37 *Degeneration and Regeneration of Axis Cylinders in Vitro. R. Ingebrigtsen, New York.
38 *Intestinal Obstruction in Rabbit. C. H. Bunting and A. P. Jones, Madison, Wis.
39 Intestinal Absorption in Infantilism. F. H. McCrudden and H. L. Fales, New York.
40 Cause of Failure to Develop in Infantilism. F. H. McCrudden and H. L. Fales, New York.
41 *Rôle of Lipoids, and Particularly Lecithin, in Narcosis. B. Kramer, New York.
42 Variations in Chicken Sarcoma Caused by Filterable Agent. P. Rous and James B. Murphy, New York.
43 *Demonstration of Treponema Pallidum in Brain in Cases of General Paralysis. H. Noguchi and J. W. Moore, New York.

33. **Anaphylatoxins and Endotoxins of Typhoid Bacillus.**—The experiments recorded by Zinsser confirm the observations of Friedberger that acutely toxic bodies can be produced from typhoid bacilli by the action of sensitizer and complement, and that, when small quantities of bacteria are used, an excess of sensitization either interferes with the formation of the poisons or leads to a cleavage of the bacterial proteid beyond the poisonous intermediate products spoken of as anaphylatoxins. Unlike the experience of other workers with poisons of this nature, however, these experiments have shown that the action of complement on typhoid bacilli strongly sensitized or not at all sensitized may be carried on at body temperature for considerably longer than twelve hours without leading to a destruction of the poisons, and that this is true when the quantities of the bacteria used vary within the wide range of from one to twelve agar slants. It has been found, in fact, that in the case of this micro-organism prolonged exposure at the higher temperature of considerable quantities of bacteria constitutes an unfailing method of regularly obtaining powerful poisons. The results obtained by the use of smaller quantities and the less vigorous complement action at low temperatures are far less regular or satisfactory. It would appear from this that complement action of considerable vigor is required to obtain from this bacillus any appreciable yield of anaphylatoxin and that the poison, once formed, is not as unstable as that found in other micro-organisms by others.

34. **Organic Matter in Expired Breath.**—The experiments recorded by Amoss show that a variable amount of matter is retained by weak hydrochloric solution when exhaled breath is passed through it, and that this matter is volatile on ignition. Contrary to the findings of Weichardt, there is no charring or blackening. Nesslerization shows the residue to consist mainly, if not wholly, of ammonium chlorid. This ammonia is believed to have come from the decomposition of food particles about the teeth. Weichardt's experiments on the inhibition of the guaiacum test for blood by means of the substances retained when exhaled breath is passed through hydrochloric acid or over calcium chlorid crystals are not corroborated. It is further shown that the guaiacum indicator is unreliable for these tests in view of the fact that a small amount of free acid or free alkali will inhibit the guaiacum test for blood. This fact is offered as a probable explanation of Weichardt's results. Calcium chlorid alone gives a deep blue color with the guaiacin indicator. Weichardt used this salt to collect from the expired breath certain unknown substances which he claims inhibit the oxidation of guaiacum by blood. His results are therefore inconclusive.

35. **Comparison of Action of Plasma and Serum.**—The main results which seem to follow their observations are summarized by Stewart and Zucker as follows: The substance or property, developed in shed blood by which it causes constriction of artery rings, is not developed, or at least not mainly developed, in connection with the actual change of fibrinogen to fibrin, since the constrictor action of different plasmas differs greatly, while the absence of coagulation is common to all. The development of the constrictor substance, or property, is associated with changes undergone probably by formed elements of the blood when it is shed. These changes may be identical with the alterations, or with some of the alterations, preliminary to clotting. It is possible, however, that there may be changes connected with the development of the pressor property which, although concomitant with the liberation of the substances concerned in the production of thrombin, are yet quite independent of the clotting process. The authors' observations do not enable them to decide definitely between these possibilities. The constrictor substance, or property, developed in shed blood acts especially on blood-vessels and does not equally affect the

other organs examined. This follows from the fact that a plasma and serum which differ markedly in their action on the blood-vessels may have practically the same action on the intestine or uterus segments, an action which must therefore reside mainly, at least, in the original plasma itself. The indication that the serum acts especially on blood-vessels increases the interest of the suggestion that this action may play an important part in the prompt sealing of wounded vessels in addition to the mechanical effect of the clot, or by coming into operation before the clot has fully formed.

37. **Degeneration and Regeneration of Axones in Vitro.**—Ingebrigtsen found that the brains of chick embryos, of cats six weeks old, of rabbits two months old and of dogs three weeks old, when cultivated *in vitro*, develop long filaments which, according to their growth and their anatomic and tinctorial characters, must be considered as true axis cylinders. Similar structures develop from spinal ganglia of rabbits seven months old, and from the spinal cord of cats six weeks old and of rabbits two months old. When severed from their origin by section these threads undergo degenerative changes which do not appear after nine hours, but which are seen after twenty hours, and continue until in the course of the following two days the thread degenerates completely. After twenty hours the development of the new axis cylinders from the central part of the cut fibers is observed.

38. **Intestinal Obstruction in Rabbit.**—The import of the series of experiments by Bunting and Jones is to the effect that the reabsorption of a toxic secretion from the lumen of the duodenum is the important factor in causing the rapid death of rabbits after high intestinal obstruction.

41. **Lipoids and Lecithin in Narcosis.**—The intravenous injection of 5 to 30 c.c. of a 5 or 10 per cent. emulsion of lecithin, depending on the size of the animal used, according to Kramer, does not interfere with the induction of anesthesia, and this can be accomplished as readily in animals thus injected as in controls. In six out of nine experiments lecithin had no effect on the rapidity with which the various phenomena which indicate the animal's recovery from the effects of the anesthetic appeared. These experiments do not bear out Reicher's assumption as to the cause of the lipoidemia, and the explanation of this phenomenon still remains an open question.

43. **Treponema Pallidum in Brain.**—Seventy paretic brains were examined by the authors, one of whom succeeded in finding the pallidum in twelve out of the seventy specimens. The cases in which the pallida were found showed the classical physical signs. The post mortem findings in the brain in every case were definitely those of general paralysis. Ten were men and two were women. Seven were of the cerebral type, and five of the tabetic. In several instances the patients had been picked up on the street in a confused state and had no idea of the duration of the condition. In seven cases in which the onset could be satisfactorily determined, the average duration was seventeen months, the longest thirty months and the shortest five months. The majority were much below the average duration, as estimated by various authors, which varies from twenty-four to thirty-two months. It is possible, then, that we are more apt to find the spirochetes in those cases which run a fairly rapid course. The age varied from 33 to 60 years, with an average of 44 years.

Journal of Medical Research, Boston

January, XXVII, No. 3, pp. 229-389

44 Benign Epithelial Tumors of Thyroid. D. Marine, Cleveland
45 Growth Centers of Benign Blastomata, with Special Reference to Thyroid and Prostatic Adenomata. R. T. Simpson, Freiburg.
46 Studies in Canine Distemper. J. C. Torrey and A. H. Rahe, New York.
47 Unusual Type of Arteriocapillary Fibrosis Clinically Resembling Myasthenia Gravis. H. Brooks, New York.
48 *Inhibition of Hemolysis by Serum of Cancerous Individuals. W. O. Sweek and M. S. Fleisher, St. Louis.

48. **Inhibition of Hemolysis.**—The serum from eighteen cancer cases and twelve normal individuals was tested by Sweek and Fleisher for its anti-hemolytic properties with lactic acid; eighteen cancer cases and twelve normal individuals were tested with oleic acid. In no case was any marked increase of the inhibitory power of the serum of cancerous patients evident. It therefore appears that the determination of the anti-hemolytic activity of the serum of cancerous patients cannot be used as a diagnostic method, and furthermore, there is no evidence that an increased anti-hemolytic activity exists in the serums of cancerous patients; it also appears that the anti-hemolytic property of normal individuals living under uncontrolled conditions varies within rather wide limits.

Journal of Outdoor Life, New York

February, X, No. 2, pp. 33-62

49 Foreword After Ten Years. E. L. Trudeau, Saranac Lake, N. Y.
50 Journal of Outdoor Life, an Adventure in Journalism. L. Brown, Saranac Lake, N. Y.
51 From Patient's Viewpoint: Purpose of Outdoor Life. W. S. Carpenter, New York
52 Revised Estimate of Economic Cost of Tuberculosis. I. Fisher, New Haven, Conn.

Kentucky Medical Journal, Bowling Green

February 1, XI, No. 3, pp. 89-144

53 *Present Status of Operative Treatment of Fractures of Long Bones. A. H. Barkley, Lexington.
54 Idealism in Medicine. C. Pope, Louisville.
55 Nearing the Goal. J. G. Carpenter, Stanford.
56 Diagnosis of Epilepsy. J. J. Moren, Louisville.
57 *Public Health Problem; Constructive Efforts Toward Its Solution. W. L. Heizer, Bowling Green.

53 and 57. Abstracted in The Journal, November 30, p. 1998 and 1999.

Lancet-Clinic, Cincinnati

February 1, CIX, No. 5, pp. 113-140

58 *Unmistakable Clinical Proof of Therapeutic Value of Tuberculin. F. M. Pottenger, Monrovia, Cal.
59 Arsenic in Therapy. W. F. Barclay, Pittsburgh.
60 Modern Conceptions of Paranoia. C. D. Read, Hospital, Ill.
61 *Chemical Conditions Favoring Production of So-Called "Spores" in B. Tuberculosis. W. B. Wherry, Cincinnati.
62 Induced Pneumothorax in Treatment of Pulmonary Disease. A. J. Bell, Cincinnati.

58. Abstracted in The Journal, November 9, p. 1735.

61. **Production of Spores in B. Tuberculosis.**—Bodies which in appearance resemble the spores of other bacteria, have been described in the tubercle bacillus by Nocard and Roux, Metschnikoff, Klein, Coppen-Jones and others. They have been found most frequently in preparations from old pulmonary cavities and from old cultures. They have been described as rounded bodies of greater diameter than the bacilli. From one to three or more may occur in a single rod. They stain more intensely than the rest of the body of the bacillus, becoming brown or blackish-red, and hold the dye more strongly than the bacillus when treated with nitric acid. Attempts to show that these forms have greater resistance to heat and chemicals have failed. Yet they are often pictured in text-books as the "arthrospores" of the tubercle bacillus. During the course of a study of the symbiotic growth of a saprophytic strain of *B. tuberculosis* with other bacteria, W. L. Shannon, one of Wherry's students, noted the constant occurrence of these forms when the culture was grown along with a certain strain of *B. coli*. His results explain, Wherry says, the especially frequent occurrence of the "sporulating" forms in old pulmonary cavities. The following observations go a step further and were made during a study of the growth of the same saprophytic strain of *B. tuberculosis* in synthetic mediums—containing distilled water, certain necessary salts and varying but known sources of carbon and nitrogen. Some of these experiments show that the forms above described, containing large strongly acid-proof granules, develop beautifully in mediums containing ammonium chlorid as a source of nitrogen and propyl alcohol, mannite and levulose used separately as sources of carbon. These cultures distinctly exhibit a greasy or cheesy consistence when spread on a slide. Vital staining with a large number of basic aniline dyes show that the inclosed acid-proof granules have a marked affinity for many of these dyes in aqueous solution. This evidently shows that these acid-proof

granules, though they may be of a fatty or waxy nature, probably differ in composition from the protoplasm of virulent tubercle bacilli.

Although the culture used in these experiments is ordinarily only feebly acid-proof, it becomes strongly so or entirely non-acid-proof under certain methods of cultivation. Experiments are in progress to determine the value of some of these cultures in the production of immunity.

Laryngoscope, St. Louis

January, XXIII, No. 1, pp. 1-80

63 Need of a Standard in Voice Production. W. J. Henderson, New York.
64 Result of Eighteen Years of Research Work on Voice Production and Analysis. W. Hallock and F. S. Muckey, New York.
65 Standardization of Vocal Training from Teacher's Standpoint. H. H. Brown, New York.
66 Vocal Art Science from Standpoint of Use and Abuse of Voice. F. E. Miller, New York.
67 *Case of Aphthongia. F. V. Laurent, Pittsburgh.
68 Eight Years of Chloroform Anesthesia in Nose and Throat Surgery. C. P. Grayson, Philadelphia.

67. **Aphthongia.**—Aphthongia is a very rare affection, only three cases having been recorded. The first case was recorded by Panthel of Ems in 1855. Fleury defined it as cramps in the territory of the hypoglossi, which set in whenever an attempt to speak was made and which rendered articulate expression extremely difficult or impossible. The cause is great emotional excitement or fright. Laurent reports a case occurring in a girl 15 years old. When 9 years of age she fell down a flight of steps and hit her head on the pavement, and while not injured apparently, she suffered a great fright. Before this time, she had had no speech difficulty, but after this fall, on attempting to speak, the tongue would be pulled back and the lower jaw pulled downward and to the right side. This condition has lasted for six years. When Laurent first saw her she still had these symptoms and he noticed also that when she attempted to speak, the extrinsic muscles of the larynx supplied by the hypoglossal nerve (the sternothyroid and thyrohyoid) and the sternohyoid muscle fell into violent vibrating movements. This was only on the right side. Patient said she felt as though a hand was clutching her throat and pulling her tongue back and that she felt great pain when trying to speak. Now, after six months, she says it does not hurt her at all to talk, the feeling of constriction in the throat has disappeared and there is no muscular spasm, although there is still the backward traction of the tongue to a slight degree. She still has some trouble with the linguals and will have to remain in Laurent's care for further training. The treatment used was massage of the offending muscles and teaching her to remove the strain from the laryngeal muscles by "bringing the voice forward." This was done by making the attack of the initial tone with the lips closed (in which way only a pure head-tone can be produced) afterward using the head-tones with the lips just far enough apart to permit of articulation.

Medical Record, New York

February 1, LXXXIII, No. 5, pp. 185-230

69 Newer Problems and Newer Phases of Antituberculosis Warfare in United States. S. A. Knopf, New York.
70 Gastric Motor Functions. C. S. Fischer, New York.
71 Hygiene for Normal Child. I. S. Wile, New York.
72 Clinical Examination of Feces. A. F. R. Andresen, Brooklyn.

February 8, LXXXIII, No. 6, pp. 231-276

73 General Anesthesia by Intravenous Route. W. F. Honan and J. W. Hassler, New York.
74 *Preliminary Report of Operations Under Extradural Anesthesia. J. M. Lynch, New York.
75 Experimental Psychology and Medicine. H. L. Hollingworth, New York.
76 Treatment of Benign Papillomata of Urinary Bladder with Oudin High-Frequency Current Introduced Through Catheterizing Cystoscope. E. Beer, New York.
77 Literary Genius and Manic-Depressive Insanity. E. C. Reid, Washington, D. C.
78 *New Chemistry and New Materia Medica. H. Hille, Chicago.
79 Neglect of Oral Treatment in Infectious Diseases. C. E. Field, New York.

74. **Operations Under Extradural Anesthesia.**—The method described by Lynch is said to be absolutely free from danger; it insures a perfect anesthesia, prevents shock, and allows of any surgical procedure below the culdesac of Douglas. It can be used in any of the following procedures: cystoscopy and operations on the urethra, prostate, perineum, rectum, and lower extremities. The safest method to adopt, especially by those who are not familiar with this procedure, Lynch says, is to make an incision a little in front of the sacrococcygeal joint, and if necessary extend it until an opening is found. This can be done under local anesthesia.

The point at which the needle is to be inserted is first decided on. This can be determined by following the sacral spinus processes until they are found lacking. Slightly above this point will be found the opening of the canal. If, as happens in most cases, there is a bifid spine, the ridges can easily be felt, except in very fat subjects. If the canal opens near the sacrococcygeal joint this point is selected. Then, having first determined the point at which the needle is to be inserted, and this is always in the median line, it is painted with tincture of iodin. Next, a little ethyl chlorid is sprayed on the skin and a hypodermic syringe, containing a solution of 1-500 cocain, with an ordinary hypodermic needle, is next employed in order to anesthetize the skin over the area in which the needle is to be inserted, so that a small incision can be made without causing any pain. It is always better to incise the skin in order to obviate any chance of infection.

The following procedure is used in passing the needle. The needle is grasped in the right hand, and the index finger placed close to the point. It is then passed at an angle of about 15 degrees until the bone is reached. The needle is then passed close to the bone until it has been entirely inserted for about one inch. When the needle is found to be in the canal about 4 c.c. of the same solution is deposited on each side. This is usually sufficient. After this has been done the trocar is reinserted in order to prevent the escape of fluid, and the needle, with the trocar, allowed to remain in position until anesthesia is established. The reason for this is because if the anesthesia is not established after fifteen minutes it may be necessary to inject 1 or 2 c.c. more, and this is made much simpler if the needle has been left in place. It is important for the fluid to be absolutely sterile and freshly prepared; also of the same specific gravity as the blood in order that it may be absorbed readily.

After anesthesia has been established the needle is withdrawn, and some cotton and collodion placed over the wound. The patient is then placed in whatever position is desirable in order to perform the operation, and the rest of the procedure depends on what particular operation has been undertaken.

78. **New Chemistry and New Materia Medica.**—Hille summarizes his paper as follows: 1. Inorganic matter and organic material are the same in essence but different in form and structure. 2. The inorganic world is crystalline. The organic world is colloidal. 3. The inorganic is coarse in particle and slow in vibratory activity. The organic is fine in particle and rapid in vibratory activity. 4. Mineral bodies, in organic form, are an essential constituent of food and of the animal organism, and are of vital importance in the prevention as well as the cure of disease. 5. Crystalline, or inorganic, minerals are not fit to serve as food or remedies for the animal organism. They will, therefore, eventually be eliminated from materia medica and replaced by vitochemical, or true organic, minerals. 6. The smaller the particles of a colloidal mineral, and the higher their rate of vibration, the better is it assimilated and adapted as a remedy. 7. Many of the so-called "organic" salts are not organic in the true sense because all, or part, of the compound is still crystalline and not colloidal. 8. The old chemistry, whose days are numbered, is unable to differentiate between inorganic and organic. 9. The new chemistry has not only made clear the difference between inorganic and organic, but also sheds its light on a problem which in the old chemistry was one of the most profound mysteries, viz., Nature's evolutionary principle.

Mississippi Medical Monthly, Vicksburg

February, XVII, No. 10, pp. 191-209

80 Cause and Prevention of Typhoid from Public Health Viewpoint. J. T. Longino, Jonestown.
81 General Anesthesia. H. H. West, Gulfport.

New Orleans Medical and Surgical Journal

February, LXV, No. 8, pp. 559-634

82 Medical Interest in Canal Zone. O. Joachim, New Orleans.
83 Neurologic Case Demonstrating Associated Movements of Upper Extremities. E. W. Phillips, U. S. Navy.
84 Case of Acute Nephritis, with Uremia, Following Salvarsan. P. J. Kahle, New Orleans.
85 Developmental Defects of Female Genitalia; Report of Five Cases. H. W. Kostmayer and M. J. Gelpi, New Orleans.
86 Management of Normal Labor. A. C. King, New Orleans.
87 Comparative Value of Abdominal and Vaginal Examination in Diagnosis of Fetal Presentation and Position. W. D. Phillips, New Orleans.
88 Interstitial Pregnancy. W. Kohlmann, New Orleans.
89 Surgical Treatment of Puerperal Infection. C. J. Miller, New Orleans.
90 Conservatism in Gynecologic Surgery. M. A. Shlenker, New Orleans.
91 Rôle of Roentgen-Ray in Progressive Medicine. A. Henriques, New Orleans.

New York Medical Journal

February 8, XCVII, No. 6, pp. 269-320

92 *Double Function of Fats and Carbohydrates in Nutrition and Their Different Nutritive Properties. H. D. Chapin, New York.
93 Relation of Scoliosis to School Seating. J. W. Sever, Boston.
94 Prostitution in Japan. D. C. McMurtrie, New York.
95 Physical Therapeutics from Modern Point of View. W. B. Snow, New York.
96 High-Frequency Currents in Medicine. F. de Kraft, New York.
97 Mouth from Diagnostic Standpoint. M. Manges, New York.
98 Ocular Headache. A. Brav, Philadelphia.
99 Medical Inspection of Schools. J. F. Edwards, Pittsburgh.
100 Chronic Ulcers of Leg. W. Brady, Elmira, N. Y.
101 Gastric Symptoms in Incipient Tuberculosis. M. M. Jacob, Philadelphia.

92. **Fats and Carbohydrates.**—Fats and carbohydrates, Chapin says, serve two distinct purposes in nutrition which are equally important: They furnish energy which, when expended, liberates heat, and they also supply water to the cells in such a manner that it dilutes the cell contents and reduces their osmotic pressure so as to produce an automatic flow of nutriment to them from the more concentrated blood as soon as it is needed. Fats are more effective producers of metabolic water than carbohydrates. Metabolic water produced from fats weighs more than the original fat and results from a combination of the hydrogen of the fat with oxygen from the blood. Metabolic water derived from carbohydrates is a residual product obtained by splitting the carbohydrate, and weighs about two-thirds as much as the original carbohydrate. In milk, the natural food of rapidly growing young animals, which require much metabolic water to promote cell nutrition, fat supplies the greater part of the metabolic water. In hen's eggs it supplies practically all of it. The amount of heat or the number of calories excreted is a measure of the food that is being burned, but does not show how much is needed for growth. The energy or calorie need of the body does not depend upon its size or weight, but upon its activity. The number of calories a food will yield is not an indication of its nutritive value. The caloric requirements of the body to maintain it intact depend on the amount of energy expended. The number of calories the food, which is to supply these requirements should yield, depends on its caloric value after deducting the number of calories needed for its digestion and assimilation. The amount of energy needed for digesting a food depends largely on its physical condition.

Washington (D. C.) Medical Annals

January, XII, No. 1, pp. 1-72

102 Medical Sectarianism. J. B. Nichols, Washington, D. C.
103 Three Cases of Xeroderma Pigmentosum. C. A. Simpson, Washington, D. C.
104 Management of Juvenile Psychasthenia, with Cases to Illustrate Successful Treatment. T. A. Williams, Washington, D. C.

Wisconsin Medical Journal, Milwaukee

January, XI, No. 8, pp. 239-272

105 Simplification of Some Diets. S. Strouse, Chicago.
106 Public Housekeeping with Reference to Sanitation. J. Riddle, Oshkosh.
107 Plan for Medical Inspection of Country Schools. R. H. Kinney, Lancaster.
108 Treatment of Fractures. V. F. Marshall, Appleton.
109 Case of Epithelioma of Lip Complicated by Xanthoma Tuberosum Multiplex. A. Drexel, Milwaukee.

FOREIGN

Titles marked with an asterisk (*) are abstracted below. Single case reports and trials of new drugs are usually omitted.

Australasian Medical Gazette, Sydney

December 14, XXXII, No. 24, pp. 599-622

1 Treatment of Epilepsy by Chloretone. B. J. Bentley.
2 Fresh Bread vs. Stale. J. Jamieson.
3 Treatment of Spastic Paralysis. M. Herz.

December 21, XXXII, No. 25, pp. 624-646

4 Malignant Growth of Large Intestine. G. H. Abbott.
5 Pseudochylous Ascites. J. B. Nash.

December 28, XXXII, No. 26, pp. 647-670

6 Tuberculous Rheumatism. F. G. Griffiths.
7 One Hundred and Fifty Consecutive Cases of Cataract Extraction. E. T. Smith.
8 Case of Exostosis of Femur. G. H. Abbott.

Brain, London

November, XXXV, No. 2, pp. 61-193

9 Growth and Survival Period of Intracranial Tumors, Based on Records of 500 Cases, with Special Reference to Pathology of Gliomata. H. H. Tooth.
10 *Paths of Encephalic Infection in Otitis. C. Tylor.
11 *Some Rarer Manifestations of Parasyphilis of Nervous System. A. R. Wilson.

10. **Paths of Encephalic Infection in Otitis.** The possible pathways of infection in the various intracranial complications secondary to infective otitis media are discussed by Tylor. Infection through vascular channels appears to be responsible for most cases of lateral sinus thrombosis, while vascular infection is a cause of extradural and brain abscesses in a large number of cases. Many cases of extradural abscess are due to disease of the petrous bone, especially its posterior surface and tegmen; in those cases in which the bone is unaffected, the dura mater becomes infected through a septic endophlebitis of a vein of the tympanic mucosa extending to a vein of the dura. Cerebral and cerebellar abscesses may be due to direct contact of the brain with diseased dura mater; if perforation of the latter takes place, direct extension to the cerebral surface may occur; if no perforation occurs, the disease may spread to the brain by infection of the veins in the dura, with extension from them to the vessels of the pia-arachnoid, and from the latter to the interior of the brain. Cerebellar abscess is also often secondary to infective labyrinthitis, extension of the disease taking place along the nerve-sheaths, or directly in the region of the posterior semicircular canal. Leptomeningitis is either (a) secondary to a gross intracranial lesion or bone disease, in which case it is due to the rupture of an abscess into the intradural space or to vascular infection from the lateral sinus, abscess, or bone, as the case may be; or (b) to labyrinthitis, with infection spreading along the nerve-sheaths, or vascular infection from the middle ear direct.

The results of this investigation show that infection of the labyrinth is responsible for many cases of cerebellar abscess and meningitis of otitic origin. Formerly, disease of the labyrinth, owing to lack of knowledge as to its pathology, did not receive sufficient attention as a cause of intracranial infection. Of recent years, however, our knowledge of the diseases affecting it, and their bearing on the subject of encephalic infection, has increased rapidly. At the present time, surgeons when operating for disease of the middle ear pay more attention to fistulas or necrosis of its inner wall as evidence of possible labyrinthine involvement. Moreover, various clinical tests which have been introduced lately, such as the rotation tests and the caloric and galvanic reactions, when taken together, appear to afford a fairly sure means of diagnosing this condition. In this way many cases of labyrinthine infection are discovered which in earlier years would almost certainly have been overlooked. Many cases of tuberculous and non-tuberculous cerebrospinal meningitis occur in patients with infective ear-disease in which the latter is not the obvious cause of the meningitis, and the question as to whether the ear can be regarded as being the channel of infection in such cases requires to be further investigated.

11. **Parasyphilis of Nervous System.** There is no doubt in Wilson's mind that in the vast majority of cases of tabes and general paralysis of the insane syphilis is the essential cause.

They are parasyphilitic nervous diseases. There is evidence that at all events some cases of primary optic atrophy, primary lateral sclerosis and progressive muscular atrophy, are parasyphilitic too. A history of syphilis or a positive Wassermann reaction, and in some instances the post-mortem examination, point to this being so. In tabes and general paralysis there is degeneration of certain neuronic tracts or groups; and degeneration of precisely the same character in other neuronic groups produces primary optic atrophy, primary lateral sclerosis and progressive muscular atrophy. Combinations of all three with tabes or general paralysis of the insane, or with both, or among themselves, are so frequent that it is difficult to withstand the conclusion that their essential etiologic factor is the same, more especially since it is conceded that syphilis has a great affinity for the nervous system. If it be allowed that the neuronic degeneration of primary optic atrophy, primary lateral sclerosis or progressive muscular atrophy when combined with that of tabes or general paralysis is due to syphilis, it cannot be denied that such degeneration, occurring uncombined, may still be parasyphilitic. The Argyll Robertson pupil is recognized as a symptom of tabes and general syphilis; in other words it is a parasyphilitic manifestation. It is found also with primary optic atrophy, primary lateral sclerosis and progressive muscular atrophy. If the question of antecedent syphilis were carefully investigated in every case of primary optic atrophy, primary lateral sclerosis and progressive muscular atrophy, or better still if every case were subjected to Wassermann's test as well, Wilson believes that an accumulation of evidence, entirely analogous to that obtained in determining the etiology of tabes and general paralysis, would soon be at hand, and that these three diseases would take their rightful place among the rarer manifestations of parasyphilis of the nervous system.

British Medical Journal, London

January 25, I, No. 2712, pp. 149-204

12 *Work Carried Out at Radium Institute from Aug. 14, 1911, to Dec. 31, 1912. A. E. H. Pinch.
13 Report of Chemico-Physical Laboratory. W. L. S. Alton.
14 Diagnosis and Treatment of Cancer of Rectum. W. E. Miles.

12. **Therapeutics of Radium.**—This is the first report of Mr. Hayward Pinch, the Medical Superintendent of the Radium Institute, founded in London in 1911, at the suggestion of King Edward VII, and through the munificence of Sir Ernest Cassel and Viscount Iveagh. Sir Frederick Treves is chairman of the executive committee of the institute. No examples of malignant disease, with the single exception of rodent ulcer, have been treated unless operation has been declared to be unjustified or the patient has absolutely refused operation. The total number of patients suffering from epithelioma who applied for treatment at the institute was 147; of these, thirteen were not treated; in eight the treatment was commenced so recently that no opinion on its result can be stated, and in fifteen the application of radium was prophylactic only. This was undertaken, although it was abandoned by twenty-three patients. Of the eighty-eight cases that remain if these be deducted, twenty are not improved and twenty-two are dead; if to them, on the assumption that the abandonment was due to the patients' disappointment with the result, are added the cases in which the treatment was abandoned, there is a total of sixty-five failures, or nearly three-fifths. There were seven cases in which the patient was apparently cured and thirty-nine in which there was improvement—a total of forty-six, or about two-fifths.

In cancer of the breast the treatment failed in thirty-eight cases and was attended with more or less success in thirty-five, and in cancer of the rectum it failed in twenty-seven cases, or about three-fourths, and succeeded in ten, or rather over one-fourth. The report is quite definite in advising that radium should never be used in cancer of the breast as a substitute for operation and the same is true of cancer of the rectum. It seems established, however, that, in inoperable cases of cancer of the breast, radium is often able to relieve pain and promote secondary deposits; in a few instances superficial carcinomatous nodules and enlarged glands disappeared, and reports are given of several such cases in which the results were very remarkable.

In cancer of the uterus the immediate results reported are so satisfactory that it would appear well worth while to submit any patient with inoperable disease to the radium treatment. It has been applied by introducing into the cervical canal a tube containing radium for periods of thirty to sixty hours spread over five or ten days. In a considerable proportion of cases hemorrhage is arrested, discharge diminished and rendered inoffensive, ulceration healed, pain relieved, and the growth even in some cases stopped. Out of thirty-nine patients treated, three were apparently cured, while nineteen were improved, but the report points out that the action is only local, that in most cases dissemination will occur.

The evidence as to rodent ulcer seems to justify the conclusion that the best advice which can be given to a patient with rodent ulcer of the skin is to resort at once to treatment by radium. It has been found that if the lesion has been treated for prolonged periods by the Roentgen-rays, zinc ionization and carbonic acid snow, the healed tissue frequently breaks down after radium and repair is slow and imperfect. A small rodent ulcer limited to the skin and not previously treated may be cured by a single exposure, probably because it is safe to use a full-strength applicator unscreened. With a large ulcer it is necessary to proceed more cautiously, as an unscreened application to the whole area will produce severe systemic disturbance. Different parts of the surface are therefore treated at intervals of three or four weeks. If the disease has attacked bone or cartilage, still more caution is requisite to avoid the risk of acute painful and prolonged inflammation. Rodent ulcer of a mucous membrane is refractory to treatment by radium, though small lesions of the palpebral mucous membrane often respond well to a strong unscreened application. The statistics are encouraging. Omitting one case in which the application was prophylactic only, and ten so recent that the result cannot be stated, there remain ninety cases. Of these patients, twelve were not improved, six abandoned treatment, thirty-one were apparently cured, and forty-one improved. If it is assumed that treatment was abandoned owing to its want of success, it will be seen that the treatment failed in one-fifth of the cases, succeeded in about one-third and produced improvement in the remainder.

All the patients who applied to the institute were treated. The sarcoma patients are relatively few; twenty-six were treated, of whom nine, or about one-third, were improved, it being said of two of them that they are apparently cured. Among the other diseases treated the most striking results were obtained in keloid and nevus. Of the fourteen cases of keloid or keloid acne treatment, three are reported cured and eight improved, while the treatment was abandoned in the remaining three. One of the chief practical difficulties in the therapeutic application of radium is so to adjust the strength and duration of the application as to avoid a severe reaction. The cause and nature of the reaction have not yet been fully elucidated. Why it should commonly be delayed for two, three or even four weeks, is not clear and no explanation has been suggested. In some cases in which an eroded surface exists the radium reaction proper is, there can be little doubt, complicated and aggravated by septic infection, and it would seem that in some such cases the severe pain suffered during the reaction is in part, at least, due to this cause.

Clinical Journal, London

January 1, XLI, No. 13, pp. 193-208

15 Shock. A. H. Tubby.
16 Diseases of Children. H. T. Ashby.
17 Rational Treatment of Venereal Diseases. J. E. R. McDonagh.

January 8, XLI, No. 14, pp. 209-224

18 Affections of Esophagus. W. C. Bosanquet.
19 Neurology: Sensory Disturbances. C. M. H. Howell.
20 Clinicalia. F. W. Langridge.

January 15, XLI, No. 15, pp. 225-240

21 Fractures. T. H. Openshaw.
22 Neurology: Electrical Testing of Muscles; Lumbar Puncture. C. M. H. Howell.

January 22, XLI, No. 16, pp. 241-256

23 Hilus (and Peri-Hilus) Tuberculosis and Its Sequelae. R M. Leslie.

Journal of Tropical Medicine and Hygiene, London

January 15, XVI, No. 2, pp. 17-32

24 Disease in Madagascar. C. J. A. Moss.

Lancet, London

January 25, I, No. 4665, pp. 217-296

25 Treatment of Inoperable Cancer. A. P. Gould.
26 *Etiology of Endemic Goiter. R. McCarrison.
27 Treatment of Meningitis of Otitic Origin. W. Milligan.
28 Case of Adenomyoma Uteri. J. B. Hellier.
29 Hypertrophic Stenosis of Pylorus in Adults. H. G. Barling.
30 Malaria in India and Birth- and Death-Rate. W. H. Kenrick.
31 *Pathogenicity and Virulence of Bacteria. F. H. Thiele and D. Embleton.
32 Jugular Pulse. H. W. Verdon.
33 Case of Hair Cast of Stomach; Gastrotomy; Recovery. L. Storey.

26. **Etiology of Endemic Goiter.**—McCarrison reiterates his belief, based on experiments that thyroid enlargement can be experimentally produced in man within a few weeks by the administration of the suspended matter separated by filtration from goiter-producing waters. It cannot be so produced when the suspended matter is boiled. The goiter produced in this way must almost certainly be due, not to the mineral, but to the living component of the suspended matter. While it cannot be said to be definitely proved by these experiments that filtration through a Berkefeld filter wholly deprives the water of its goiter-producing properties, water so treated does not appear to be capable of causing goiter in man within a period of fifty-five days. The results of McCarrison's experiments and observations indicate that the living excitant of goiter exists in greatest abundance in the deposit at the bottom and sides of water-channels, tanks, wells and other receptacles of goiter-producing water.

The characteristics exhibited by experimentally produced goiter in men are: (1) It usually appears about the fifteenth day of the experiment. (2) It shows a marked tendency to fluctuate in size. (3) It reaches its point of maximum size between the twenty-fifth and thirtieth day of the experiment. (4) The enlargement of the gland is not great, nor is it progressive under the conditions of the experiment. (5) It is accompanied, as a rule, with certain subjective symptoms of throbbing in the neck and feelings of fulness and discomfort. (6) It may completely disappear under the conditions of the experiment. The cumulative evidence of experiments, together with other facts and observations is, to McCarrison's mind, conclusive proof of the proposition which he now lays down, that soil is also a vehicle of the *contagium virum* of goiter.

31. **Pathogenicity of Bacteria.**—The authors point out that ferments form an important normal mechanism of defense against bacterial invasion. The ferments performing this important function are: (a) the normal panenzyme, (b) the slightly differentiated specific enzyme, (c) the thermolabile specific coenzyme or amboceptor and (d) the thermostable specific coenzyme or amboceptor. These last two adjuvant and accelerate the action of the ordinary enzyme. The action of the ferment is to bring about proteolytic digestion of the bacteria. Exotoxins and endotoxins are bacterial protoplasm and are not primarily toxic *per se*, but only become so when acted on by the ferments. The action of the ferments on the bacterial protoplasm is to produce toxic early proteolytic digestion bodies. These bodies, besides being toxic to the animal, are also aggressive in the sense of Bail—i. e., are antiphagocytic. The action of this toxic substance, besides being aggressive, is to produce (a) in large amounts, death; (b) in lesser amounts, fall of temperature; and (c) in small amounts, fever. This substance is the cause of death in all bacterial infections. The virulence of a bacterium is dependent on the power of exuding around itself a zone of its cytoplasm, which remains in position and acts as a protective shield. The production of a zone of ferment equilibrium in this shield protects the bacterium itself from the penetration of the ferment. The shield thus acted on is also aggressive to phagocytosis. Pathogenicity is due to (a) the virulence of the bacterium, and (b) the relative activity of the ferment to the bacterium. Thus they would say that immunity is due to ferment action and phagocytosis—i. e., it is cellulo-humoral.

Medical Press and Circular, London

January 1, XCV, No. 3843, pp. 1-26

34 True and False Gastric Dyspepsias. A. Cawadias.
35 Neurology of Visual System. (To be continued). H. Campbell.
36 Some Specific Methods of Treating Tuberculosis of Lungs. W. M. Crofton.
37 Chalazion. J. Doulal.

January 8, XCV, No. 3844, pp. 27-54

38 Teeth in Relation to Pulmonary Tuberculosis. G. Thomson.
39 Neurology of Visual System. (To be continued). H. Campbell.
40 Clinical Interpretation of Results of Urinary Analysis. M. Labbe.
41 Still-Births in Relation to Infantile Mortality. R. Dudfield.

January 15, XCV, No. 3845, pp. 55-82

42 Cancer of Liver or Pancreas. W. H. White.
43 *Female Sterility as Salient Feature of General Tuberculosis of Peritoneum. E. H. Tweedy.
44 Neurology of Visual System. (Concluded). H. Campbell.
45 Fixation Abscess. L. De Savarel.

January 22, XCV, No. 3846, pp. 83-108

46 Treatment of Facial Neuralgia and Facial Hemispasm. M. J. Sicard.
47 Differential Diagnosis of Swelling in Breast. C. A. Morton.
48 Considerations of Bismuth Meal. H. A. S. Newton.
49 Catha Edulis (Abyssinian Tea). J. C. McWalter.

43. Also published in *Journal of Obstetrics and Gynecology*, January, 1913.

Archives des Maladies du Cœur, etc., Paris

January, VI, No. 1, pp. 1-80

50 Roentgenography of Adhesion of the Pericardium. (Etude radiologique de la symphyse cardiaque et des adhérences partielles du péricarde.) H. Vaquez and E. Bordet.
57 Anemia of Pernicious Type in the Tuberculous. (Anémie hémolysinique du type pernicieux avec hémosidérose viscérale chez un tuberculeux.) G. Roque, J. Chalier and L. Nové-Josserand.
52 Tuberculosis as a Factor in Myeloid Leukemia. (Rôle de la tuberculose dans l'étiologie de la leucémie myéloide.) A. Nanta.

Bulletin de l'Académie de Médecine, Paris

January 7, LXXVII, No. 1, pp. 1-18

53 Carrel's Work on Organs Living Outside of Organism. (Vie autonome d'appareils viscéraux séparés de l'organisme d'après les nouvelles expériences de M. Alexis Carrel.) S. Pozzi.

Bulletins de la Société de Pédiatrie, Paris

December, XIV, No. 9, pp. 477-520

54 *Scarlatinal Uremia with Blindness. (Encéphalopathie scarlatineuse. Début par amaurose. Réaction méningée toxique.) H. Méry, H. Salin and A. Wilborts.
55 *Pulmonary Complications of Scarlet Fever. R. Porak.
56 *Bottle Exercise for the Lungs. (Nouvelle méthode d'exercices respiratoires progressifs, procédé de la bouteille.) J. Pescher.

54. **Scarlatinal Uremia.**—A case is reported in which a child of 7 twenty-two days after the onset of scarlet fever of the ordinary type developed extremely severe headache, with a little vomiting and diarrhea, and amaurosis. Lumbar puncture showed the spinal fluid under high pressure but limpid, with slight lymphocytosis and considerable albumin, and a slight increase in the urea content. Venesection and lumbar puncture were done twice and improvement rapidly followed. By the sixth day the urine was free from albumin, and lumbar puncture showed the fluid normal and the child seemed to have entirely recovered. Notwithstanding the insignificance of the albuminuria and its brief duration and the absence of anasarca and disturbances on the part of the heart, the diagnosis of scarlatinal uremia seems beyond question—a toxic reaction on the part of the meninges. The case resembles the thirteen reported by Rilliet and one previously observed by Méry although in the latter case the cerebral accidents progressively increased, the child dying in convulsions in a few hours after the first symptoms. They had developed at the end of the first week of an ordinary scarlet fever.

55. **Pulmonary Complications in Scarlet Fever.**—In the first case reported by Porak the scarlet fever developed two weeks after varicella with a tendency to hemophilia. During convalescence from the scarlet fever occurred bronchopneumonia with multiple abscesses in the lung and pyopneumothorax. In the second case there was an infarct in the lung from arterial thrombosis of streptococcal origin. The necropsy findings in each case are given.

56. Summarized in the Paris Letter, February 8, p. 459.

Journal de Médecine de Bordeaux

January 19, XLIII, No. 3, pp. 35-48

57 The Participation of the Brain in Training the Muscles. (Le mécanisme mental de l'éducation neuro-musculaire.) P.-Nadal.
58 *The Mercury Index of the Blood. (Rapports entre l'indice mercurique du sang et la teneur de ce liquide en hémoglobine et en globules.) L. Chelle.

58. **The Mercury Index of the Blood.**—Chelle states that the hemoglobin and corpuscle content of the blood can be estimated by the precipitation which occurs in the blood under the influence of Mayer's reagent plus acetic acid. He does not give the details of the technic, referring to a previous communication, but he tabulates the findings of the index in seven healthy persons and in a large number of patients with various affections. The technic is extremely simple and the index can be used for comparison of the character of the blood as typical for various morbid conditions and thus an aid in diagnosis.

Lyon Médical, Lyons

January 5, XLV, No. 1, pp. 1-48

59 Prophylaxis of Typhoid Fever. (Quelques reflexions sur les divers modes de contagion de la fièvre typhoide. Les meilleurs moyens prophylactiques à leur opposer.) H. Rondet.

Presse Médicale, Paris

January 11, XXI, No. 4, pp. 29-40

60 Congenital Strictures of the Rectum. P. Reclus.

January 15, No. 5, pp. 41-48

61 Different Attitude of Forearm with Various Traumatic Lesions. (Pronation et supination de l'avant-bras dans les lésions traumatiques.) E. Destot.
62 The Platelets in Coagulation of the Blood. (Rôle et importance des plaquettes dans la coagulation du sang.) P. Pagniez.

Revue de Gynécologie, Paris

November, XIX, No. 5, pp. 401-528

63 Non-Malignant Tumors of the Breast. (Tumeurs bénignes de la mamelle.) M. Letulle.
64 Operative Treatment of Torsion of the Large Intestines. H. E. Duroux.

Semaine Médicale, Paris

January 15, XXXIII, No. 3, pp. 25-36

65 *Development of Tumors in Anilin-Dye Workers. (Du développement de neoplasmes sous l'influence de l'industrie des couleurs synthétiques.) S. G. Leuenberger.

65. **Cancer in Urogenital Tract of Workers on Synthetic Dyes.**—Practically the same article was summarized in The Journal, Nov. 30, 1912, p. 2009, with editorial comment Jan. 18, 1913, p. 206.

Beiträge zur Klinik der Tuberkulose, Würzburg

XXV, No. 3, pp. 355-437. Last indexed Jan. 18, p. 248

66 *Kuhn's Aspiration Mask. (Die Kuhnsche Lungensaugmaske.) S. Brotzen.
67 Case of Primary Tuberculosis of the Tubules of the Testicle. (Fall von primärer Tuberkulose der Samenkanälchen des Hodens und des Nebenhodens.) A. Balliano.
68 Development of Susceptibility to Tuberculin in Incubation Stage of Tuberculosis. (Entwickelung der Tuberkulinempfindlichkeit im Inkubationsstadium der Tuberkulose.) K. Dietl.
69 *Fatal Embolism During Artificial Pneumothorax. (Ueber einen in seiner Entstehungsweise eigenartigen Fall von Stickstoffembolie.) Zink.

66. **Kuhn's Aspiration Mask.**—Six years have passed since E. Kuhn, an army surgeon, called attention to the advantages of inducing negative pressure in the lungs as a means of hyperemia, and devised a mask which automatically aspirates the blood from the heart into the lungs. Brotzen here describes extensive application of the mask at the great Beelitz sanatorium near Berlin, and discusses the theories on which it is based and the experiences of others with it. He used the mask on 118 patients; they wore it from fifteen minutes to an hour three times a day while reclining. A number of beneficial effects were observed, slowing of the respiration rate, reduction of the cough, improvement of the appetite and hemoglobin percentage, but the most striking result was the ability to sleep at night. The effect in this line was so striking that Brotzen thinks the mask might prove useful also for sleeplessness in neurasthenia. The mask also influenced very favorably various difficulties in breathing, especially asthma. A number of patients with asthma found that by putting on the mask when they felt an attack impending they could ward it off or abort it. The most striking objective results of the mask treatment were obtained in acute and chronic bronchitis, chronic pneumonia or pleurisy. Fürbringer alone has emphasized this beneficial action of the mask in chronic bronchitis and pleurisy. Brotzen gives the details of thirty cases and then adds a communication from eight patients in turn, describing their own impressions of the mask, their repugnance to it at first, their dislike of the smell of the rubber, but their growing appreciation of the benefit derived and their final enthusiasm for it. Brotzen summarizes his own impressions in the statement that the mask is not only a fine prophylactic but also a fine curative measure, especially in the mild to moderately severe cases of pulmonary tuberculosis and also in acute and chronic bronchitis, asthma, emphysema, chronic pneumonia, chlorosis and pleurisy. [The principle of the mask was described in The Journal, Oct. 15, 1910, p. 1420. It looks like a small muzzle fitting over the nose and mouth. Valves permit unobstructed expiration while inspiration is impeded more or less, and can be regulated. The effect of the impeded inspiration is naturally a negative pressure in the chest; the inspiratory muscles are brought into strong contraction, inspiration is prolonged and the respiration rate lowered. Blood is consequently sucked from the right heart into the lungs, owing to the prolonged negative pressure, while there is no obstruction in the pulmonary circulation to the influx of blood—and in this is the great difference between the passive congestion of heart disease and the hyperemia induced by the aspiration mask. The apparently well attested fact that passive congestion of the lungs from heart disease is a protection against tuberculosis of the lungs, was the starting point, it is alleged, for Bier's hyperemia treatment of surgical inflammation.]

69. **Fatal Gas Embolism During Artificial Pneumothorax.**—Zink's patient was a woman of 40, healthy until the tuberculous process developed in one lung two years before. Necropsy showed that the nitrogen injected under some pressure must have got into some vessel in the soft parts of the thorax as there were no signs of injury of the lungs nor of a pleural vessel in the region where the nitrogen had been injected. Ten or fifteen seconds elapsed between the withdrawal of the needle and the first sign of embolism in the medulla oblongata; the necropsy findings were negative as is usual in gas embolism. If the patient survives the first collapse, various symptoms show the disturbance in the central nervous system. Generally, severe coma comes on without the slightest preliminaries. Occasionally there may be a brief aura in which the patients complain of headache or vertigo or scream as they collapse. No means of resuscitation prove effectual in these acute cases. With a more protracted course, the most frequent and an almost pathognomonic symptom of nitrogen embolism is the marbling of the skin, mostly on the extremities. In Zink's case this marbling was on the right forearm and around the puncture hole in the thorax. There was considerable fat around the heart, which certainly cooperated in the fatal outcome; after the first threatening symptoms had subsided the general condition seemed relatively good so that recovery was anticipated. Even the next morning the condition did not seem menacing, until afternoon when the heart showed serious disturbance, refractory to all measures, and the patient died at 8 p. m. About 200 c.c. of nitrogen had been injected, the third injection in four days, and the terminal pressure had been plus 12. Zink does not think that anything was omitted which could possibly have saved the patient except that he might have aspirated out the gas when the first symptoms were observed, but he doubts whether it would not even then have been too late.

Berliner klinische Wochenschrift

January 13, L, No. 2, pp. 49-96

70 Principles of Modern Treatment of Syphilis. A. Neisser.
71 *Intestinal Auto-Intoxication. (Ueber enterogene Intoxikationen, bes. über enterotoxische Polyneuritis.) C. von Noorden.

72 *Paralysis Following Extension for Fracture of the Femur. (Lähmungen bei Extensionbehandlung von Oberschenkelbrüchen.) M. Weichert.
73 *Operative Treatment of Exophthalmic Goiter. (Zur chirurgischen Behandlung des Morbus Basedowii.) A. Schlesinger.
74 Characteristic Behavior of Frog Eye in Serum from Psoriasis Patients. (Das Ehrmann'sche Froschaugenphänomen im Blutserum von Psoriasiskranken.) A. Sommer.
75 *Diabetic Coma. R. Ehrmann. Commenced in No. 1.
76 Instrument to Aid in Suturing Blood-Vessels. (Instrument zur Erleichterung der Gefässnaht nach Carrel.) E. Jeger.

71. Published in full in The Journal, Jan. 11, 1913, p. 101.

72. **Paralysis After Extension for Fracture of the Femur.**—Weichert reports five cases of paralysis in men from 22 to 55 years old and one boy of 11 after long extension treatment of fracture of the femur; the paralysis did not subside entirely until a full year had elapsed. He ascribes the paralysis to injury of the trunk of the sciatic nerve from too severe and too prolonged stretching with heavy weights. The weights ranged only from 20 to 30 pounds but the limb was raised so that the leg lay on a slanting plane. The hip joint was thus bent, stretching the sciatic nerve further, so that the moderate weight proved too much for the nerve. This assumption as to the cause of the peripheral paralysis has been confirmed by the fact that such disturbances are no longer observed since the technic has been changed so that extension is applied with the thigh parallel to the bed, thus relaxing the sciatic nerve, while the knee is flexed.

73. **Operative Treatment of Exophthalmic Goiter.**—Schlesinger reviews his experiences in twenty cases and states that it has convinced him that the sudden fatalities after operative treatment of exophthalmic goiter are due to absorption of thyroid secretions. By reducing to the minimum the raw surfaces permitting absorption, it may be possible to ward off trouble from this source. He has become convinced also that it is not necessary to do an extensive operation to accomplish the desired result, but he adds that operative treatment has raised a host of new problems which now await solution. It is better, he thinks, to err on the side of operating too soon than too late. Of his twenty patients three were entirely cured, four immeasurably improved and seven much improved. In two cases the affection returned to a slight extent but it yielded then to medical measures. Three patients were in good condition six months after the operation. In another patient the recurring symptoms were accompanied by much enlargement of the remaining lobe.

75. **Diabetic Coma.**—Ehrmann reports extensive experimental research on coma, stating that he found it possible to induce in rabbits a coma resembling so closely diabetic coma in man that a number of new and previously undescribed elements in the clinical picture were discovered. He elicited the coma in the animals by administration of butyric acid (l-beta-oxybutyric acid and aceto-acetic acid). The butyric acid acts as a severe poison for the brain, affecting in particular the respiration center, vasomotor center and the cerebrum. When the butyric acids act predominantly on the vascular system, a cardiovascular form of coma may be induced. The unmistakably favorable action of sodium bicarbonate in coma is due to its effect in stimulating the elimination of the toxic butyric acids through the urine and also to a direct stimulating action on the nerves of the vessels. The alkali is not able to cure existing coma but it has proved its usefulness in aborting it when given early enough. The facts observed explain the origin of diabetic coma and show the importance of recognizing the action of the poisonous fatty acids on the respiration center in the peculiar low and deep breathing. This should warn of impending coma and permit treatment in time. The toxic action on the respiration center gradually extends to the rest of the central nervous system, with actual coma as the result. The assumption that the brain is predominantly affected by the butyric acid salts is sustained by the fact that in the experiments related the dose needed to bring on coma had to be proportional to the weight of the brain rather than to the entire weight. The small amounts of acetone found in the urine of the animals in coma exclude the assumption that accumulation of acetone is responsible for the development of diabetic coma. The accelerating effect of the sodium bicarbonate on the elimination of the butyric acids is paralleled by the remarkably increased and hastened elimination of salicylic acid which it induces in case of intoxication from salicylic acid. The elimination of the salicylic acid is shortened by one-half under sodium bicarbonate, as Ehrmann has previously stated. He recommended then to give the sodium salts in treatment of salicylic acid poisoning. The facts observed here as also in diabetic coma show that neutralization of the acids by the alkali cannot possibly be the cause of the favorable effects observed. When the toxic action of the butyric acids is felt predominantly in the cardiovascular system, sudden death may follow; this was probably the cause of the fatality in the cases recorded in the literature as "collapse" and "sudden heart death" in diabetics. Coma is therefore a consequence of severe diabetes, that is, accumulation of the fatty acids, such as occurs only in severe diabetes. They injure the vascular system and the diabetic may die of collapse of the vascular system—more cases in this category will be found when greater attention is paid to the blood-pressure in diabetics before coma has developed. The increased excretion of beta oxybutyric acid in the urine after administration of large doses of sodium bicarbonate has been confirmed by a number of investigators, and it emphasizes the importance of the sodium bicarbonate in prophylaxis of coma and also in its incipient phases. In the experimental research reported, intravenous injection raised the abnormally low blood-pressure and the animals roused and ran around; evidently the bicarbonate had a direct stimulating action on the vasa vasorum.

Deutsche medizinische Wochenschrift, Berlin

January 9, XXXIX, No. 2, pp. 49-96

77 The Cancer Problem. (Das Krebsproblem.) E. F. Bashford. Commenced in No. 1.
78 *Calcium Metastasis and Calcium Gout. (Kalkmetastase und Kalkgicht.) M. B. Schmidt.
79 *Swimming-Tank Conjunctivitis. (Chlamydozoen-Befunde bei Schwimmbad Conjunctivitis.) Huntemüller and Paderstein.
80 *Typhoid Bacilli Carriers. (Typhusbazillenträger.) H. Conradi.
81 Abnormally High Blood-Pressure and Sugar Content of Blood. (Hypertension und Blutzucker.) F. Port.
82 Influence of Salvarsan on the Ear. (Einfluss des Salvarsans auf das Gehörorgan.) E. Rimini.
83 Serpiginous Vaccinia. (12 Fälle von verspäteter Abheilung der Impfpusteln.) Meder.
84 Non-Gonorrheal Ophthalmia Neonatorum. (Ueber nichtgonorrhoische Ophthalmoblennorrhoen der Neugeborenen und Säuglinge.) C. Credé-Horder.

January 16, No. 3, pp. 97-144

85 *The Analytic Method of Reeducating the Muscles in Tabes. (Die analytische Methode der kompensatorischen Uebungsbehandlung bei der Tabes dorsalis.) O. Foerster. Commenced in No. 1.
86 Circulation of Blood in the Lungs. (Die Blutzirkulation in atmenden und atelektatischen Lungen.) O. Bruns.
87 *Tubercle Bacilli in the Bile and Prophylaxis of Tuberculosis. (Untersuchungen zur Tuberkulosefrage.) L. Rabinowitsch.
88 *Diaphragm-Cardiac Neurosis. (Die sexuelle psychogene Herzneurose—Phrenokardie.) E. Behrenroth.
89 *Early Diagnosis of Perforation of the Stomach. (Zur Frühdiagnose der akuten Magenperforation.) D. Kulenkampff.
90 Improved Technic for Staphylococcus Vaccine Therapy. G. Wolfsohn.
91 Vaccine Therapy of Gonorrhea. (Kausale und symptomatische Behandlung gonorrhoischer Prozesse des Mannes mit bes. Berücksichtigung der Original-Gonokokkenvakzine Menzer.) P. Erlacher.
92 *Perforated Capsule Test for Gastric Acidity. (Feststellung der freien Salzsäure im Mageninhalt ohne Magenschlauch.) H. Opitz.
93 *Whitening of Hair and Beard on Side of Hemiplegia Only. (Hemicanities bei Hemiplegie.) S. Loeb.
94 Prostate Elements in Urethrorrhea. E. Pfister.
95 Latent Erysipelas. A. Schlesinger.
96 *Diphtheria Epidemics in School-Rooms. (Klassenepidemien von Diphtherie.) Gettkant.

78. **Calcification of Tissues.**—Schmidt thinks that the term "calcium gout" might be applied to the case he reports in which a woman of 36 had extensive calcification of numerous organs, not restricted to those which are generally regarded as presenting a physiologic predisposition to calcification, namely the lungs, the gastric mucosa, kidneys and preeminently the arteries. It was remarkable that the arteries connected with the pancreas and the uterus were exceptionally affected while those of the thyroid were but slightly and those of the liver

and brain not at all. There was also extensive incrustation of the fibers of the myocardium, but there were no signs of disease of the bones. The woman had severe chronic nephritis, and chronic nephritis is almost invariably encountered in cases of this kind, namely, with changes in the calcium metabolism and deposits of calcium at various points. He theorizes to explain the cause for this flooding of the blood with calcium and its deposits in sound tissue, ascribing it mainly to some change in the conditions governing the solubility of the calcium, such as might readily be induced by nephritis or other causes. The local necrosis of tissues observed is probably a consequence rather than the cause of the deposits of calcium. Conditions are thus very similar to those in gout according to the latest conception, namely, that gout is due to a primary disturbance in the metabolism of uric acid with deposits of the salts in sound tissue and secondary necrosis. In the case reported some of the vessels were filled with solid cylinders of calcium, completely closing the lumen.

79. **Swimming-Tank Conjunctivitis.**—The acute conjunctivitis in the fourteen cases described resembled acute trachoma; one eye alone was affected, with two exceptions, and all the patients soon recovered. It proved possible to transmit the conjunctivitis to monkeys. Typical cell inclusions were found, very similar to the chlamydozoa found in trachoma. Most of the patients had always lived in Berlin and the cases were grouped and involved teachers of swimming or members of swimming clubs—all staying unusually long in the water.

80. **Typhoid-Bacillus Carriers.**—Conradi is convinced that endemic typhoid is maintained by the chronic carriers. Even with the intensive measures for stamping out typhoid introduced into southwestern Germany on an extensive scale in the last few years, it has proved impossible to detect all the chronic carriers. Each epidemic, however, was traced to a chronic carrier, and he states that five out of every hundred typhoid patients is left a chronic carrier. Another fact that has been established beyond question is that four times as many women as men become chronic carriers. He thinks that this has some connection with the fact that women are more predisposed to gall-stones than men; possibly the corset and tight clothes interfering with the circulation may explain the prevalence in women. He states that his experimental and clinical research to discover some way of sterilizing the carriers has failed of results. The only thing that can be done is the constant reminding of chronic carriers of the necessity for care and foresight. Measures for disinfection should be advised exactly the same as for typhoid patients. But his eight years of service in fighting contagious diseases has left him with no illusions as to the carrying out of these measures. This much is known, however, he adds, that the causes of endemic typhoid have now been revealed.

85. **Reeducation of the Muscles in Tabes.**—Foerster gives forty-five illustrations to aid in explaining the analytic method of compensatory exercises to restore coordinated muscular action in tabetics. By sifting out the exact muscles involved in each movement and training these in turn it is possible to accomplish wonders in restoring normal movements.

87. **Tubercle Bacilli in the Bile.**—Rabinowitsch expresses surprise that so little attention has been paid to the statement of Fraenkel and Krause over ten years ago that they found tubercle bacilli in the bile in five out of eleven tuberculous cadavers, that is, in 45 per cent. She has recently examined seventeen cadavers, all with more or less advanced tuberculosis except one in which there was only a calcified mesenteric gland. The intestine was involved in eleven cases, including one with a liver process. Inoculation of guinea-pigs with the bile gave positive results in 70 per cent., showing the danger of infection of others from bacilli in the stools as they may come from the bile as well as from swallowed sputum. The bacilli cultivated from the lungs were all of the human type, but those cultivated from the gall-bladder in six cases were of the bovine type in two. She thinks that these findings confirm the assumption of transmutation of one type into another. The tubercle bacilli infecting the body may persist in the original type in one organ while conditions in another organ may modify the type. It seems plausible to assume that bovine infection in children persists in a latent form until the bacilli become modified into the human type—this would explain why the bovine type may be prevalent in children while the human type is almost invariably encountered in adults. The fact that this transmutation outside of the organism has only rarely been observed in experimental research (O. Bang, Eber, Bongert) does not conflict with this assumption. Nature will not let herself be driven. The practical result of the research reported is a warning against the danger of elimination of tubercle bacilli in the feces from the bile, both in human beings and in cattle. A cow reacting to tuberculin without any apparent disease may infect the milk by bacilli in her feces. The importance of examination of the feces for tubercle bacilli in animals is emphasized by Fraser's recent report that he found infection of the bovine type in 60 per cent. of sixty-seven children with surgical tuberculosis at Edinburgh. Orth declares that if every tubercle bacillus of the human type could be annihilated at one stroke, yet all the measures in vogue against tuberculosis would have to be kept up just the same as long as bovine tubercle bacilli can be transmitted from animals to man.

88. **Phrenocardia—a Psychogenic Cardiac Neurosis.**—Behrenroth discusses the syndrome described by Herz in 1909 as a diaphragm-heart neurosis or phrenocardia. The symptoms are pain below the left nipple, difficulty in breathing and palpitation, with other nervous phenomena. The pains may be sharp and transient or may persist as a dull ache with exacerbations. Erb has encountered fifteen patients with the typical syndrome and ten others with a suggestion of it among 450 cases of neurosis, and Behrenroth has observed nineteen among 370 patients with nervous heart disturbances. The patients were mostly between 25 and 30 years old, the syndrome never being observed in the children or elderly. It is described in detail with the various modifications observed. The origin is generally the same in all cases: unsatisfied sexual longings, disappointments of all kinds. In the majority of cases anomalies, rather than excesses, in the sexual sphere are responsible for the phrenocardia, and treatment is effectual if the cause can be done away with in addition to the measures which have proved their usefulness in cardiac neuroses of other kinds. The transient use of bromids, valerian or other sedatives may help.

89. **Early Diagnosis of Perforation of the Stomach.**—Kulenkampff calls attention to tenderness in the pouch of Douglas as a very early sign of perforation of the stomach. The discovery that the Douglas is sensitive to pressure transforms at once a dubious into a certain diagnosis of perforation of the stomach wall. In a case reported the perforation occurred at 5 p. m. and the patient had eaten nothing since breakfast. The acid gastric juice probably has a more irritating action than intestinal contents, which explains the extreme tenderness at the point where the stomach contents flow down and accumulate, namely, in the lower part of the pouch of Douglas. Two other patients with contusion of the abdomen did not have this tenderness in the pouch of Douglas although there was much accumulation of blood. This point is the only one where the peritoneum can be directly palpated without opening the abdomen, and hence the discovery of tenderness here is extremely instructive in case of a dubious diagnosis.

92. **Perforated Capsule for Testing Gastric Acidity.**—Opitz has been much pleased with the accuracy and reliability of the information derived from congo and litmus paper enclosed in an oval rubber capsule about 1.5 cm. long by 0.5 cm. wide, studded with perforations and made in two parts which screw together. A silk thread is fastened to one end of the capsule, and a nickel ring is enclosed with the two scraps of paper to add weight. To prevent any interference from the saliva, the capsule is loosely wrapped in a wafer and is placed far back on the tongue so that it is swallowed at the first movement of deglutition. After a given time it is drawn out by the string, unscrewed, and the change of tint in the test papers compared with a color scale. By this means it is possible to estimate the amount of free hydrochloric acid in the stomach at a

given moment after the test breakfast, although of course this simple method will never take the place of the more accurate determination by means of the stomach tube.

93. **Sudden Whitening of the Hair.**—In the case reported by Loeb a man of 51 became paralyzed on the left side in consequence of a cerebral hemorrhage and was unable to speak for a week. By the end of this time the moustache, eyebrow and hair on this side had turned entirely white while on the other side the normal color had been retained. Berger has reported two similar cases of the hair turning white on the side of the paralysis, and Loeb regards this material as sustaining the assumption that nervous influences alone are able in certain conditions to turn the hair white suddenly.

96. **Diphtheria in the School.**—Gettkant has arranged it so that the medical inspector of the school the child is attending is notified at once when a case of diphtheria in a child is reported. The medical inspector then makes a point of examining smears from the throats of the children who sit near the seat of the one reported sick and those the sick child has been in the habit of playing with most. By this means he has found it possible to discover unsuspected diphtheria-bacillus carriers, and by excluding these alone from the school-room until they were free from bacilli to stamp out an epidemic in its incipiency. If these measures do not prove sufficient, he has smears made from the throats of all the children in the room, but this is rarely necessary. Bacillus carriers are the main source for epidemics of this kind, he has become convinced.

Medizinische Klinik, Berlin

January 12, IX, No. 2, pp. 45-82

97 *Migraine. (Der migranöse Anfall, seine Kennzeichen, seine Ursachen und sein Wesen unter bes. Berücksichtigung der Wechselwirkung zwischen Migräne und Sexualleben.) G. Caesar.
98 Antitoxin Treatment of Diphtheria. (Klinisches und Kritisches zur Behringschen Antitoxinbehandlung der Diphtherie.) F. Reiche. Commenced in No. 1.
99 *Treatment of Neurosis from Fright. (Zur Therapie der Schreckneurose.) J. Faust.
100 Naphthalin Poisoning. (Fall von Naphthalinvergiftung.) L. Heine.
101 Psychology of Animals. (Die neuere Tierpsychologie.) A. Jacobsohn.
102 Urethral Strictures. (Strikturen der Harnröhre.) E. Portner. Commenced in No. 1.

97. **Causes and Treatment of Migraine.**—Caesar presents evidence to sustain the assumption that migraine is the result of the action of some toxin, and that in all probability the toxin is generated in the perverted functioning of some gland with an internal secretion. The facts cited seem to point to the ovaries as the special gland responsible, especially his clinical experience that migraine often returns with a four weeks' rhythm and very often coincides with the menses, and that the women cease to suffer from migraine with the onset of a pregnancy or lactation while the tendency to migraine seems to disappear permanently with the menopause. In his few cases of migraine in men, the tendency likewise disappeared in them at the age corresponding to the climacteric years in women. The practical conclusion follows that suppression of ovarian functioning might relieve the patients permanently of their migraine.' He consequently advises sterilization of the woman in distressing and rebellious migraine, especially elderly unmarried women or those who already have several children. Müller has treated in this way with complete success a patient tormented beyond measure by constantly recurring migraine.

99. **Treatment of Traumatic Neurosis.**—Faust uses the term "fright neurosis" as the shock was from fright and there was not much physical injury in the case he reports. The patient was a locomotive engineer whose engine ran down a wagon on account of a misplaced switch. The man became a "nervous wreck," the breathing extremely abnormal, rapid, with "stuttering inspiration" and deep sighs, pulse up to 120, and tremor of hands and feet, among other symptoms of the fright neurosis. Faust instituted a course of inhibiting exercises, as he calls them, training the patient to study his breathing and for five minutes in each hour reduce the number of inspirations to ten in a minute, counting by the second-hand of a watch, forcibly controlling the tendency to sigh and to "stuttering inspiration." The second week the exercises were done for ten minutes each hour, the third, for fifteen minutes, the fourth, the same sitting up, the fifth, the same standing, the sixth week the same while walking slowly, the seventh, while walking fast, then while climbing stairs, then while carrying a small trunk, then while slowly walking on the street, thirty feet, sixty feet, etc. The patient had to be alone for each exercise so that his entire attention could be focused on it. The second set of exercises was to try to see how long he could lie in bed without making the slightest movement, timing it by the clock. At first ten minutes was the limit. The patient was ordered to lie down for two hours each day and go to bed at 8, and he was told to try to lie perfectly still at first each time he lay down. He finally succeeded in doing this for an hour at noon and on retiring. Writing exercises were given on the same principle. In three or four months the patient had recovered from his neurosis so that he could go as guest or stoker on his locomotive and by the end of the sixth month had resumed his old post apparently entirely capable of filling all the duties connected with it and there has been no further disturbance during the six months since. Faust is convinced that the inhibition exercises are responsible in large measure for the favorable outcome in this case, as in treatment of asthma and of tabes on the same principles.

Münchener medizinische Wochenschrift

January 14, LX, No. 2, pp. 57-112

103 *Sources of Permanently High Blood-Pressure. (Quellen dauernder Blutdrucksteigerung.) K. Schlayer.
104 Abnormally Long and Movable Sigmoid Flexure. (Sigma elongatum mobile—Röntgenbefund.) R. Kienböck.
105 *Transmission of Epidemic Poliomyelitis by Fomites and Flies. (Experimentelle Untersuchungen über die Möglichkeit einer Uebertragung der Kinderlähmung durch tote Gegenstände und durch Fliegen.) A. Josefson.
106 No Benefit from Neosalvarsan in Parenchymatous Keratitis; Seven Cases. H. Hoebl.
107 *Injury of Crucial Ligaments of the Knee. (Verletzungen der Ligamenta cruciata des Kniegelenks.) R. Purckhauer.
108 *Rupture of Liver from Contusion; Two Cases. (Subkutane Leberruptur.) Flath.
109 Pathology of Banti's Disease. P. Grosser and G. Schaub.
110 Bicycle Devised for a Stiff Knee. (Radfahren unter aktiver Beteiligung eines Beines mit steifem Kniegelenk.) O. Harmsen.
111 Bone Conduction of Sound with Normal Hearing. (Kritisches zur Verkürzung der Knochenleitung bei normalen Gehör.) H. Herzog. Commenced in No. 1.

103. **Causes of Permanent High Blood-Pressure.**—Schlayer discusses the various theories that have been advanced to explain a persistently abnormally high blood-pressure, and the premises on which they are based. His own theory, for which he presents an array of evidence, is that the arterial system in these cases has been sensitized by some means, rendering it hypersusceptible to epinephrin in the blood and also to any other toxins circulating in the blood. Clinical observation sustains this assumption. It explains further why simple repose is liable to have such a beneficial influence. The source of this sensitization may be in the kidney, but the kidney changes in these cases may be merely a parallel phenomenon. The practical conclusion is that a permanently high blood-pressure, over 160 mm. mercury, should call attention at once to the kidneys.

105. **Transmission of Epidemic Poliomyelitis.**—Josefson reports positive findings confirming the transmission of this disease by handkerchiefs, sewing and other fomites, but he was unable to obtain positive results with flies. His experiments were made with monkeys.

107. **Injury of the Crucial Ligaments of the Knee.**—Pürckhauer reports three cases in which a long time had elapsed after the accident. In the eight other cases on record the interval between the accident and treatment had been very brief. When the crucial ligaments are torn, the tibia can be pushed forward or backward on the end of the femur. This possibility of subdislocating the tibia in respect to the femur may be the only symptom left of the old laceration of the crucial ligaments. Laceration of the lateral ligaments or capsule rapidly heals, while the crucial ligaments, once torn apart, never grow

together again spontaneously, or at least never regain their old elasticity. It is important to suture the torn ligaments as soon as possible. In very old cases suture is scarcely advisable. The disturbances in one of his patients were so slight that no treatment was necessary. In another case he corrected conditions to prevent the subdislocation of the tibia, and thus freed the patient from all disturbances.

108. **Rupture of the Liver from Contusion.**—In the first of Flath's two cases the tissues were too friable for suture but the lesion healed promptly under firm tamponing. The necessity for a prompt laparotomy when rigidity of the abdominal wall indicates internal injury, is reiterated anew.

Therapeutische Monatshefte, Berlin

January, XXVII, No. 1, pp. 1-96

112 Treatment of Gonorrhea. (Behandlung der Gonorrhoe und ihrer Komplikationen.) C. Bruck.
113 *Choice of Foods in Disease. (Wahl von Nahrungsstoffen in Krankheiten.) C. von Noorden.
114 *Chronic Tonsillitis. (Radikale Tonsillektomie oder konservative Behandlung der chronischen Tonsillitis?) H. Pässler.
115 Duodenal Sound in Treatment of Pylorospasm. (Zur Behandlung des Pylorospasmus—Pylorussondierung.) H. Putzig.
116 Pulverized Vegetables. (Bedeutung physikalisch fein verteilter Gemüse für die Therapie.) G. v. Bergmann and F. W. Strauch.

113. **Choice of Foods in Disease.**—This article was read in the section for dietetics at the recent International Congress for Hygiene. Von Noorden discussed in particular the diet in obesity, in forced feeding, in gout, diabetes, fever, exophthalmic goiter—classing the two last together—gastro-intestinal morbid conditions and kidney disease. He remarks that sometimes he has found that patients may be able to digest meat or carbohydrates, either alone, but not both together. His clinical observation teaches that in many cases the patients do better with monosaccharids than with disaccharids, such as milk-sugar and cane-sugar. The monosaccharids (glucose, galactose and levulose) are absorbed too rapidly to afford a culture medium for bacteria. It is interesting, he adds, that in the old Mosaic writings it is forbidden to eat meat and milk together. He refers also to a rare affection attendant on chronic constipation: The patients complain of wandering pains in the most diverse nerve regions, and the pains are generally ascribed to rheumatism or gout. More careful investigation will show, however, that it is an elective neuritis, affecting only the sensory nerves, and four or five times the normal proportion of indican is often found in the urine. All attempts to cure the neuritis directly by hot baths, electricity, etc., are bound to fail as they do not attack the cause of the neuritis. This is the influence of poisons generated in the constipated intestines, and a cure promptly follows when the abnormal conditions in the intestines are corrected. This may require some time. Some of his patients were kept for weeks on milk or yoghurt without meat before the bacteria causing the abnormal conditions had died off.

114. **Chronic Tonsillitis.**—Pässler is convinced that chronic tonsillitis is seldom if ever a harmless local affection. It is an important factor not only in articular rheumatism and chorea but in erythema nodosum, dyspeptic conditions, mild sciatica, acute or subacute, recurring nephritis and chronic endocarditis and myocarditis. He urges the necessity for examining for disease in the nose, ears and teeth as possibly involved in the tonsillar process. He removes the tonsils in any of these diseases which drag along or recur. No certain cure can be realized except by radical tonsillectomy.

Wiener klinische Wochenschrift, Vienna

January 10, XXVI, No. 2, pp. 41-88

117 *Etiology of Epidemic Poliomyelitis. (Aetiologie der Kinderlähmung.) C. Kling.
118 Benzol in Treatment of Leukemia and Other Blood Diseases. A. Pappenheim.
119 Skin Reaction in Syphilis. O. Fischer and E. Klausner.
120 Prognosis of Tuberculosis in Infants. R. Lawatschek.
121 Impalement Accidents. (Pfahlungsverletzungen.) F. Orthner.
122 *Embryonal Cells as Cause of Cancer. (Neue Versuche zur Erzeugung von Geschwülsten mittels arteigener und artfremder Embryonalzellen.) G. Kelling. Commenced in No. 1.

January 16, No. 3, pp. 89-124

123 *Dorsal Auscultation of the Heart and Vessels. L. Kürt.
124 Action of Induced Radio-Activity. Fernau, Schramek and Zarzycki.
125 *Injection of Blood in Anemia. (Zur Bekämpfung der Anämien durch intramuskuläre Injektionen von defibriniertem Menschenblut.) J. v. Zubrzycki and R. Wolfsgruber.
126 Twofold Ileus After Herniotomy. (Seltene Komplikation nach der Herniotomie einer eingeklemmten Liestenhernie.) H. Finsterer.
127 Balneotherapy in Kidney Disease. (Zur Balneotherapie von Nierenleiden.) E. Pflanz.
128 No Benefit from Neosalvarsan in Parenchymatous Keratitis; Ten Cases. E. Bachstez.
129 Alcohol and Homosexuality. H. Deutsch.

117. **Epidemic Poliomyelitis.**—Kling reports extensive research on the virus and mode of transmission of infantile spinal paralysis. He found that 78 per cent. of the monkeys contracted the disease after inoculation with water in which organs and mucous membranes from poliomyelitis cadavers had been rinsed. All the animals inoculated with spinal cord died of poliomyelitis. The virus was found constantly in the secretions from the nose and throat and in the intestinal content of acute poliomyelitis patients, also in those with light, abortive cases of the disease and, further, in numbers of healthy contacts. The virus generally soon loses its virulence, so that isolation need not be kept up for more than two weeks although the virus was found in the nasopharynx up to seven months in a few of the cases examined, and also in the abortive cases and healthy contacts. He thinks it probable that each case and each abortive case is surrounded with a number of carriers but serious epidemics do not result as the persons exposed are not susceptible. It seems to be the rule that a region where a disease has once been epidemic, is spared further inroads of the disease later, indicating that a large part of the population had become immunized by having had the disease in an attenuated form. This rule is particularly evident in the large cities where the people are exposed to so many diseases and contract them in a mild, clinically not appreciable, form during the course of a mild epidemic. Then, when the disease returns at some later period in a more malignant form, the populace is protected. In rural districts there is not the same opportunity to acquire immunity, and when an epidemic occurs it befalls large numbers of non-immunes and is liable to run an exceptionally severe course.

122. **Cancer Research with Embryonal Cells.**—The Journal has summarized a number of Kelling's communications on the possibility of malignant disease being the result of the independent proliferation of some alien embryonal cell lodging in the tissues. With gastro-intestinal cancer the embryonal cells from eggs, helminths, etc., may be involved. His views suggest a rational prophylaxis of cancers, as he explains in detail, by avoiding all natural embryonal cells, raw meat, raw eggs, green vegetables possibly contaminated with helminth ova, and contaminated water. Intestinal parasites should be systematically eradicated and the bites of insects should be guarded against. Another point he emphasizes is that an excess of albumin had better be avoided; especially with gastro-intestinal disease let the intake of fluid albumin be restricted, as the reaction of the embryonal cell to alien albumin seems to be an important factor in the development of cancer.

123. **Dorsal Auscultation of the Heart and Large Vessels.**—Kürt gives minute directions for interpreting the findings, remarking that in normal conditions the heart sounds can be heard at the back almost invariably in children but less constantly in adults. The diastolic murmurs with aortic insufficiency of syphilitic origin are unusually loud and rough. They are heard most pronounced on a level with the first or second spinous process of the thoracic vertebrae.

125. **Intramuscular Injection of Blood to Combat Anemia.**—Esch published in 1911 the successful application of this measure, as mentioned in The Journal at the time, Nov. 25, 1911, p. 1807. The measure has been applied at Wertheim's clinic at Vienna in six cases and the results are stated here to have been remarkably favorable. All the patients had lost large amounts of blood and the reds had dropped to less than two millions in most. The blood-findings in both the patient and

the donor are tabulated in detail, and show the prompt improvement in the blood count after the injection, while the general health improved to correspond. The connection between the injections and the increase in number of blood-corpuscles was beyond question, but how to explain the benefit is still a problem. Intramuscular injection of defibrinated human blood is stated to be free from all danger. No untoward by-effects were noted in any instance. The absolute harmlessness of the method, its simplicity and painlessness render it superior to intravenous transfusion of blood, which, as every one knows, is neither simple nor harmless. The blood was obtained from puncture of the median vein from robust pregnant women with negative Wassermann. The blood was drawn in an Erlenmeyer jar and shaken up with beads until it was defibrinated and then from 20 to 30 c.c. was injected at once into the patient's buttocks. The injections were repeated as needed, at intervals of three or four days. The blood of both patient and donor was examined anew each time for hemoglobin content and the number of red and white corpuscles. In the first case the patient was a woman of 48 with anemia from hemorrhagic cancer of the uterine cervix. The hemoglobin was 25 per cent., the reds 1,450,000, and the whites 3,000. After five injections of the blood in two weeks the hemoglobin was 35, reds 3,800,000 and whites 5,400 a month later.

Zentralblatt für Chirurgie, Leipsic

January 11, XL, No. 2, pp. 41-80

130 *Condom for Draining Ascites. (Dauerdrainage stagnierender Ascitesergüsse in das subkutane oder retroperitoneale Zellgewebe mit Hilfe von Gummi- oder Fischblasenkondoms.) K. Henschen.
131 Fascia Grafts. (Zur Verwendbarkeit der freien Fascientransplantation.) A. Neudörfer.
132 To Cover Defects in Skull and Dura. (Ersatz von Schädel- und Duradefekten.) V. v. Hacker.
133 Pyelotomy with Incision of Anterior Wall of Kidney Pelvis. v. Illyes.
134 Technic for Removal of Foreign Bodies. R. and F. F. Stoltzenberg.

January 18, No. 3, pp. 81-120

135 Amputation Below the Knee Instead of Exarticulation. (Die osteoplastische epiphysäre Amputatio tibiae sub genu als Ersatz für die Exartikulation im Kniegelenk.) F. Franke.
136 Technic for Appendectomy. (Operative Mobilisierung des Coecum bei der Appendektomie, sowie Ausschaltung des Wurmfortsatzes.) Krüger and F. Neugebauer.
137 Loofa Sponges in Laparotomies. (Verwendung des Luffaschwammes bei der Laparotomie.) A. Thies.

130. **Condom for Drainage of Ascites.**—Henschen discusses the various methods that have been devised for permanently draining the ascitic fluid into the subcutaneous or retroperitoneal cellular tissue, commenting on the drawbacks of each. Then he describes a method he applied recently to a man of 57 in advanced cachexia from cancer of the stomach with profuse effusion in the abdomen, the girth being 90 cm. or very nearly two yards. After tapping the patient and failure of two efforts to provide permanent drainage, Henschen made a tunnel through the abdominal wall, working toward the median line from an incision above the left spine of the ilium. The mouth of an ordinary rubber condom was then sutured to an opening in the peritoneum, the condom drawn out through the tunnel in the abdominal wall and the closed end cut off, leaving it projecting the width of a thumb above the plane of the aponeurosis of the externus. This projecting end was then spread out into a ring and sutured to the aponeurosis of the externus, inside the pocket that had been made in the skin. The lateral-convex skin flap was then replaced and sutured. The immediate result was the development of extensive edema in the region and around to the middle of the back, but the ascites thereafter was kept within bounds and the disturbances on the part of the lungs and heart from the pressure of the fluid in the abdomen subsided entirely. Severe cancer ascites with multiple metastatic nodules thus kept under control by the technic described testifies with exceptional emphasis to the value of the method. There is no reason to doubt that the drainage will persist unimpaired. It is important to choose carefully the point where the drain is to be applied to utilize the physical forces, and Henschen thinks that the most suitable place is the region above Poupart's ligament or as far to the side as possible in one of the lumbar recesses. Another precaution that must be taken is to see that there is no loose omentum that might obstruct the condom drain tube; it may be necessary to suture the omentum out of the way or draw a wisp into a second tunnel made for the purpose. It might be possible to introduce the condom through a lumbar incision and drain the effusion into the retroperitoneal cellular tissue. A rubber or fish-bladder condom can be readily sterilized, the former by boiling and the latter by Hofmeister's method of sterilizing catgut.

Zentralblatt für Gynäkologie, Leipsic

January 11, XXXVII, No. 2, pp. 49-88

138 Time Relations Between Corpus Luteum Production and Menstruation. R. Meyer and C. Ruge.
139 *Correction of Contracted Pelvis. (Verfahren zur Heilung enger Becken.) H. Rotter.

January 18, No. 3, pp. 89-120

140 *Vomiting of Pregnancy. (Zur Hyperemesis gravidarum.) M. Stolz.
141 Chair for Extradural Anesthesia. (Kippstuhl zur Ausführung der hohen extraduralen Anästhesie.) H. Schlimpert.
142 *Improved Technic for Venesection in Eclampsia. (Zur Behandlung der Eklampsie.) M. Zondek.
143 *Climacteric Hemorrhages and Prophylaxis of Cancer. F. Lehmann.

139. **Enlargement of Pelvis by Resection of Promontory.**—Rotter reports that he has applied in a clinical case the method of enlarging a rachitic contracted pelvis by chipping off the anterior part of the promontory, which he has worked out on the cadaver as described in The Journal, May 11, 1912, p. 1487. The patient had passed through eight pregnancies but the child had succumbed during or soon after the difficult delivery each time. The woman was 32, healthy and normal in other respects and very anxious for a living child. Four months after the last delivery the operation was done under chloroform, Trendelenburg position, the incision on the median line extending from the symphysis to the umbilicus. The intestines were pushed upward, the sigmoid flexure to the left. The peritoneum over the promontory was incised for 6 or 7 cm. and the soft parts pushed out of the way. The sacral artery was ligated 2 cm. above the promontory with a Dechamps needle. Then the promontory was resected with a 4 cm. wide, slightly concave and very sharp chisel, with a smaller chisel for the edges. A few strokes of the hammer answered the purpose. The subperitoneal fat tissue was then sutured over the spot with two catgut stitches, then the parietal peritoneum and the abdominal wound. There was no bleeding from bones or soft parts, and the wound rapidly healed so that the patient could get up the tenth day and was free from pain, and there were no disturbances even on bending and stretching the trunk. Seventeen days after the operation, in place of the promontory, could be felt a smooth flat surface. The portion of the promontory removed was part of the lower lumbar vertebra, intervertebral ligament and part of the first sacral vertebra, the whole being about 1.5 cm. thick. By this means the pelvis has been permanently enlarged by ⅝ inch, which no other method to date has been able to accomplish. The question is now whether callus will develop enough to compromise the effect realized; periosteal callus cannot form as the periosteum was removed with the bone, and fat tissue was sutured over the spot, and, on the other hand, as there was no accumulation of blood in the region, no clot was left to feed a callus and attract calcium salts. Consequently, he is theoretically confident there will be no callus production. In future cases he will chisel off a little thicker piece, possibly 2 cm., which will transform the contracted into a normal pelvis. It might be possible to do this simple operation during the first three months of a pregnancy, but he thinks the advantages are all on the side of the prophylactic operation, not waiting for a pregnancy to be under way. The drawback of having performed an unnecessary operation—in case the woman does not become pregnant—is far outweighed by the other advantages of this method. To wait to do the operation until cesarean section becomes necessary is not advisable, as this leaves a far from normal uterus for future pregnancies, but Schmid recently reported a case of this kind.

140. **Uncontrollable Vomiting of Pregnancy.**—Stolz recommends treatment along the lines of Stroganoff's prophylactic treatment of eclampsia, that is, to keep the patient systematically under the influence of narcotics and sedatives until she has been tided past the stage of hypersensitiveness. Stolz keeps the patient in bed, shielding her from every external impression and allowing only cold, easily digested food in small quantities, stimulating diuresis to eliminate the poisons by regular and prolonged saline enemas, and keeping the bowels open. In the first of the two cases reported, he kept the patient, a iv-para of 24, under the influence of opium. A suppository containing 0.03 gm. of opium was introduced into the rectum three times a day, and by the end of eight days the tendency to vomiting had been conquered. The vomiting began at the end of the fourth week of pregnancy and resisted all other measures. In another case the suppositories were used for three weeks, gradually reducing to one at night as the morning vomiting was the last to yield.

142. **Treatment of Eclampsia.**—Zondek describes a method of venesection involving the kidney alone. Stripping off the capsule from a venous congested kidney droplets of blood can be seen oozing from its surface along with droplets of lymph. There is thus a blood-letting and lymph-letting. By twisting the kidney a trifle on its pedicle, the venous hyperemia can be increased. He has experimented only on animals, but he thinks this method of local venesection may possibly be applied in the clinic, especially in the treatment of eclampsia. He suggests further that the benefit which has been reported in a few cases from decapsulation of the kidney in eclampsia may have been due to an unintentional venesection of this nature.

143. **Climacteric Hemorrhage and Prophylaxis of Cancer.**—Lehmann states that when women who come to him with inoperable cancers are asked why they did not apply for medical aid sooner, the response is invariably that they thought the hemorrhages observed were a natural phenomenon of the change of life. He urges that the laity should be taught insistently that the menopause is merely the gradual subsidence of menstrual hemorrhages, the losses of blood grow less and less and occur at longer intervals; any increase in frequency or amount should arouse alarm as a sign of malignant disease.

Gazzetta degli Ospedali e delle Cliniche, Milan

January 12, XXXIV, No. 5, pp. 41-56

144 *Simple Ferment Test of Liver Functioning. (Nuovo procedimento per la diagnostica funzionale del fegato.) G. Ghedini.

January 14, No. 6, pp. 57-64

145 Hysteric Joint Affection Simulating Chronic Arthrosynovitis. G. De Lucchi.

144. **Polarimeter Test of Liver Functioning.**—Ghedini gives a description of the dozen different methods in vogue for functional diagnosis of the liver, and comments on the drawbacks of each and the necessity for some more reliable technic. He then calls attention to a polarimetric test which shows the presence in the blood-serum of the ferment which is the product of the living liver cell. This ferment is able to reduce glycogen into maltose, isomaltose, glucose, etc. The presence of this ferment in the blood-serum of animals has long been known and in man it has been found in both blood and urine except when elimination by the kidneys is impeded. Ghedini has been investigating its presence by the polarimetric method and found it invariably present in comparatively large amounts in persons with sound livers while it was scanty or absent altogether in those with liver disease. He adds 2 c.c. of blood-serum to a vessel containing 10 c.c. of a 1.5 per cent. solution of glycogen. The turbid fluid is rendered limpid by addition of a couple of drops of a solution of sodium hydroxid. After standing half an hour at 37 C., he adds twice the volume of potassium sulphocyanid and shakes until the salt is entirely dissolved. This salt has the property of clearing up mixtures of serum and other organic products (Porges and Neubauer, Ghedini) in combination with glycogen without affecting the rotation of the plane of polarized light. The deflection of the polarized light is then compared with that with a test mixture of the glycogen solution and physiologic serum. If the polarized light is deflected less than with the physiologic serum mixture the conclusion is evident that part of the glycogen has been reduced to glucose, and the proportion corresponds to the extent of the rotation of the plane of polarized light. He summarizes the findings of this test in nineteen persons with various forms of liver disease of different grades of severity. Parallel tests with other methods confirmed the findings, and he thinks this simple method has a future as a reliable and delicate means of determining both qualitatively and quantitatively the functional capacity of the liver. The test is applied to the blood, which is less subject to secondary influences from other organs than other media, while the technic is free from certain factors which detract from the reliability of other methods.

Medicina Contemporanea, Lisbon

January 5, XXXI, No. 1, pp. 1-8

146 Pleurisy. (Sobre pleurisias.) B. Moraes.

147 Massage in Gynecology. (A kinesotherapia em gynecologia.) P. de Miranda.

Hospitalstidende, Copenhagen

January 8, LVI, No. 2, pp. 25-48

148 Solubility of Uric Acid in Connection with Proportion of Ethereal Sulphates in the Urine. (Urinsyrens Dannelse hos Mennesket.) I. P. Chrom.

January 15, No. 3, pp. 49-72

149 Laminectomy for Fracture of Vertebra, with Necropsy. (Et Tilfælde af Fractura vertebræ cervicalis V, behandlet med Laminectomi.) S. and J. Nordentoft.

Ugeskrift for Læger, Copenhagen

January 16, LXXV, No. 3, pp. 83-140

150 *Chronic Gastric Ulcer Near the Pylorus. (Det kroniske juxtapyloriske Mavesaar.) K. Faber.

150. **Chronic Ulcer Near the Pylorus.**—Faber expatiates on the recurring attacks of spasm of the pylorus which are characteristic of ulceration in either the stomach or duodenum when it is close to the pylorus. When this recurring spasm of the pylorus is observed during or notwithstanding correct medical treatment, he advocates an operation without further delay. A gastro-enterostomy does away at one stroke with the irritation of the ulcer by the passage of food over it, and the patients are relieved from all disturbances from this source although they must regulate their life afterward to correspond to this anomaly and certain persons, especially those inclined to nervousness, may have more or less trouble from it. The hope of a cure of the chronic ulcer by medical measures alone should not be abandoned until after several energetic and persevering courses of medical treatment. He has witnessed remarkable cures by this means, even with a juxtapyloric ulcer. But when all this fails, a gastro-enterostomy may transform conditions as if by magic. Pain and nausea soon after a meal are not always a sign of ulcer; they may be of purely functional origin. But pain developing an hour after the meal is more characteristic. The pain coming on several hours after a meal and relieved by taking food, the so-called hunger pain, is regarded by many as characteristic for duodenal ulcer alone, but in Faber's experience this accompanied ulceration in the stomach itself as often as in the duodenum. Free hydrochloric acid does not become evident until after several hours, and thus its corroding action is not felt until then. In one case described in detail the patient was a woman of 31 with dyspeptic disturbances for eighteen years and signs of an ulcer during the last five, with hematemesis, indicating that the ulcer was probably in the stomach. She never had any pain during or after eating until four or five hours had elapsed. While she was under treatment she had two pronounced attacks of severe spasm of the pylorus with great retention, vomiting and hypersecretion—a typical example of Soupault's "pyloric syndrome" in its most pronounced form, what used to be called Reichmann's disease. In a second similar case the symptoms were practically the same except that the patient had had melena twice. Both patients were freed from their chronic trouble by a posterior gastro-enterostomy with complete success during the several months since.

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THE METHODS OF APPOINTING HOSPITAL INTERNS*

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The many great improvements which have been brought about in recent years in matters of medical education have had to do on the one hand with the preliminary education of the individual, and on the other with the equipment of the schools; that is, their laboratory facilities, clinical material and number of instructors engaged exclusively in teaching and investigation. In regard to these important and fundamental matters definite standards have been established by the better schools, which, as soon as they are widely adopted, will give to medical education a substantial substructure. In order, however, that progress may continue, it is necessary to scrutinize carefully every stage of that training for practice which begins several years before entering a medical school, and ends, not with the conferring of the degree, but, subject to license by the state, with the actual introduction to the responsibilities of practice. A medical school has perhaps accomplished its duty when it confers on students with proper preliminary training a degree which it conscientiously believes to represent the best that can be offered in the way of laboratory and clinical instruction. It may still have many minor problems to settle, as methods of instruction, the relation of research to teaching, the distribution of time between major and minor subjects, and relative value of elective and obligatory work; but the subject now important above all others is that of postgraduate clinical training as a requisite for license. This is indicated in the present general discussion concerning the fifth or hospital year, a discussion originating with the more advanced advocates of medical reform, but now involving to a considerable extent the general public, which is beginning to appreciate that license to practice medicine does not always indicate adequate training for its proper practice, and finally is becoming a matter of serious discussion by state licensing boards. Already Minnesota anticipates the requirement of a fifth year, and Pennsylvania is preparing for the same requirement; other of the more progressive states will doubtless soon follow this lead.

The medical schools must therefore immediately prepare to answer the question shortly to be asked by their students: Where am I to get this fifth year? For the schools with higher requirements and well-organized laboratory and clinical instruction it is not a serious question, for from 80 to 90 per cent. of the graduates of such schools now seek and receive appointments as interns. But something must be done for the remaining 10 to 20 per cent. Many questions arise: Is it possible to substitute for internship a year of concentrated clinical instruction, with of course abundant ward work, in hospitals controlled by the clinical teachers of the school? Will courses in the well-recognized postgraduate schools and hospitals suffice? Are all hospitals to have equal rank before the state board? May a year's work in research or routine work in any one or several of the medical sciences in hospital or school laboratories be substituted for clinical work as intern? For such schools as are located in states looking forward to the hospital year the solution of these questions is an urgent matter; these schools must be prepared, provisionally at least, to meet the changed conditions. The licensing boards cannot expect the schools to find hospital appointments for all their graduates; neither can the state assume this function; but the schools should be prepared to advise their graduates, and the state should clearly define the restrictions as to character of hospital or other work demanded under a fifth-year rule. Doubtless an amicable understanding between schools and state boards will eventually be reached; but much investigation and discussion must precede such understanding. If the medical schools are to aid their graduates in procuring a year of hospital experience it is evident that a large amount of information concerning hospitals must be brought together and made readily available. The number of hospitals available for such postgraduate work, the number of internships in each, the methods of appointment, the character of the service and of the visiting staff in each hospital, the matter of general equipment, the laboratory facilities, the question of whether teaching and investigation are combined with hospital routine and whether or not interns are given work to do which tends to their instruction and proper training or are used as substitutes for nurses and orderlies—all these questions must be answered. It is only one of these questions, though perhaps in many ways the most important, certainly at present the most urgent, that I wish to discuss—the methods of appointing interns.

My interest in the subject, obviously foreign to my usual interests, was first aroused some years ago by a casual discussion among teachers representing several schools in the same city of the results of an examination for interns at a certain hospital. The representative of a school which, though emphasizing practical clinical and laboratory instruction, had not been conspicuously successful in having its students selected, made the statement, "Oh, well, the trouble is that our men are not properly quizzed!" As the hospital in question is one of the best in the community I objected to the theory that "quizzing" is an important feature of proper medical education, and expressed my surprise that despite the most thorough theoretical training of their opponents, men with practical laboratory and clinical training should not have made an impression on the examiners. My surprise was increased when I was told that the hospital in question, despite its standing in the community, did not require practical examination of applicants for internship, and furthermore paid little attention to the personality or the character of the academic or professional education of the prospective intern. The test was purely a theoretical oral examination with the examination of one specimen of urine, blood, sputum or whatever other material might conveniently be viewed through a microscope.

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As it appeared to me that with such an examination the student was approaching the hospital with the wrong point of view, and moreover that both school and hospital were neglecting a factor which might be used to impress on the student proper ideals in regard not only to methods of medical education but also to the ultimate object of such education, I undertook in view of the near approach of the obligatory hospital year an investigation of the methods of appointing interns in a large number of the hospitals.

I desire to present the results of this investigation in order, first, that the data may be thus made available to those interested in the purely practical side of the subject in its relation to medical education; and second, as material which may be used in bringing about that greater cooperation between medical schools and hospitals which is necessary to the proper fulfilment of the ideal of the hospital year.

Forty hospitals[1] in the United States and Canada were selected as probably representative of different methods of intern appointment. These included the larger municipal hospitals requiring civil service or other examination, university hospitals which select interns on the basis of scholarship, and representative hospitals of large cities and of small communities, with and without medical schools in their immediate vicinity, appointing interns with and without examinations. Also a research hospital, a hospital controlled by a great corporation, a private hospital and a hospital noted for its special work in surgery were included. Replies were received from all but one,[2] and all these replies gave permission to use the information in this report. On the information so obtained the present study is based.

The letter[3] of inquiry follows:

> I am interested in obtaining information concerning the character of the examinations for interns in the various important hospitals of this country and Canada; or, in the case of those hospitals which do not require examination, of the factors which determine the selection of interns.
>
> If you have at hand printed matter concerning conditions which must be fulfilled by candidates, will you kindly send me such, and also if possible copies of examination papers, and of clinical and laboratory tests, etc., given in any examination held during the past three years. I am especially desirous of knowing how much weight, on the basis of 100 points is given to (*a*) personality, (*b*) character of academic and professional education, (*c*) theoretical examination, either written or oral, and (*d*) practical (clinical and laboratory) examinations.
>
> Are appointments in your hospital influenced in any way by local or neighboring medical schools, or by other factors, social, political or religious?
>
> As a result of your experience have you any suggestions concerning improvements in the manner of selecting interns?
>
> I enclose addressed stamped envelope for reply, which reply, I trust, will not cause you too much trouble.

The various hospitals fall naturally into two groups, those requiring an examination and those appointing in other ways. The latter will be discussed first.

I. APPOINTMENT, WITHOUT EXAMINATION, TO UNIVERSITY HOSPITALS, OR HOSPITALS AFFILIATED WITH OR CONTROLLED BY MEDICAL SCHOOLS

Under this head come university hospitals proper (Pennsylvania, Michigan, Johns Hopkins), and hospitals which are an integral part of independent medical schools (Jefferson and Medico-Chirurgical of Philadelphia) and hospitals affiliated with or closely controlled by medical schools, as the Maine General Hospital supplied by the Medical School of Maine, the City and County Hospital of San Francisco by the medical schools[4] of San Francisco; the Presbyterian Hospital of Chicago by Rush Medical College; the Toronto General Hospital by the University of Toronto, and the New Haven Hospital by Yale University. The method of selection varies somewhat in its details, but is essentially the same in all these hospitals. The University of Pennsylvania Hospital selects its interns from the group of twenty-five men having the highest standing as determined by the examinations of the first three years of the medical course in its own school. Johns Hopkins selects, in January, twelve men of the class graduating in June, on the basis of "standing in all required subjects, on evidence of special ability as shown by elective or research work and on consideration of special fitness." At Michigan the interns "are usually selected from the senior medical students after the class graduates." Jefferson receives the applications of those members of the graduating class who at the end of the third year had attained an average of 80 per cent. or more for all examinations of the course, and in the final selection is guided by personality, preliminary education and by the results of an oral examination and a test of ability in history-taking. At the Presbyterian Hospital of Chicago "the highest 50 per cent. of the class (Rush Medical College) in rank according to scholarship" are eligible for appointment. From those eligible each member of the staff selects one or more interns for vacancies in his department. The names thus selected after approval by the staff are certified to the board of managers of the hospital. The Toronto General Hospital "is to all intents and purposes a university hospital," and appointments are recommended by the advisory board of the hospital composed of members of the faculty of the University of Toronto; preference is given to men having the highest standing in the class. A similar relation exists between the Maine General Hospital and the Medical School of Maine.

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[1] The Lakeside Hospital and the City Hospital of Cleveland; the Johns Hopkins Hospital, Baltimore; the Cook County Hospital, the Presbyterian Hospital, the Augustana Hospital, the Michael Reese Hospital and St. Luke's Hospital of Chicago; the University Hospital, Ann Arbor, Mich.; St. Mary's Hospital of Rochester, Minn.; the Hospital of the Rockefeller Institute, the New York Hospital, Mount Sinai Hospital, Roosevelt Hospital, St. Luke's Hospital, the Presbyterian Hospital, the City Hospital and Bellevue Hospital of New York; the Pennsylvania Hospital, Jefferson Hospital, the Medico-Chirurgical Hospital, the Hospital of the University of Pennsylvania, Philadelphia General Hospital, Presbyterian Hospital and Episcopal Hospital of Philadelphia; the Cincinnati Hospital of Cincinnati; the Grant Hospital of Columbus, Ohio; the Southern Pacific Company's Hospital and the City and County Hospital, San Francisco; the Montreal General Hospital and the Royal Victoria Hospital of Montreal; the Toronto General Hospital of Toronto; the Massachusetts General Hospital, the Boston City Hospital and the Carney Hospital of Boston; the Rhode Island General Hospital of Providence, R. I.; the Maine General Hospital of Portland, Me.; the New Haven Hospital of New Haven, Conn.; the Albany Hospital of Albany, N. Y., and the Buffalo General Hospital of Buffalo.

[2] The only hospital not replying was the Royal Victoria Hospital of Montreal.

[3] This letter was sent out in the early summer of 1911.

[4] University of California, Leland Stanford University (Cooper), College of Physicians and Surgeons, Hahnemann Medical College of Pacific and San Francisco Polyclinic.

The Medico-Chirurgical College of Philadelphia holds an examination, open only to its own students; but the examining committee is "influenced as much by the appearance, alertness and personality of the candidate, as by the answers given." The New Haven Hospital receives applications from members of the senior class of the Yale Medical School, and from this list the committee on interns makes its selection. When such applications are insufficient, appointments are made of men suitably recommended by other schools. Appointments to the San Francisco City and County Hospital are made by the Board of Health on the basis of recommendations by the various schools of the city; these recommendations are presumably on the basis of scholarship. At Cooper Medical College, for example, it has been customary to give the opportunity to apply for these positions to men having the highest examination averages in the undergraduate course.

It is of interest to note that with the exception of the New Haven Hospital, which cannot obtain a sufficient number of interns from the Yale Medical School, and the City and County Hospital of San Francisco, which divides its vacancies among all the schools of the city, each of these hospitals always receives its interns from one school[5] and with the exception of Johns Hopkins Hospital makes no provision for obtaining men of diverse training. The Hopkins provision for obtaining new blood is instructive. On each service Hopkins leaves one appointment vacant, the appointee to be "selected by the responsible head of the service from graduates of this or other schools." This leaves an appointment open, in the words of a correspondent, "for some man recommended by some other school, as we do not believe in too much inbreeding."

II. NON-UNIVERSITY AND NON-AFFILIATED HOSPITALS NOT REQUIRING EXAMINATION

This group includes hospitals of widely varying character: as:

1. Research hospital, as the Hospital of the Rockefeller Institute for Medical Research.
2. Hospital of commercial company, as the Hospital of the Southern Pacific Company, San Francisco, which maintains a magnificent institution for the care of its employees who are sick or injured.
3. Private or semi-private hospitals, as the Grant Hospital of Columbus, Ohio, and St. Mary's Hospital of Rochester, Minn.
4. Charitable hospitals, as the Pennsylvania Hospital of Philadelphia and the St. Luke's Hospital and the Augustana Hospital of Chicago.

The Rockefeller Hospital makes appointments "solely on the basis of (*a*) personality, (*b*) character of education and training, (*c*) nature of hospital work and laboratory training since graduation, (*d*) personal recommendations of those with whom candidates have worked, and (*e*) nature of publications." It is obligatory that candidate should have had previous hospital experience, and preference is given to those who have had special training in some field of medical investigation.

The other hospitals of this group usually appoint after personal interview, or on the recommendation of the faculty of the school in which applicant has studied or of individuals with whom he has been associated. None appears to have a probationary or extern service except the Augustana Hospital, which appoints for a period of three months externs from any school in good standing, and from this group selects its interns. The interns of the Rockefeller Hospital are salaried, as are also, I believe, those of the Hospital of the Southern Pacific Company.

III. HOSPITALS REQUIRING EXAMINATIONS

About one-half of the total number of hospitals[6] to which inquiries were sent make appointments by examination. Of these, three demand a written examination only, three an oral examination only, four a combined written and oral without practical work, while the others (ten) combine with either a written or an oral examination, or both, the examination of patients and the performance of clinical laboratory tests. Thus but one-half recognize the importance of practical examinations, and in some of these practical work counts very little in the final result. Although many hospitals state that personality and character of academic and professional education are considered in selecting interns, others state quite frankly that these factors are not considered and that choice is made purely on the basis of the competitive written examination. In the few instances in which figures have been given the value allotted to personality and general education varies from 10 to 50 points in a total of 100. Several provide specifically that married interns are not eligible, and one at least reserves the right to make, at discretion of its committee, a physical examination of any applicant.

Two hospitals of the group studied require a civil service examination. As these, the Philadelphia General Hospital (known locally as Blockley Hospital) and the Cook County Hospital of Chicago, are representative of our large municipal hospitals which offer many opportunities for postgraduate clinical study and are therefore important factors in the plans for the "hospital year," they may be considered separately.

The Cook County service is limited to the "graduate classes of the various medical colleges in Cook County." and no attention is paid to personality, or to clinical or laboratory tests. The examination covers three days, each applicant answering a set of ten questions on each day. One set of physicians, appointed by the Civil Service Commission, prepares the questions (general medicine and surgery, obstetrics, orthopedic surgery and diseases of eye, ear, nose and throat), and another set examines the papers.

Of the questions offered in the examination of April, 1911, ten can be grouped under the general headings of internal medicine. Of these, six asked for symptomatology or differential diagnosis, and the ground could readily have been covered in a more thorough manner by a practical examination compelling the employment of the usual methods of clinical and laboratory examination with occasional oral questions.

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[5] In this connection it may be mentioned that certain other hospitals, though requiring examinations, are in large part supplied by a single school or a group of schools. Thus, in Chicago the Cook County Hospital service is limited to graduates of schools in Cook County and the Michael Reese Hospital of Chicago takes its interns only "from the three medical schools of merit" in Chicago; but both require examinations. The third division of Bellevue Hospital, New York, is supplied exclusively by graduates of New York University and Bellevue Hospital Medical School. The first division is controlled by the College of Physicians and the second by the Cornell Medical School, but both these, as also the fourth division, which is not under collegiate control, are open to graduates of any school. Appointment to all four divisions is, however, based on examination

[6] The Presbyterian, Roosevelt, St. Luke's and New York (including Hudson Street Hospital), Mount Sinai and Bellevue of New York; the Philadelphia General, Episcopal and Presbyterian of Philadelphia; the Cook County and Michael Reese of Chicago; the Massachusetts General, Boston City, and Carney of Boston; the Lakeside and Cleveland City of Cleveland; the Rhode Island of Providence; the Montreal General, the Buffalo General, the Albany Hospital and Cincinnati City Hospital.

The ten questions in surgery are quite typical of the usual hospital examination. Instead of attempting to obtain information concerning the applicant's knowledge of surgical diagnosis, surgical cleanliness and the care of the patient before and after operation—matters with which the intern has most to do and concerning his knowledge of which the visiting staff and the hospital trustees should be most solicitous—the questions deal mainly with pathology. I have no desire to minimize the importance of pathology for the surgeon, but in an examination in surgery one expects to see some attempt to find out how much the student knows about the practical problems and procedures of surgery. An attempt should be made to find out what the candidate can do in methods of diagnosis, not how much theoretical knowledge he may have. If hospitals desire the best type of intern, they must support the practical laboratory and clinical teaching of the better schools by offering their applicants for internship the stimulus of practical examination.

At the Philadelphia General Hospital the written questions "form the only subject of the examination, there being no other taken into consideration." The names of individuals passing the examination are published by the Civil Service Commission, and when the director of the Department of Public Health and Charities desires to fill vacancies in the hospital, he makes a requisition on the commission for an appropriate number of names to fill such vacancies. The examination in April, 1911, consisted of ten questions; five involved differential diagnosis, and of these, four could have been used also in a test of laboratory methods. Of the remaining five questions, two, most excellent questions, could readily find a place in a practical examination. The other three, referring to technic of gastro-enterostomy, curettement and the management of normal labor, come under the head of stock questions, which, as they are always expected and prepared for, are of no value in determining past training or fitness for appointment. Such an examination, incapable as it is of determining anything except the extent and thoroughness of the applicant's reading, is open to the same criticism as that of the Cook County Hospital.

In other hospitals which do not attempt a practical examination, the tests for fitness do not differ from those described as typical of civil service examinations. On the other hand, several hospitals make the written or oral examination a means of registering the applicant's knowledge of history-taking, physical examination and clinical laboratory methods. A written or oral report on such practical work as the applicant does is supplemented by questions concerning anatomy, physiology, pathology and treatment. This form of examination cannot be commended too highly.

It is not desirable to single out any one hospital as having a perfect method of appointing interns (indeed, this is impossible, for with the exception of the Rockefeller Hospital, which appoints for definite postinternship clinical research, no institution appears to possess a method entirely satisfactory), but the machinery of the "Joint Hospital Examining Board," which examines for appointment to several of the New York hospitals (New York Hospital including Hudson Street Hospital, Presbyterian Hospital,[7] Roosevelt Hospital and St. Luke's Hospital), is perhaps, at present, the most satisfactory among hospitals appointing by examination. The all-embracing character of this examination and the machinery for weeding out undesirable candidates is indicated in the following extract from the board's circular of information. According to this method, the oral examination (including personality) counts 40, the written examination 60, and the practical examination 50 points in a total of 150.

CIRCULAR[8] OF INFORMATION OF THE JOINT HOSPITAL EXAMINING BOARD OF THE NEW YORK HOSPITAL (AND HUDSON STREET HOSPITAL), PRESBYTERIAN HOSPITAL, ROOSEVELT HOSPITAL, ST. LUKE'S HOSPITAL (READ CAREFULLY AND PRESERVE FOR FUTURE REFERENCE)

I. A competitive examination of candidates for positions on the house staffs of the above-named hospitals will be held in New York City, February 20, 21 and 22. Candidates will meet at the Academy of Medicine, 17 West Forty-Third Street, on February 20 at 9 a. m. for the oral and written examinations. Details of practical examinations will then be announced.

II. The examination will include:

1. A written examination in the subjects of medicine, surgery, therapeutics, surgical and topographic anatomy, pathology and gynecology.
2. An oral examination in medicine and surgery.
3. A practical examination in medicine, surgery and clinical pathology.

III. The successful candidates, in the order of their rating in the examination, will be allowed to make their choice of hospital and service. Those candidates who receive low marks in the written and oral examinations may be eliminated from further competition.

IV. Eligibility. The examining board reserves, and will exercise, the right to reject the applications of

1. Such candidates as may seem, after investigation of their records, not to possess the requisite qualifications, either professional or personal.
2. Those whose physical condition is deemed not satisfactory.
3. Those who are not approved by the governing boards of at least two of the hospitals.

The governing boards of the several hospitals reserve the right to pass on the eligibility of each applicant.

If a candidate is declared ineligible by any one hospital he is notified that he may enter the examination, but may not include that institution in the list of choices.

A candidate declared ineligible by three of the hospitals will not be permitted to take the examination.

Applicants who are married, if eligible in all other respects, will be admitted to the examination on the understanding that, if successful, their choice is limited to the services of the New York and Hudson Street hospitals and Roosevelt Hospital.

Candidates will be notified whether or not they are accepted as eligible to enter the examination not less than ten days before the date of the examination.

V. Applicants must present themselves for a personal interview with the examining board if requested to do so.

It is of interest that nearly all the correspondents[9] who replied to that part of the letter asking for suggestions as to improvements in the appointment of interns expressed themselves as satisfied with the methods of their respective hospitals. The joint board examination in New York is said to be "very advantageous to students and the best hospitals," but a big task for a voluntary board. Several correspondents, while stating their satisfaction with the method they practice, or merely saying that it works well, admit that they have no suggestions to make, as they are not familiar with the methods of other hospitals.

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[7] Since the affiliation of the Presbyterian Hospital with the College of Physicians and Surgeons its internships have been limited to the graduates of the latter school.

[8] For examination held in 1911.

[9] Superintendents of hospitals, the chairman or other member of executive or examining committees and the deans of schools.

Information of another character, which is quite typical of views held by many in regard to hospital examinations, was offered by one correspondent:

> I remember very many years ago, in ...... I was an applicant for internship at .... It had been announced formally that interns would be elected in accordance with their examination grades, the examinations being conducted by members of the staff, and covering two days, the first day written, the second oral. (The examination, I suppose, was fairly conducted, though there was a persistent rumor that two of the ...... men, who were office students of a member of the staff, had the examination questions in their possession a day or two before the examinations were held.) When the grades were announced I had the satisfaction of finding that I stood first from .... but third on the list, as the two suspected applicants stood respectively first and second. My examination having been thus satisfactory, I started out to interview the trustees, but finally one of them was candid enough to tell me that I might just as well save shoe-leather, as the appointments had all been "fixed" and that they would pay no attention to the examination grades. This I found was a fact, and that the very tail-ender of some sixty or seventy applicants, a ...... man, was one of the elect. He happened to have an uncle who was editor of one of the leading daily papers.

This was many years ago, and such methods have doubtless disappeared, but the general impression is to the contrary. If appointment is purely elective, "pull" of all kinds is legitimate and to be expected; but when appointment is preceded by competitive examination, but obtained through influence, the examination becomes a farce and the hospital suffers, as good men naturally do not apply for appointment to such hospitals.

Adverse criticism of prevailing methods has been offered in only two or three instances. The dean of a school closely connected with a large hospital, and for years familiar with the problems of intern appointment, states emphatically that he considers the theoretical examination, even when combined with practical tests, an unsafe guide in that it is almost always used as the first step in the "weeding-out" process, and thus "quiz-crammed" men have the advantage, and the men with a maximum knowledge of practical clinical and laboratory work do not reach the stage of the examination where they may show their worth. He therefore prefers the practical examination alone.

A secretary of an examining committee of a nonteaching hospital, though himself a teaching clinician in another hospital, expresses entire disapproval of the competitive system by oral or written examination which disregards personality, previous academic and professional training and practical knowledge.

A hospital superintendent suggests that all applicants for internship should visit the hospital for a few days in order that during this time "the authorities might become more intimately acquainted with them." Another suggests that the colleges send to the hospitals a number of their best men, as determined by the four years' college work, and let the hospital select, without examination, the number of men they need.

Most of the comments are written from the point of view of the hospital, as "we feel that if we can get the right kind of man we can develop him into a good intern." On the other hand, one of the wisest and most progressive of our hospital superintendents appears to have given the subject enough thought to grasp the real importance of the problem, the influence on medical education. In a lengthy discussion, he begins, "An experience of some years has taught us that the matter of selecting interns is about the worst that could be conceived," and ends, "I have tried to be explicit about the matter because it is an important problem of hospital administration and, to my mind, one of still greater importance to the medical schools of the country."

And this is the crux of the whole question: Naturally the hospitals want good interns, and the medical schools want their men placed in good hospitals—both purely selfish desires. But both ignore the possibilities of the method of intern appointment as an incentive to the improvement of educational methods in medicine and a means of turning the student's attention to the practical side of his education.

Various influences outside the medical faculty and independent of it have brought about most important changes in medical education. So the hospitals, by establishing practical knowledge as a basis for admission to internship, could influence powerfully the trend of medical education toward a further development of practical clinical and laboratory instruction, and in the end the hospital will gain also, for it would thus secure for its service men who are better trained and more efficient.

If the hospital year becomes generally established, school and hospital will meet on common ground and with mutual interests. It is for the purpose of aiding in the solution of the difficulties which may then arise that this brief study of the intern question is presented in the hope that early discussion may lead to provisional plans for adjustment to new conditions.

NEPHROPTOSIS AND NEPHROPEXY

WITH SPECIAL REFERENCE TO THE BASKET-HANDLE OPERATION

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In Mesue's[1] work, published in Venice, 1568, appears probably the first description of a movable kidney, and a century later Riolan[2] described nephroptosis as a symptom-producing lesion. Since then an enormous amount of literature has accumulated on the subject, a great deal of which has probably somewhat overestimated the importance of the condition. The object of this paper is to touch briefly on the various factors concerned in kidney-ptosis, and to report the results of the basket-handle operation.

ETIOLOGY

Among the first causes should be considered the fact that the kidneys are normally slightly mobile, whence, of course, their liability to greater and abnormal mobility.

The various features to be considered are:

Age: Cases occur mostly between the ages of 20 and 50. In children under 10, Schutze reports eight cases up to 1888.

Sex: The incidence is mostly in females (Glénard[3]).

Heredity: Guterlach and Ewald strongly emphasize a congenital disposition to this condition.

Rapid Emaciation: Causing disappearance of the perirenal fat.

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[1] Mesue: Medici Clarissimi Opera, a Joanne Costa Medico Lavdensi nunc recognita, Venice, 1568, p. 112 of chapter "De Aegritutinib., Renum et Vasicae; De dislocatione Renum et Vesicae."

[2] Riolan: Manuel anatomique et pathologique, Lyons, 1682, p. 228.

[3] Glénard, Frantz: Les ptoses viscérales, Paris, 1899, p. 307.

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Abnormal Laxity of Abdominal Muscles: As in Glénard's disease, a condition often accompanied by prolapsed kidneys.

Tight Lacing.

Pregnancy: This is an important factor, kidney-ptosis occurring much more often in multiparae than in other women (60 in 100 Glénard); other conditions in which there is sudden decrease of intra-abdominal tension might cause kidney prolapse.

Right Kidney: This is by far the one mostly affected; then both, and lastly the left.

Trauma: This might occasionally dislodge the kidney.

Tumor of Kidney: This by increasing the weight of the organ might cause its descent.

Conformation of Body: This was studied and reported on in a splendid paper by Harris,[4] who strongly emphasizes its importance.

PATHOLOGIC ANATOMY

Rayer[5] gave the first detailed account of the pathology of a movable kidney.

There are two forms of abnormal mobility, the congenital and the acquired. The former is said to be always intraperitoneal and is held to the back by a mesentery (mesonephron). From its attachment, it may be swung into almost any part of the abdominal cavity, depending on the length of its mesonephron. It may be fixed by adhesions.

Glénard describes three degrees of prolapse: In the first degree, the superior pole is situated just opposite the costal margin; in the next, somewhat below; and in the third, the kidney is found at some distance within the abdominal cavity. Often the gland is rotated on its transverse axis, as a rule, in a position of anteversion. It may be altered in shape.

I have seen the poles approximated as in a horseshoe-kidney. In some I found the kidney very much lobulated. The reason for this must be that in these cases the capsule was continuous with or connected with strong septa running into the organ. When such an organ becomes congested, the associated swelling of the gland would be limited to the parts of the capsule between the septal attachments, thus producing the rounded elevations.

The prolapsed gland may be normal in size, larger, or even smaller than normal. The hydronephrotic organ may be of enormous size.

The kidney may be normal in color—dull red or purplish in its entirety, in spots or in one pole.

The capsule may be normal, very thin or greatly thickened. The thickness of the capsule in my cases bore, in the main, some relation to the degree of mobility. The greater the mobility the thicker the capsule. In one greatly prolapsed kidney, however, I found a very thin one. The capsule strips very readily, except in cases with septal prolongations.

The perirenal fat may be diminished or almost entirely gone. The kidney may be suspended by a long vascular pedicle entirely surrounded by peritoneum.

The renal vessels may be greatly elongated and their caliber diminished. The vena cava and even the aorta have been found strongly curved from dragging on the renal vessel.

The pelves and ureters are changed in position and caliber. The ureteric lumen may become temporarily occluded, giving rise to hydronephrosis.

Secondary lesions are produced by pressure from the luxated organ, or from its becoming adherent to surrounding structures. Thus pressure on the cecum may cause severe constipation. Peritoneal bands attached to the kidney may compress the duodenum and the bile-ducts, causing gastric dilatation and slight jaundice.

The organ may become adherent to the edge of the liver, the gall-bladder or ascending colon, and of course to any organ with which it may come in contact.

Outside of hydronephrosis, the principal complication of kidney-ptosis, the organ may, of course, contract any lesion to which it is otherwise liable.

Complicating conditions are general enteroptosis, retroversion and prolapse of the uterus, affections of the gall-bladder and appendicitis, the latter being quite frequent.

Edebohls[6] first called attention to the association of kidney-ptosis and appendicitis, and performed the first lumbar appendectomy in 1905.

SYMPTOMS, DIAGNOSIS AND TREATMENT

Nephroptosis is devoid of symptoms in by far the majority of the cases, at least as long as the patient is in happy ignorance of the condition. For this reason some of these patients should not be informed of the findings, but the relatives should, as otherwise the physician might be blamed later for not making the diagnosis.

The main symptomatic features are pains, gastro-intestinal disturbances and neurasthenia. The pains vary from a dragging, dull pain in the lumbar region radiating down along the right side of the abdomen to the severe paroxysmal pain of a Dietl's crisis. The gastro-intestinal symptoms are mainly those of an ordinary dyspepsia. The degree of the associating neurosis varies greatly, and often is the most disagreeable feature of the condition.

The condition may have to be differentiated from Riedel's lobe, overdistended gall-bladder, carcinoma of pylorus, fecal impaction, etc.

The treatment may be (1) palliative, by corsets, rest, suggestion, etc., or (2) operative.

METHODS OF FIXATION

It is interesting to note that seemingly an American surgeon, Dr. Greensville Dowell, was the first to attempt a nephropexy, in 1874, although at the time he believed he was dealing with a movable tumor. The case is reported by Smyth[7] and furnishes very interesting reading. The patient, an Irish woman, 27 years of age, had for some time suffered from recurrent abdominal pains, when she discovered a very mobile tumor in the right side of the abdomen. Dr. Dowell was consulted about the trouble and concluded that the pains were due to the great mobility of the tumefaction, and reasoned that if in any way it could be immobilized the pains would cease. The patient readily consented to operation and Dr. Dowell later performed the fixation as follows:

A large curved needle threaded with a tape-seton was plunged through the abdominal wall, into the tumor and out again and then tied. The procedure was followed by hematuria lasting for a few days. The operation gave relief from previous symptoms. Three months later the tape broke and there was considerable discharge of matter. Dr. Dowell being away, two other men endeavored to repeat Dowell's operation. They tried twice. Both times the needle broke. In the excitement the needle points were left in the abdominal wall. Dr.

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[4] Harris, M. L.: The Influence of Trauma in the Production of Movable Kidney, The Journal A. M. A., Feb. 13, 1904, p. 411.

[5] Rayer: Maladies de rein, Paris, 1841, iii, 783.

[6] Edebohls: Ann. Surg., xxxv, 17.

[7] Smyth, Dowell: New Orleans Med. and Surg. Jour., 1879, vii, 218.

Dowell later repeated his first operation, but with only temporary benefit to the patient. About seven years later the tumor was diagnosed by another man as a floating kidney, and removed.

The first premeditated attempt was made by Hahn[8] of Berlin. The first successful operation in the United States was done by Weir,[9] in England by Newman,[10] and in France by Bazy.[11]

A great number of procedures have been reported and may be classified as follows:

Suture of Kidney Proper.—Gardner[12] of Melbourne uses two kangaroo-tendon sutures piercing the kidney, and ties over fascia.

Albarran,[13] following decapsulation of the kidney and removal of the perineal fat, passes three silk ligatures through the kidney substance: the upper one is tied to the periosteum of the twelfth rib; the others pass through muscles and fascia.

Morris operates similarly, omitting kidney denudation.

Bruce Clark[14] denudes the kidney slightly and passes silk ligatures through its substance.

Suture of Fatty Capsule.—Hahn[8] sewed the fatty capsule to back muscles and packed the wound with gauze. This procedure was used by Knester, Esmarch and Nicholas Senn.

Shoemaker[15] fixed the kidney by buttonholing the fatty capsule and suturing it in different ways to surrounding structure.

Gardner sutured the fatty capsule in addition to kidney piercing sutures.

Suture of the True Capsule.—Wolf, Loebstein and Edebohls[16] completely denuded the kidney so as to get firm adhesions, and then sutured the capsule to fascia and muscles.

Bishop[17] denudes the lower pole of the kidney, suturing the free capsule and leaving the upper pole free.

Tuffier,[18] Jacobson and Boecher suture the stripped-off capsule.

Newman[19] also suspends the kidneys from the deflected capsule. Murphy[20] rolls the deflected capsule in folds on either side, suturing these folds to the surrounding tissues. Gonnesco[21] partly strips the capsule, suturing it to the periosteum of the eleventh and twelfth ribs with silver wire.

Suture to Lower Rib.—Guyon,[22] Cecherelli,[23] Albarran,[24] Bassini[25] and others sutured the kidney to the lower rib usually in combination with other methods, using mostly silk ligatures.

Suture to Fascia.—Kocker[26] strips the fibrous capsule and sews it with the fatty capsule to the lumbodorsal fascia with silk ligatures, and then packs the wound and allows it to granulate.

Vulliet[27] uses strands of fascia from the erector spinae and subruns the kidney capsule.

Special Methods.—The following men have devised special methods, the details of which would require too much space: Pauli and Duret,[28] Goelet,[29] Harris,[30] Harlan,[31] Lane,[32] Morris,[33] Ferguson[34] and others.

"BASKET-HANDLE OPERATION"

Technic.—After the kidney has been exposed and delivered through the wound, the capsule is split and deflected (Fig. 1). Then the procedure is as follows:

Step 1: Cut with scissors, as indicated by dotted line in Figure 1, making two flaps.

Step 2: Push kidney down into the wound. Draw the artificial suspensory ligaments through the muscles and fascia on either side of the wound. The remaining border of the deflected capsule may be sewed to the transverse fascia.

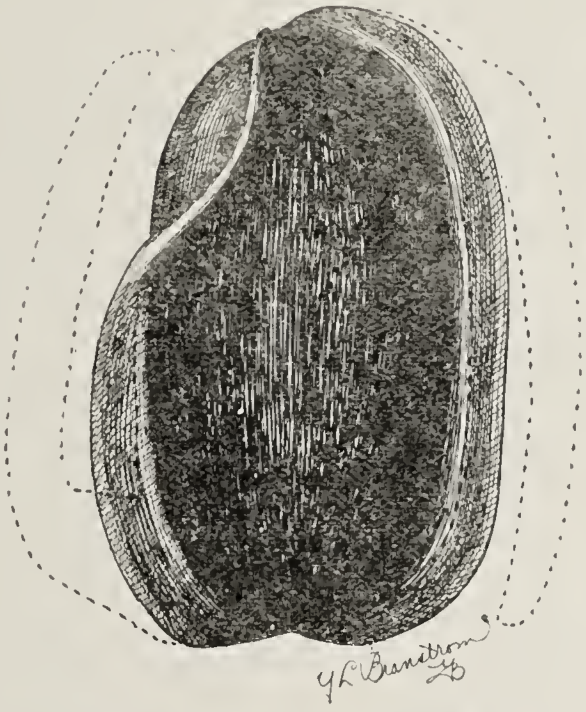

Fig. 1.—Artificial kidney ligaments cut from the split and deflected capsule.

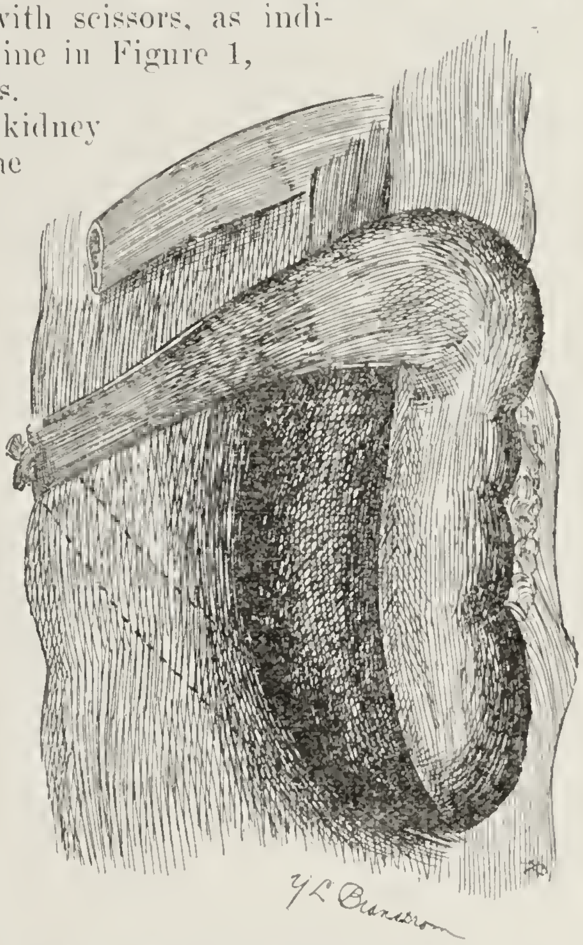

Fig. 2.—Author's operation completed. Capsular ligaments drawn through muscles and fascia forming the "basket handle."

Step 3: Unite muscular layer over the kidney. The kidney is then drawn up against the denuded muscles by the artificial capsular ligaments, the ends of which are tied in a knot, and transfixed by a silk or catgut suture. The united flaps thus form a "basket-handle." from which the kidney (basket) is suspended as in Figure 2.

For some time I have placed the patients in the slanting position (Fig. 3) for all my kidney work.

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8. Hahn: Centralbl. f. Chir., 1881, p. 449.
9. Weir: New York Med. Jour., 1883, xxxvii, 169.
10. Newman: Glasgow Med. Jour., August, 1883.
11. Bazy: Bull. et mém. Soc. de chir. de Paris, 1899, xxv, 831.
12. Gardner: Austral. Med. Jour., 1885, p. 145.
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PATIENTS OPERATED ON BY THE "BASKET-HANDLE OPERATION"

Since the first patient[35] operated on, March 20, 1906, I have performed twenty-seven nephropexies by this method with no death and with good anatomic results. The patients were operated on at St. Bernard's, Englewood, Washington Park and Vesta Circle hospitals.

Case 1: Miss S., operated on March 10, 1906. March 24, 1912, condition good.

Case 2: Mrs. E., operated on May 1, 1906. A year later in good condition.

Cases 3, 4 and 5: Patients were operated on at Englewood Hospital. My private records were unfortunately lost. For the last two years I have been vainly trying to obtain the records from the hospital authorities.

Case 6: Mrs. L., operated on April 3, 1909. Oct. 22, 1912, condition good.

Case 7: Miss J., operated on Feb. 24, 1910. March 23, 1912, condition good.

Case 8: Miss P., operated on Sept. 19, 1910. One year later, condition good.

Case 9: Miss L., operated on Oct. 27, 1910. Several months later, condition good.

Case 10: Miss C., operated on Oct. 29, 1910. One year later, good.

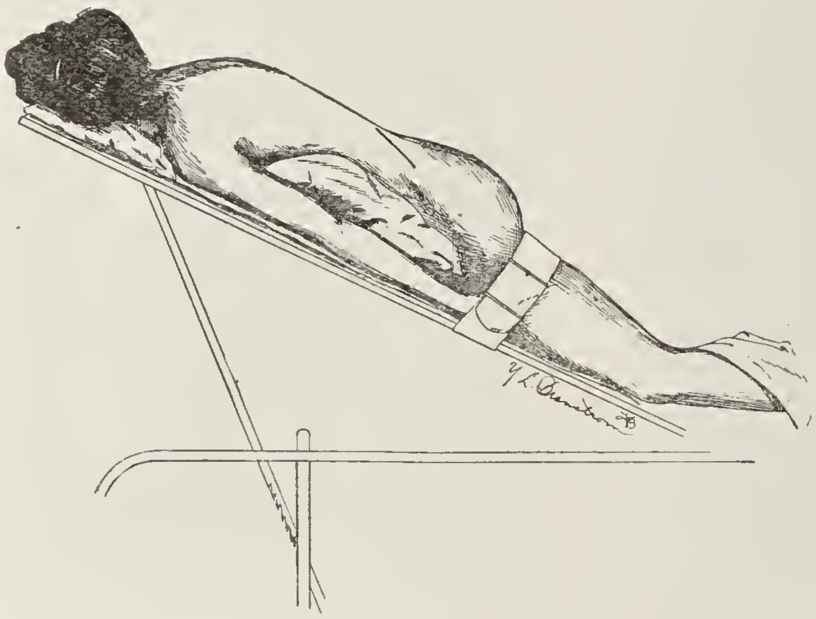

Fig. 3.—Author's position for kidney work.

Case 11: Mrs. N., operated on Nov. 10, 1910. July 30, 1912, good.

Case 12: Mrs. T., operated on Jan. 29, 1911. Nov. 15, 1912, good.

Case 13: Mrs. A., operated on Jan. 29, 1911. Sept. 11, 1912, good.

Case 14: Mrs. A., operated on April 30, 1911. Sept. 14, 1912, good.

Case 15: Mrs. H., operated on Sept. 28, 1911. Oct. 10, 1912, good.

Case 16: Miss H., operated on Sept. 28, 1911. About two months later patient wrote to me that she was in good condition.

Case 17: Miss D., operated on Nov. 21, 1911. Immediate result good.

Case 18: Mrs. A., operated on Nov. 21, 1911. Oct. 2, 1912, good.

Case 19: Mrs. E., operated on Jan. 9, 1912. Dr. Rydin tells me that kidney is in good place. This patient had a frightful postoperative neurosis.

Case 20: Mrs. M., operated on Jan. 24, 1912. Oct. 22, 1912, good.

Case 21: Miss P., operated on Jan. 24, 1912. Oct. 22, 1912, good.

Case 22: Mrs. J., operated on Feb. 2, 1912. Dr. Dahlberg reports condition good.

Case 23: Miss A., operated on March 13, 1912. Immediate results good.

Case 24: Mrs. C., operated on April 13, 1912. Oct. 18, 1912, good.

Case 25: Mrs. R., operated on April 24, 1912. Immediate results good.

Case 26: Mrs. C., operated on May 11, 1912. Oct. 3, 1912, good.

Case 27: Miss A., operated on Sept. 29, 1912. Left hospital in good condition.

The reported condition of these patients refers only to the anatomic results which, as far as I know, are good in all. Some of the kidneys were anchored somewhat low, but they are not movable.

The patients were all females, and except for one on the left side (Case 18) the cases were all prolapses of the right kidney. Nineteen patients (including those at Englewood) had undergone pregnancy. In six patients the appendix was taken through the lumbar incision. In one case I had a complicating thrombophlebitis of the left leg, and in two the most aggravated postoperative neurosis.

1230 East Sixty-Third Street.

AN UNUSUAL FORM OF MINERAL POISONING AFFECTING THE NERVOUS SYSTEM: MANGANESE?*

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A certain indication of the humanitarian trend of modern times is the ever-increasing interest in the accidents, intoxications and diseases coincident with various trades. The ill effects that arsenic, lead and phosphorus have on workers started this line of investigation, and these intoxications have been so well studied that their clinical pictures are well known. Undoubtedly the most serious and permanent of trade diseases are those which affect the nervous system.

Up to within recent years, only peripheral nervous system poisonings were recognized in workers in metallic and other poisons. Peripheral neuritis is the commonest form of occupational nervous system disorder, and it has for its commonest causative agents lead and arsenic. Other substances which produce neuritis in workers are copper, mercury, carbon bisulphid, anilin oil and the cyanids. In the central nervous system, on the other hand, conditions are different. Of all the substances mentioned, lead alone is known to produce symptoms of central nervous system involvement. The lead encephalopathies with the epileptiform attacks, hallucinations and mental signs are due not so much to the involvement of brain tissue as to the affection of the blood-vessels of the brain, to which the brain changes are secondary. The involvement is so plainly vascular that no part of the brain seems to be especially susceptible or more often involved than the rest.

In the cases which I report here, one is brought face to face with the possibility of the selective central nervous system poisoning arising in metal-workers. The clinical picture, while confusing, is not altogether unknown in workers in certain metallic substances. In its causation, one has to look toward mineral substances formerly considered safe and harmless. Zinc has been extensively used by man since earliest times; practically all authors have considered it innocuous to the human system, if one may exclude the irritating effects on the gastro-intestinal tract which all the heavy materials possess in common. The toxicology of manganese is not nearly so well known, as its use is much less extensive.

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[35] Werelius: Surg., Gynec. and Obst., 1906, ii, 700.

* Read before the Section on Hygiene of Occupations, Fifteenth International Congress on Hygiene and Demography, Washington, D. C., Sept. 24, 1912.

* From the Third Division, New York Neurological Institute.

The cases presented here came under my observation among some workers in the separating-mill connected with a large mine from which zinc is the principal product. In order to make the genesis of this condition clear, a description of the materials, methods and working conditions is necessary.

Eighty-five different ores are found in this mine. One ore, a sesquioxid of zinc, iron and manganese, makes up 45 per cent. of the bulk of the ore body. Willimite, a silicious oxid of zinc, forms 21 per cent.; rodenite, a silicate of manganese 9 per cent., and the red oxid of zinc, 4 per cent. The other eighty-one ores make up the remaining 21 per cent. in varying quantities. Lead and arsenic may be absolutely excluded as causative agents. No trace of arsenic is ever found in the ore. Minute, indeterminable traces of lead are occasionally found in the routine analyses. That lead may be absolutely excluded becomes apparent when we consider that the first grade of commercial zinc must assay less than 0.0025 per cent. of lead. The zinc recovered from this mine is always first grade, and no measures are ever necessary to remove the lead.

A salient point in the separation of the crude ores is the use of electromagnets for the removal of the magnetic ores, that is, those containing manganese and iron. The magnets used here are said to be the strongest electromagnets in the country, and vary in strength from 20,000 to 100,000 ampere-turns. This is done with the ore thoroughly dried. Further separation is done by a specific gravity method under water.

As most of the handling of the ground ore is done in the dry state, the dust problem has been one of much concern. The mine authorities have taken many ingenious means to reduce the amount of dust in the ore and have eliminated a great deal of it. Nevertheless, throughout the mill, except on the floor where the water separation is done, the air which the workmen breathe is laden with a very fine gray dust. In this mineral fog the men work in long shifts, and at the end of their day they are thickly coated with dust. A well-appointed wash-house adjoins the mill in which the men may take a full shower bath, and change their clothes before leaving for their homes.

The material for this paper consists of nine cases occurring in men working in this mill; nearly all the patients acquired the condition while working in the part of the building where the electric separators are situated, or shortly after being transferred thence. The history is practically the same in all cases.

After the man has worked in the dust for a length of time varying from six months to three years, he begins to notice that he has difficulty in walking, the main feature of which is that he is unable to walk down hill slowly. On a level ground and up hill he has no trouble, but when he once starts to walk down an incline, he goes faster and faster until at length he must run to keep himself from falling forward. He is unable to stop and must keep on with ever-increasing speed until he runs against some object which stops him, or until he falls down. Retropulsion develops together with this propulsion and the patient finds himself unsteady on his feet whenever he wants to move. Walking backward is impossible, for as soon as the man tries it, he falls backward or sits down. This is the gait disturbance we see in paralysis agitans, and this is not the only way in which our cases resemble that disease. With the onset, pain and stiffness in the legs were noticed in four cases, insomnia in one, and difficulty in writing in one. The latter patient complained that he could not control his hand well in writing, and that the figures he made were smaller than those he used to make, which also occurs in paralysis agitans.

While the symptoms of this condition are few, they are nevertheless very definite. The patient complains of little excepting propulsion, retropulsion and unsteady station. About half the patients have defective hearing not due to middle-ear disease. The speech is slightly slurring in some cases. The face in all the men has somewhat of the flat, mask-like character of paralysis agitans. There is more or less tendency to impulsive laughter. Tremor of the tongue is common, as is also a fine static tremor of the hands. The legs feel weak and shaky, and the station is insecure. Propulsion and retropulsion in the gait are the most characteristic features. Asynergia is always present in the well-developed cases. The eyes are normal in every respect. Muscular power is well preserved. The deep and superficial muscle reflexes are always normal. There is never any rest tremor of the limbs. Sensations are perfectly preserved. The laboratory offers little aid in the diagnosis. The blood never shows the changes so characteristically seen in lead-poisoning. The urine is negative in those cases which have been investigated. The presence of zinc and manganese in the urine of workers will be spoken of later. The Wassermann reaction was negative in the five cases in which it was employed. The spinal fluid was examined in three with negative findings. On the mental side, nothing characteristic was found. One patient showed a definite intelligence deterioration, similar to general paresis, which has since considerably improved. Two others complained of difficulty in memory and attention which was not demonstrable objectively. Most of these patients come from a class with little or no education which, combined with a language difficulty, has made routine mental examination difficult. It is safe to say, nevertheless, that there is no definite mental side to this clinical picture.

As time will not permit a discussion of all the cases we have investigated, I will make a full report of one which was studied in the New York Neurological Institute.

R. B., aged 49, born in England, married, was admitted to the third division of the New York Neurological Institute, March 11, 1912. His family history was negative in every respect. His early history was uneventful. He denied syphilitic infection. He had pneumonia in 1893. He had been married twenty-eight years and has had three children, all living and well.

He went to work in this mill as a shift boss on the electric separators in 1902, and in the latter part of 1904 he began to have trouble in sleeping and would tire easily. In December of that year he began to lose control of his hand in writing. The letters he made looked small and cramped. He was unable to make the figure 3. It would take him a long time to write out his reports, and they were not clearly legible. At about the same time he became unsteady on his feet, and had difficulty in walking down hill. When he started to walk down hill he would get going faster, and finally had to run until he could catch hold of a tree or similar object. Every time he tried to walk backward he fell. He had no sphincter trouble. In March, 1905, he left the mill on account of the trouble with his legs and the fact that he was coughing up large quantities of black matter. He continued to cough up much of this black sputum for a year and a half after leaving the mill. For the first year that he was away from the mill, his symptoms gradually progressed until he was almost unable to walk. His speech became affected, and his family had difficulty in understanding what he said. This condition continued until the spring of 1909, when the patient began to improve a little. He became more steady on his feet and his speech was more distinct. He has progressed very slowly since that time. At present he gets around fairly well with the aid of a cane. He cannot walk backward or go down hill without falling. His speech is not entirely clear, his writing is still small and cramped. His memory is perfect; sexual power was preserved.

Physical examination showed a fairly well-developed man of 49 years, weighing 141 pounds. His face was somewhat mask-like and expressionless, and he was unable to whistle. The eyes were entirely negative except for a corneal scar in the right eye, resulting from an old injury, with the iris healed in it. Dr. E. B. Dench made the following report on his ears:

"The reactions of the labyrinth on each side and of each auditory nerve are normal. There was only an insignificant middle-ear condition. I should, therefore, place the auditory impairment in the reception center."

There was a fine intention tremor of the hands. All deep and superficial reflexes were active and equal. There was no Babinski or clonus. The patient showed a tendency to propulsion in his gait which became marked when he went down an incline. He was unable to walk backward without falling. Asynergia was marked in all tests; no ataxia. The electrical reactions of the muscles of the arms and legs were normal in every respect. Sensation was perfectly preserved throughout. The lungs and heart were negative, blood-vessels soft, blood-pressure 126 to 140 m.m. Analysis of the stomach contents showed slight subacidity. The urine showed nothing abnormal except a considerable excess of indican. The blood was normal: no anemia, hyperleukocytosis or changes in the differential count. Wassermann reaction of the blood-serum was negative. The spinal fluid showed the following: Wassermann negative; globulin content normal; cells 3 lymphocytes per cubic millimeter. Fehling's reduction positive—a negative fluid.

The course of the condition is chronic. None of the patients has recovered. Most of them improve when removed from the dust and especially from the magnet floor. Three patients have made little or no improvement. The duration is a matter of years, and while the condition is never fatal, the prognosis for recovery is extremely poor.

Only one of the cases on which this paper is based has come to autopsy. The patient showed the symptoms in rather marked form and died of pneumonia. I am sorry not to be able to report the findings in full, but the material is not as yet ready for sectioning. Grossly, the brain and cord showed nothing abnormal. There was no arteriosclerosis of the larger vessels or any areas of softening. From rather superficial inspection of the brain-stem blocks before imbedding, it would appear that the perivascular spaces of the lenticular nuclei and the outer part of the optic thalami are considerably larger than normal. These are not unlike the "lacunae" described by Marie in certain cases of cerebral arteriosclerosis. These are only mentioned in passing, as I do not at present care to lay too much stress on them as of pathologic importance. No gross tract degenerations were seen anywhere. There were no gross changes in the kidneys, liver or spleen.

I feel that this series of peculiarly similar cases represents a definite disease picture, the cause for which must be found in the working conditions or the material which the men handle. It has been a problem to determine the real causative factor. Zinc, of course, was the one first thought of, but zinc has been regarded for years as a harmless metal, in so far as its effects on the nervous system are concerned. Popoff[1] described a case of general muscular atrophy with gastro-intestinal symptoms in a bronze worker which he ascribed to zinc, but it does not correspond with our cases. Edsall,[2] with an extended experience among zinc workers, believes that zinc never causes a systemic poisoning. Schlockow,[3] in 1879, reported a peculiar disease which he had observed among some workers in a zinc mine in upper Silesia; the symptoms these patients exhibited were similar in many respects to those I am considering here. There was marked intention tremor, but the most prominent symptom was gait disturbance which he described as "stiff, hurried and unsteady." Asynergia was certainly present. The reflexes were normal. The author considered it a spinal-cord disease due to zinc poisoning, although he had no autopsy material to substantiate his theory.

It is interesting to note that the ore taken from this mine in Silesia was not unlike that which our patients handled, in that it contained a considerable quantity of manganese, but there was also lead and arsenic in this Silesian ore, which possibly accounted for some of the symptoms Schlockow reported.

Since zinc cannot be blamed for this intoxication, one must next turn to the other principal metallic substance, manganese. The toxicology of this metal is little known owing to its restricted use. Of all disease pictures reported in literature, none more closely resembles the cases here presented than does that reported by Embden[4] in workers in a manganese dioxid grinding-mill. He reported four cases which occurred in men who worked in an atmosphere of manganese dioxid dust. They showed general muscular weakness, but no atrophy; mask-like face, with inability to whistle. The gait was unsteady, and there was a tendency to fall forward especially on going down an incline. Retropulsion was marked. All tendon reflexes were active and equal. There was a coarse intention tremor which, in some cases, made writing difficult. Voice was slow, unsteady and monotonous. One patient had impulsive laughter. There was no sphincter trouble. Manganese was found in the urine. These symptoms came on after the patients had worked a few months in the manganese dust.

It has been suggested that possibly the high-power electromagnets among which most of these men have worked might play some part in the etiology of the condition. It is difficult to conceive of this as a primary cause, as there are other places where men work in high-power electric fields in which such a condition must have been observed long ago. When one considers, however, that all but one of our patients developed the symptoms while working on the floor with the magnets, it must be admitted that possibly this factor plays an etiologic rôle.

A final word on the absorption and excretion of the poison. Absorption must take place through either the lungs or the alimentary tract. The density of the air dust makes it impossible to avoid inhaling the dust into the lungs. In all the cases there was a history of spitting up of dark sputum long after the man had stopped working in the mill. Nevertheless, it is doubtful whether absorption of heavy metal ever takes place through the lungs, as inspired dust is probably all coughed up or stored in the lymph-nodes and tissues. The gastro-intestinal tract is probably the portal of entry. In the first place, manganese is soluble in hydrochloric acid and thus probably much of the manganese content of the swallowed dust leaves the stomach in absorbable form. The absence of gastro-intestinal symptoms is probably due to the small amount of the poison in the intestine at any one time.

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[1] Popoff: Ein Fall von chronischer Vergiftung mit Zinkoxyd-dampher und Experimente über die Wirkung einiger Antifermentative Mittel, Berl. klin. Wchnschr., 1873, p. 49.

[2] Edsall: Article in Osler's Modern Medicine, p. 138.

[3] Schlockow: Ueber ein eigenartiges Rückenmarksleiden der Zinkhuttenarbeiter, Deutsch. med. Wchnschr., 1879, p. 208.

[4] Embden: Zur Kenntnis der metallischen Vergiften; über die chronischen Manganvergiftung der Braunsteinmüller, Deutsch. med. Wchnschr., 1901, p. 795.

Of the excretion, little is known. The excretion of most mineral poisons takes place principally through the intestines, with the kidneys as secondary. On one occasion, specimens of urine were taken from four men working on the magnetic machine, none of whom showed any symptoms, and, in each of the specimens, definite traces of zinc and manganese were found. Four urines from other workers in the mill were analyzed and showed no trace of the metal. It was suggested that possibly in the magnetic field the manganese molecule was so altered that its solubility in blood-serum was increased. To determine this, experiments have been made by shaking up the manganese-bearing ore in rabbit's blood-serum both in the magnetic field and out of it. No difference in the solubility could be determined. To speculate on the question why so few of the men employed in the work developed this condition takes one into the field of individual susceptibility, and thus far from the purpose of this paper.

CONCLUSIONS

1. This is a definite pathologic condition, recognizable by a definite symptom-complex.
2. It is a pathologic condition of the central nervous system affecting principally the mechanism of walking and equilibrium.
3. It cannot be placed under the heading of any known central nervous system disease.
4. It is of toxic origin, and in greatest probability the toxic agent is manganese.

This paper is offered as a preliminary report of a more extended work now being done, together with Dr. F. P. Wilbur, to whom my heartiest thanks are due.

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A NEW APPARATUS FOR USE IN BLOOD-CULTURES*

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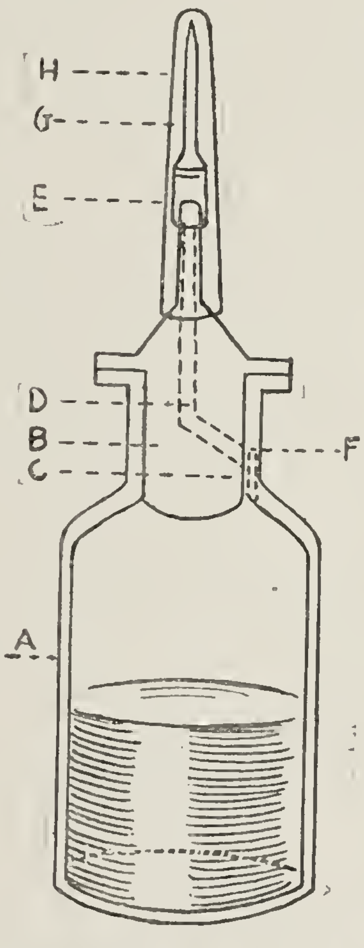
Of all the clinical methods as yet devised for the purpose of diagnosis, prognosis and treatment of disease, there is no single method which finds so wide a range of usefulness and importance and gives results which are so definite as that of blood-cultures. Yet the general practitioner seldom avails himself of the method of culturing bacteria in the blood, its use being restricted mainly to hospital practice. This is due to the difficulty of procuring the blood. By the methods at present in use the process of obtaining blood is exceedingly cumbersome, and contaminations are frequent, so that one has to have special training in this line of work, for otherwise the results are not only unreliable but also even misleading.

By the use of the method devised, the practitioner can avail himself of blood-cultures as readily as of the Widal reaction in typhoid.

DESCRIPTION OF APPARATUS

The apparatus is composed of a glass bottle (*A*), containing a ground air-tight stopper (*B*); along the lower half of the inner surface of the neck of the flask there is a longitudinal groove (*C*). The stopper contains a longitudinal canal (*D*), which opens above at *E*, and below the canal is continuous obliquely downward and outward, opening at the ground side of the stopper, at *F*, which lies below the upper level of the groove (*C*). It is evident that if the stopper is placed in the bottle so that the lower opening of the canal (*F*) opens into the groove (*C*) on the inner surface of the neck, the inside of the flask will be in direct communication with the outside by means of the groove (*C*) and the canal (*D*).



Apparatus for obtaining blood-cultures. *A*, glass bottle; *B*, air-tight stopper; *C*, groove in neck of flask; *D*, canal in stopper; *E*, upper opening of canal; *F*, lower opening; *G*, needle; *H*, test-tube. In this view of the apparatus the canal *(D)* is in communication with the groove *(C)*. By turning the stopper this communication is broken.

It is also evident that rotation of the stopper sideways, so that the lower opening of the canal (*F*) no longer opens to the groove (*C*), shuts off the inside of the flask from all communication with the outside (to facilitate rotation of stopper a lubricant such as graphite is recommended). Place in bottle 0.5 gm. of finely powdered sodium chlorid, or 10 c.c. of 1 per cent. solution of ammonium oxalate in normal saline. Replace stopper so that there is communication between the lower opening of the canal in the stopper (*F*) and the groove (*C*) on the inner surface of the neck of the bottle. This will afford direct communication between the inside of the flask and the outside air.

Next produce a vacuum in the flask. This can be accomplished in several ways, either by a water-pump, vacuum-pump or by the simple aspiration of the air with an ordinary syringe or mouth (as suggested by Mr. Layton). I found that the simplest way of producing a vacuum and at the same time sterilizing the contents of the flask is by placing the flask in water (or brine) with its neck above the level of the fluid, and then boil the water or suck the air out with the mouth. The heat will rarify the air in the flask and thus a partial vacuum, sufficient for all practical purposes, will be produced. The same result can be accomplished with dry heat. As soon as you have obtained the vacuum, irrespective of the method employed, break the communication between the inside of the flask and the outside air by turning the stopper sideways so that the lower opening of the canal in the stopper (*F*) will no longer be in communication with the groove (*C*) on the inner surface of the neck of the flask. Attach a needle (*G*) to stopper directly or by means of a connecting piece of rubber, cover needle with test-tube (*H*), and sterilize the entire apparatus by boiling or by dry or steam heat. The apparatus is immediately ready for use or at any date in the future. (The vacuum keeps.)

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* From the Bacteriologic Department of the Long Island College Hospital.

USE OF APPARATUS

To use the apparatus, paint the bend of the elbow with tincture of iodin (or sterilize the part by any other method), plunge the needle into the median basilic or cephalic vein, and then rotate the stopper so that the lower opening of the canal (*F*) communicates with the groove (*C*) on the inner surface of the neck of the flask. The vacuum in the flask will rapidly suck in the blood from the vein.

Having obtained the desired quantity of blood, 10 c.c. being quite sufficient for all practical purposes, break the communication between the inside and outside of the flask by rotating the stopper sideways and then remove the needle from the vein. Cover with collodion the opening in the skin caused by the entrance of the needle.

The flask containing the blood is now thoroughly shaken. The sodium chlorid or the ammonium oxalate used prevents the blood from coagulating, but is not bactericidal. In fact, the bacteria commonly found readily multiply in it.

The blood thus obtained can now be taken to the laboratory and subjected to the usual process.

When the typhoid bacillus is suspected to be the infective organism, instead of ammonium oxalate solution or salt, 10 c.c. of bile are put into the flask, and after the blood has been obtained in the manner described, the mixture is incubated in the flask without further manipulation. Likewise, when the pneumococcus is suspected as the cause of the bacteriemia, a slightly alkaline solution of 10 per cent. peptone is placed in the flask, and 1 per cent. dextrose as recommended by Wiens, and after the blood has been obtained the flask is incubated. Experience has convinced me that practically all microorganisms found in the blood grow readily on bouillon or glucose bouillon, so that if the blood is obtained in a bottle containing the latter medium and the mixture incubated, no further manipulation of the blood is necessary.

THE ADVANTAGES OF THIS METHOD

1. Contaminations are absolutely excluded, for the blood does not come at all in contact with the air as the multiple manipulations of the blood are dispensed with, the flask acting both as a syringe and as a container of the nutrient medium.

2. The general practitioner of the city or country can avail himself by this method of blood-cultures, for the attending physician can procure the blood when he visits the patient, and the flask can be brought to any laboratory for further examination. All one has to determine from now on is the microorganism present; and it means no more than the determination of any microorganism when pus is inoculated on an agar tube. Hence the expense to the patient is but trivial. The cost of blood-cultures by the present method is prohibitive for most patients. Furthermore, by the present method, the country practitioner could not avail himself of blood-cultures. By this method he can send the flask containing the procured blood to the nearest laboratory for further examination. The flask can be placed and shipped[1] in a vacuum bottle or in the center of a roll of cotton wool which would prevent the lowered temperature from destroying the bacteria in the blood.

3. The sight of syringes, needles, test-tubes, flasks, mediums, etc., frighten the patient, who in most instances anticipates a major operation. With this method he at the most anticipates no more pain than is caused by a hypodermic needle.

4. One has at all times a sterile apparatus which can be used at once as the occasion arises.

5. As the entire apparatus can be easily carried in the vest pocket, it is very convenient for obtaining blood outside of the laboratory.

6. The obtaining of blood with this apparatus is so simple that any one can undertake it.

7. By the use of this apparatus a nice clear serum is obtained without hemolysis of the red cell, which is a particular advantage when the blood is obtained for Wassermann, Widal, miostagmin or cancer reactions. Of course this apparatus can be used for obtaining blood for any serologic purpose.

8. The apparatus saves the outlay for expensive syringes, and furthermore will last a lifetime.

907 St. Marks Avenue.

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[1] According to the postal regulations (given in The Journal A. M. A., March 6, 1909, p. 791), cultures and diseased tissues are unmailable to private laboratories or persons; they must therefore be transmitted by messenger or express.

A METHOD OF TONSILLECTOMY BY MEANS OF THE ALVEOLAR EMINENCE OF THE MANDIBLE

A NEW GUILLOTINE AND A SNARE *

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ST. LOUIS

The essential and only original features of this method consist (1) in dislocating the tonsil out of its soft movable bed in a direction upward and forward to the point where is met the eminence on the inner side of the lower jaw made by the last-formed molar tooth in its socket with the gum covering it, to which I have given the name "alveolar eminence of the mandible"; (2) in putting the tonsil through the guillotine by the eminence alone (see below) or with the aid of the finger on the anterior pillar. All efforts to move the tonsil forward and upward or upward and forward for surgical purposes must needs involve the service of this eminence more or less as will be seen when the topography of this area is studied. On June 9, 1910, I presented this method to the American Medical Association at its meeting in St. Louis,† with patients, specimens, etc. The text of this presentation was published in The Journal,[1] but not as a part of the proceedings of the 1910 meeting. Since then I have written two papers[2] dealing with this technic for purposes of narrating further clinical experience with it, and for considering further developments in its instrumentarium at the hands of several friends of the method. In this paper I shall consider the subject from these two aspects again with the authority of a somewhat greater experience.

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* Read before the American Academy of Ophthalmology and Oto-Laryngology at Niagara Falls, Ontario, Aug. 20, 1912.

* Because of lack of space this article is abbreviated in The Journal by the omission of the history and description of the guillotine, anatomy, etc. The complete article appears in the author's reprints.

† The Journal A. M. A., July 2, 1910, p. 60.

[1] Sluder, G.: A Method of Tonsillectomy by Means of a Guillotine and the Alveolar Eminence of the Mandible, The Journal A. M. A., March 25, 1911, p. 867.

[2] Sluder, G.: A Method of Tonsillectomy by Means of a Guillotine and the Alveolar Eminence of the Mandible, Tr. Am. Laryngol., Rhinol. and Otol. Soc., 1912; Tonsillectomy with Presentation of Specimens Removed by the Author's Method, Jour. Missouri State Med. Assn., March, 1912.

CLINICAL EXPERIENCE

The effort to execute a tonsillectomy by means of a fenestrated instrument, placing its ring behind the tonsil and using it to pull the tonsil forward and upward, relying on pressure on the anterior pillar or tucking with the finger to put the tonsil through the aperture, must needs involve the service of the alveolar eminence of the mandible to a greater or lesser degree. In my experience the more familiar one becomes with the anatomy of this eminence and the more one utilizes it in this technic the higher becomes the percentage of perfect results. Furthermore, for much of the repair work—that is, removal of pieces that have escaped the first setting of the guillotine—an intimate knowledge of the construction of this eminence is absolutely necessary. When the surgeon becomes familiar with this construction I believe that he can repair all faults of the first setting of the guillotine to an extent which will bring his results up to 99.5+ per cent.

The lymphoid tissue of the lingual is apparently continuous with that of the faucial tonsil above. Occasionally, I have seen wounds heal perfectly and remain so for three or four months; but a year later they showed a well-defined mass, resembling the original tonsil, which had grown up from the lateral aspect of the lingual tonsil into the site of the removed faucial tonsil. Twice I saw lymphoid tissue transplanted on the wound of a perfect tonsillectomy.

In a recent paper[2] I stated that I thought there arose about once in three hundred tonsil cases a condition of (or with) the alveolar eminence that did not lend itself to perfect execution of this technic and that I had not been able to determine what it was. More recently, I believe that I have made out that at least a part of this condition is due to the fact that the eminence lacks its convexity, being, instead, a sulcus whose transverse boundaries are the free margin of the alveolus above and a very highly emphasized mylohyoid line below. This condition is rare in childhood but somewhat more frequent in later life. I believe this to be the anatomic explanation of a part of the 0.4 per cent. of failures. The remaining part is explained by an unusually high setting of a thin, soft tonsil in the soft palate, in some instances even touching the uvula. Such a tonsil may usually be secured in the grasp of the guillotine (upper part first); but should a thin piece escape in the upper pole of the wound it will sometimes be found impossible to repair this fault. A thicker piece of tonsil is almost always easily removable wherever it may be.

Another source of difficulty in the employment of this technic is peritonsillar infiltration. The feature on which the possibility of this method depends, altogether, is the difference in consistency between the tonsil and its environing muscular and membranous tissues. Therefore, in so far as this difference is lessened, either through softening of the tonsil or through hardening of the peritonsillar tissues, as from peritonsillar phlegmon, just so much are the technical difficulties increased and the certainty and accurate security of its execution decreased.

At present, I feel that after the surgeon is thoroughly familiar with the alveolar eminence of the mandible it is almost uniformly a peritonsillar infiltrate that prevents a perfect enucleation with the first setting of the guillotine (save, of course, the rare exception in the eminence, cited above). The flaw will be found to vary from a pin-head buttonhole in the capsule, made by an adherent point, to a patch of capsule 8 or 10 mm. in diameter with more or less (sometimes none) of the tonsil tissue with it, remaining *in situ*. About 5 or 7 per cent. of tonsils require a second setting of the guillotine.

Peritonsillar infiltrates, however, are not a bar to the employment of this method. The surgeon learns to estimate them by recognizing a thicker layer of tissues over the ring of the guillotine after he is reasonably sure that the tonsil has all been put through either on the eminence alone or stroked or kneaded through with the finger, according to his election. He learns to recognize this thicker layer either by his sense of touch during the operation or sometimes by its appearance. I believe that he will learn to estimate it by touch first; and he will always recognize it more accurately by touch. If the infiltrate be recognized the surgeon can usually complete his operation by being more careful in his manipulations and more deliberate in his judgment of when to do the cutting. He must also be very careful lest the setting of the tonsil slip in the grip of the guillotine, even after he is sure that he has it. This happens much more easily than might be thought, under these circumstances.

I employ this method for all tonsils under all circumstances with any anesthetic or without one and have been successful to the extent of 99.5+ per cent. perfect results (during the last eighteen months). I operate preferably under nitrous oxid, a plea for which was admirably presented by A. C. Gundelach[3] last year. The instrument I use is the modification of the Physick guillotine that is described and pictured in my first text[1] on this subject. I have not been able to obtain so high a percentage with any of its modifications. The average bleeding for 310 children from 2 to 15 years old in the St. Louis Children's Hospital was 70 c.c. (4⅔ tablespoonfuls) for both faucial and pharyngeal tonsils, under nitrous oxid anesthesia.

INSTRUMENTARIUM

In the construction of the first model of the guillotine I gave careful consideration to several things. It was the product of the six years' development period of this technic. The shaft was strengthened so that it would not bend while in use. Its length was carefully adjusted so that it should be just right—a shaft too short hampers the movement of the surgeon's hand and one too long rapidly loses its leverage. The angle at which the handle was attached to the shaft was proved by experiment to be the most advantageous for the surgeon's grip and wrist movements. The shape and sizes of the aperture were determined to be the most advantageous. The extension of the thumb-piece of the blade beyond the handle was decided by experiment to be that which left the blade under the most nearly perfect control of the surgeon in whatever position his wrist might necessarily turn, and under circumstances of great or little strain. For these reasons I felt it worth while to accompany its description by mechanical drawings with a scale for measurement, that the surgeon might know whether the instrument which had been sold to him corresponded to the one described.

This instrument had, however, one shortcoming for many operators. The blade was made or should have been made dull. The dulling of the blade is absolutely necessary in order that it may follow the connective tissue bed between the capsule and the constrictor muscle. This was emphasized in the original text. This feature, however, seems to have made difficulties for many operators. They have complained that although they could secure the tonsil satisfactorily they could not squeeze the blade with enough strength to make it cut through the tissues; and that they could not strip the tissues off from the end of the ring. Stripping the ring seems to me a very simple thing and easily done. I know, however, from personal observation that there are some experienced and skilful surgeons who cannot do this stripping — who seem to have no knack or aptitude for learning it. I have seen the tissues thus engaged in the guillotine amount to almost a major difficulty in their hands. For this reason, they demanded that their blades be sharp. In the substitution of the sharp for the dull blade the percentage of their satisfactory results decreased, and the consequent bleeding increased.

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[3] Gundelach, A. C.: Nitrous Oxid Anesthesia in Tonsil and Adenoid Operations, Interstate Med. Jour., November, 1911.

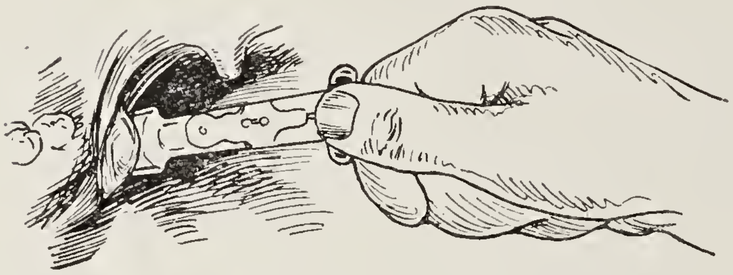

Fig. 1.—First stage: the introduction of the guillotine. (After Ballenger.)

Feeling that this technic offered a quick and certain means of securing the tonsil, several surgeons, friends of the method, including myself, have modified its instrumentarium with the desire to overcome these troubles; the results I record below.

Ballenger was its first champion.[4] He added three original pictures (Figs. 1, 2 and 3) which help greatly in explaining the text, and suggested a pistol grip handle (Fig. 4) to be put to the shaft, which closes the blade and gives the operator a chance to squeeze it to better advantage, thereby allowing the blade to remain dull. He has also described orally[5] a guillotine provided with two blades, one dull, for engaging and holding the tonsil in the grasp of the instrument and bruising the blood-vessels, and the other sharp, which is pushed across the ring for cutting off the tonsil. The dull blade helps to control the bleeding; the sharp one avoids the troubles previously cited. Ballenger also mentions that his écraseur lends itself to the technic.

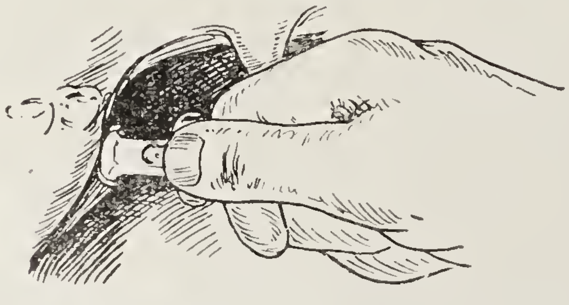

Fig. 2.—Second stage: the tonsil has been drawn forward and upward onto the eminence and the blade has been closed. (After Ballenger, slightly altered.)

Next, Luther C. Hood used the guillotine as a forceps to secure the tonsil and then passed a snare over the entire instrument that he might do the cutting with it, thinking that the snare-wound would bleed less.

Then J. C. Beck substituted a Pierce-Mueller snare with a Vedder tip (Fig. 5), using the fenestrated tip instead of the ring of the guillotine. He passes it behind and below the tonsil, draws it upward and forward or forward and upward and tucks the tonsil through the ring-tip with the finger, relying on the snare-wire (over which he then no longer has control) to follow in the connective tissue bed of the tonsil for a perfect enucleation, thinking the snare-wound would bleed less.

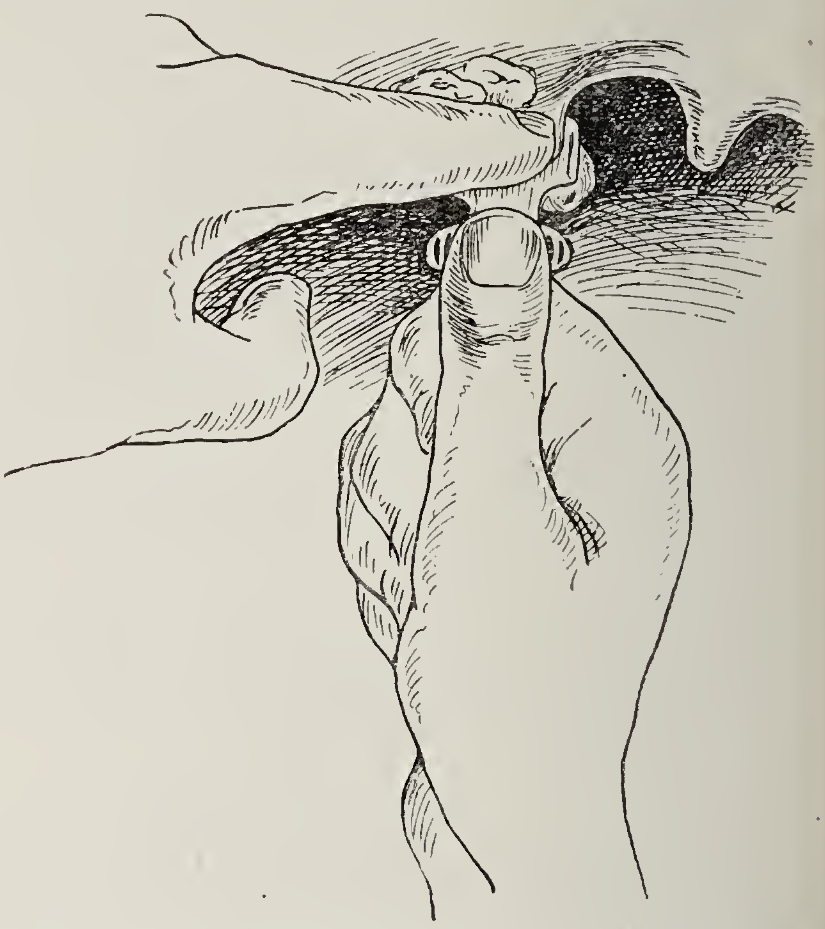

Fig. 3.—Third stage: the handle has been rotated downward to clear the field of operation and the finger of the other hand introduced to feel the distal arc of the aperture, recognizing whether the tonsil has all gone through the aperture, and pushing it through if necessary. (After Ballenger.)

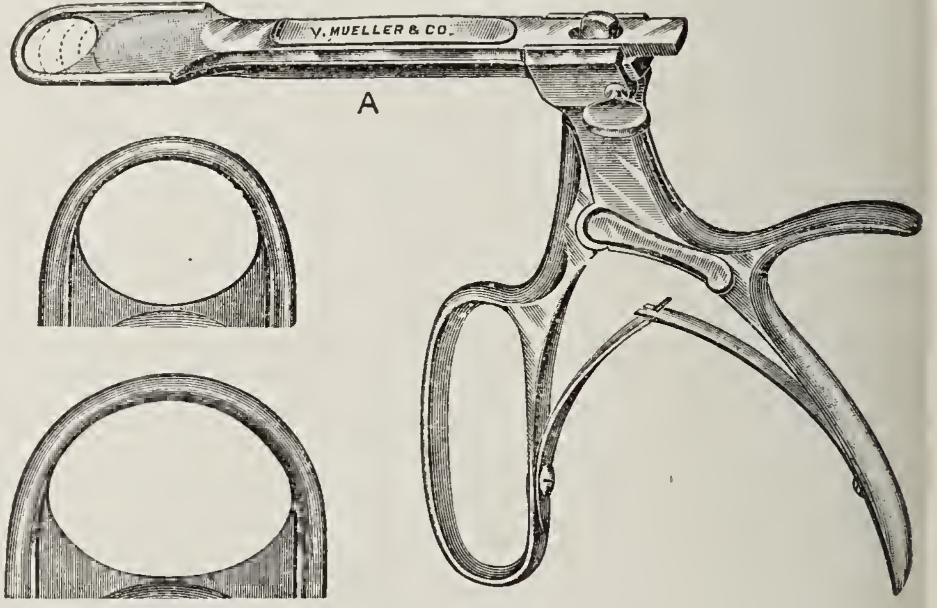

Fig. 4.—Sluder's guillotine with Ballenger's handle.

A little while later W. E. Sauer, adhering largely to the original, turned the thumb-piece downward to lie parallel to the handle and perforated it with a screw which took its hold in the handle (Fig. 6). Thus he is able to put the power of the screw in pressure for the final cutting, thereby permitting the use of a blunt blade, 1 mm. in thickness at its free edge, likening this to an écraseur and so controlling the bleeding.

Each of these modifications has features of distinct advantage, as well as some that are less advantageous.

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[4] Ballenger, W. L.: Diseases of the Nose, Throat and Ear, 1911, Ed. 3, p. 428, Lea & Febiger, Phila.

[5] Presentation of New Instruments, Tr. Am. Laryngol., Rhinol. and Otol. Soc., 1912.

According to my experience, each lacks the leverage of the original model and the absolute command that the surgeon readily exercises with it. Ballenger's instrument is perfect except that in certain positions of the wrist the flexors of the forearm must work under great disadvantage thereby losing some of their power. Hood's modification of the technic is perfect except that it prolongs the procedure somewhat and introduces a more complicated and less trustworthy instrument, the snare. Beck's instrument in my hands is more unwieldy and much less accurate in its execution than the original. In all of the guillotines the margins of the gap, in which the final cutting is to be done, are rigid—strong enough to withstand great pressure — so that, when in use, with the blade being pushed across, slowly narrowing the gap, the surgeon may tuck the tonsil through despite a peritonsillar infiltrate, which may sometimes then require great pressure and make it difficult. The rigidity of the narrowing gap makes this possible with all the guillotines.

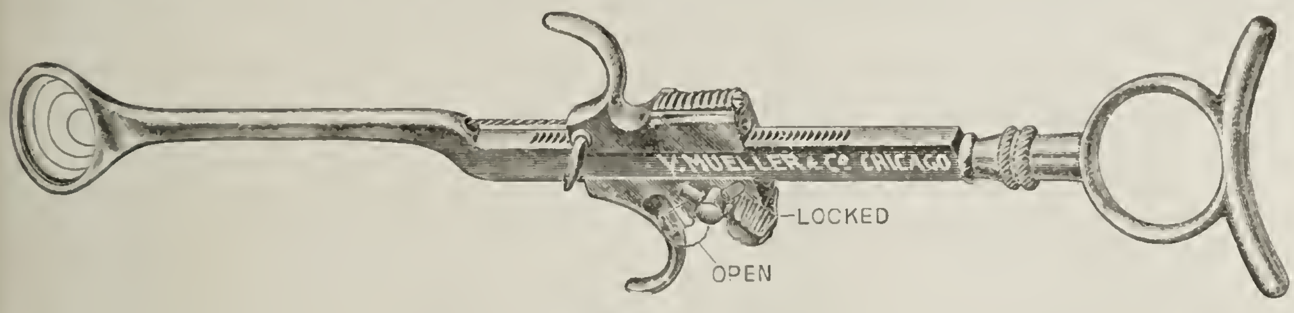

Fig. 5.—Beck-Mueller tonsillectome.

In Beck's instrument the narrowing gap which is to do the cutting is a snare-wire loop concealed and protected in the Vedder tip. As soon as the snare is pulled the loop is released from its rigid protector. It must then be trusted to follow in the connective tissue bed. Frequently it does follow nicely, especially if there are no adhesions between the capsule and the subjacent tissue. But should it not do so the surgeon has not the power to tuck the tonsil into it because he has nothing rigid to resist his pressure; the flexible wire bends with the tissues. He therefore has no rigid ring over which to pass the finger-tip in forming his final judgment of when to cut. For these reasons the repair work which may be frequently necessary cannot be done, especially the removal of thin tough pieces, which is quite possible, usually, with the original model. A small finger-tip is also a disadvantage for Beck's instrument. In other respects it is admirable, possessing the advantage of the slowly strangulating snare.

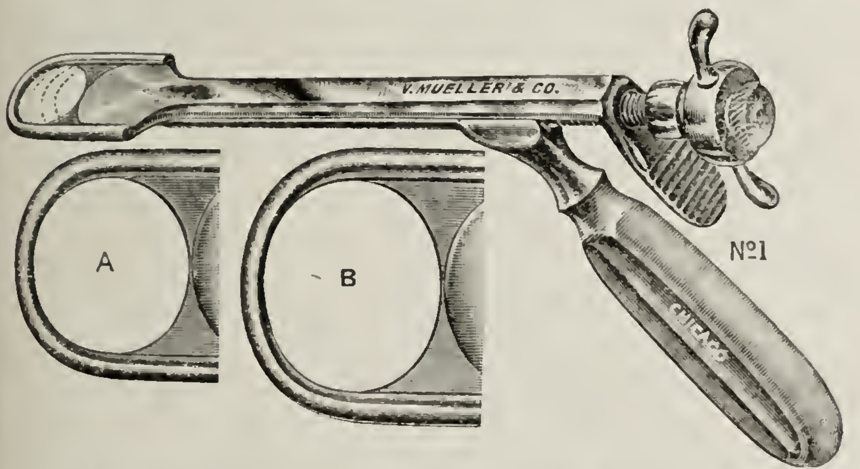

Fig. 6.—Tonsil guillotine with a dull blade. Sauer's modification. The instrument is made in two sizes, *A* and *B*.

Sauer, in his modification, has retained the original largely and has added a power screw which permits of great pressure slowly applied; under his blunt blade this is the equivalent of the snare-wound. It, however, lends itself less advantageously to the surgeon's grip and wrist movements than the original; and the blade, being blunt, sometimes permits escape of small parts despite great care. In the effort to prevent this Sauer has added a ratchet which prevents backward slipping of the blade. In my experience, difficult repair work cannot be done with a blunt blade. Were it not for these defects it would, to my mind, be the ideal instrument.

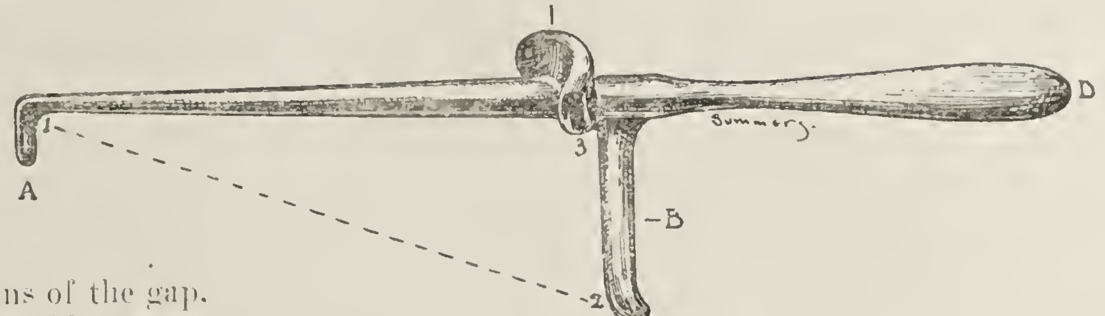

Fig. 8.—Mechanic's "dog." *A*, the hook for engaging in the shaft of the guillotine; *B*, "prong" for pressure on the thumb-piece of the guillotine. The "pitch" or biting distance of the "dog" is the difference between the distance from 1 to 3 and from 1 to 2, or about ½ cm. *C* is a flange arising from the shaft, which fits into the crotch between the thumb and forefinger to prevent slipping of the hand when a single hand is used to do the compression of the dog to the guillotine. *D* is the handle of the "dog," made in such form that it serves as a tongue-depressor.

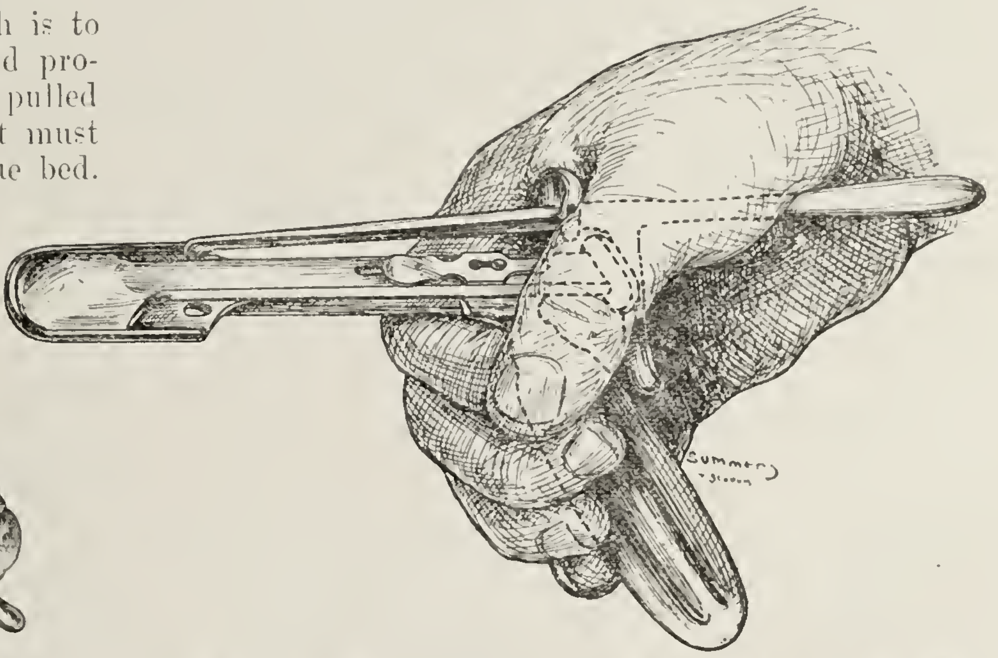

Fig. 9.—Setting of the "dog" to the guillotine and compression by one hand. In this position the cutting may be done as slowly or as rapidly as the surgeon may elect. The power of the "dog" thus applied is very great.

In the effort to meet the desires of all operators and to remove the shortcomings of the method in their hands, I, too, have tried to devise some instruments.‡

After a trial of all the modified instruments and their usages, including my own, I so much prefer the original model that I have been to some pains to preserve it and still meet the requirements of all operators. Therefore, I have supplied it with increased power (that may be instantly or slowly applied), which shall be strong enough to make the dull blade cut through. In comparing the wounds made by a dull blade and a snare-wire

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‡ Tr. Am. Acad. Ophthal. and Oto-Laryng., 1912.

I have not been able to determine any difference from the standpoint of hemorrhage; for instance, between Beck's snare and Ballenger's, Sauer's or my own blade, which may now be dulled or even blunted to a degree to please the individual operator. In my opinion it must not, however, be blunted too much, or the tissues will slip from under its grasp, and the difficult repair work cannot be done with it; it will slip over instead of cutting under the piece which is to be removed. (See above.) I have been able to add this power to the original by means of what is described as a mechanic's "dog" (Fig. 8). It consists of a lever with a hook on the distal end which is engaged in a hole made in that part of the shaft which becomes exposed after the blade has been pushed across the aperture. At the point of the thumb-piece (after the blade is closed), is given off an arm 2½ inches long at a right angle. As the "dog" is applied the thumb-piece is carefully engaged just under the tip of the arm. The shaft of the lever is then pushed down to make it lie parallel to the shaft of the instrument. This may be done as a combined movement with two hands; or may be accomplished with one hand as shown in Figure 9. The distance between the hook and the thumb-piece has thereby been shortened to the extent of the difference between the hypotenuse of the right-angled triangle (Fig. 8, 1, 2, 3) and its next longest side (about one-fourth inch). The squeezing power of this leverage will be found to be very great. It may be applied as slowly or rapidly as desired. The handle of the "dog" makes an excellent tongue-depressor.

Dr. George Fetterolf[6] has described in a most masterly fashion the anatomy of the tonsil with special reference to the plica triangularis, and seems definitely to have cleared up our ideas concerning this structure. He explains that it will be observed from the study of the anatomy that the tonsil is not a structure that may be removed by a single instrument. It is to be noted that the above-described technic in its entirety pleads the exact contrary. I believe from his text, however, that Fetterolf is unfamiliar with this technic.

In the original description of this method[1] the history and description of the guillotine, anatomy, etc., are given as well as I know them.

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EXERCISES IN THE TREATMENT OF PTOSIS OF THE ABDOMINAL ORGANS *

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In looking over the literature on this affection one finds certain writers whose names stand out prominently, on account of the particularly elucidative work they have done. Such are Glénard, after whom the affection has been named, Stiller[1] because of his remarkable book on asthenia, Lovett and Reynolds[2] of Boston on account of their scholarly work on the center of gravity of the body and the effects of that center being displaced. Among others M. L. Harris[3] of Chicago has also made extensive studies of the body form and its relation to the proper position of the viscera.

That the study of this affection is important impresses one strongly when one considers that the condition which Stiller calls asthenia can be looked on, and no doubt is, synonymous with what other writers have described under the name of status phthisicus.[4]

The condition being so predominantly a mechanical one, it would naturally stand to reason that mechanical forms of therapeutics, particularly gymnastic exercises, ought to take a prominent place. But, along what lines should such efforts be directed? Most writers have found a solution of the problem in the form of specially constructed corsets or in various types of adhesive plaster bandages. Last year Dice[5] and McCaskey[6] described very much the same thing, namely, the application just above the symphysis of a short adhesive strap by means of which the abdomen is lifted up through a belt around the hips, one having it tightened by a buckle and strap arrangement, the other by a lacing device. Both were enthusiastic about the good effect of their apparatus in cases of gastroptosis, neither being aware of the similarity of the two devices. On reading these articles it occurred to me that if the tonus of the obliquus abdominis externus on each side could be developed by training one would have exactly the same effect as that produced by the bandages.

While most writers on the subject of ptosis of the abdominal organs recommend gymnastic exercises as an important feature in the treatment, few have given a detailed description of how and why. All seem to agree that the abdominal walls are relaxed, that there is a more or less pronounced lumbar lordosis together with a condition of round shoulders, flat-chestedness and acuteness of the so-called epigastric angle as being the gross features of changes of bodily shape that go with ptosis of the abdominal organs. From a gymnastic point of view the correction of these conditions would consequently be to straighten the upper spine, to develop the chest, to increase the capacity of the lungs, to strengthen the abdominal walls and to overcome the lordosis. But these are just the things accomplished by a rational system of gymnastics. If one studies the Ling system, one cannot help being impressed by the idea that it seems to be constructed just for the purpose of preventing or overcoming this particular condition. These facts might give reason for extensive speculation, particularly as to children, especially those that have inherited the so-called stigma or predisposition for this affection. The question nearest to hand then is, Is enough detailed attention given to the question of the physical education of children to-day? Is not the condition of flat chest, round shoulders, pot-belly common enough among school children to deserve the special study of our educators, so as to prevent them from sooner or later falling prey either to the neurasthenia that goes with this affection or to tuberculosis?

For the purpose of classification, one might group the patients as follows: (1) those that have inherited, and (2) those that have acquired the condition.

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[6] Fetterolf, G.: Anatomy and Relations of the Tonsil in the Hardened Body, Am. Jour. Med. Sc., 1912, i, 37.

* Read before the North Shore Branch, Chicago Medical Society, Dec. 3, 1912.

[1] Stiller, Berthold: Die asthenische Konstitutionskrankheit, Stuttgart, 1907.

[2] Reynolds, Edward, and Lovett, Robert W.: An Experimental Study of Certain Phases of Chronic Backache, THE JOURNAL A. M. A., March 26, 1910, p. 1033. Reynolds, Edward: Tr. Am. Surg. Assn., xxviii, 473

[3] Harris, M. L.: Movable Kidney: Its Cause and Treatment, THE JOURNAL A. M. A., June 1, 1901, p. 1527.

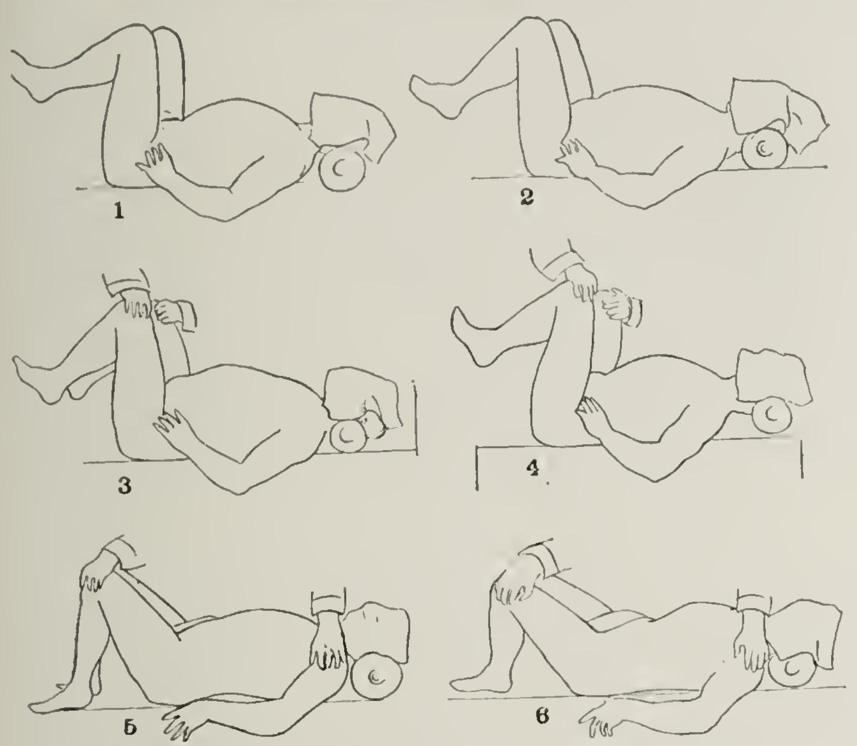
[4] Möller, Axel T.: Svenska Gymnastiken i In- och Ut-landet, 1911, p. 196.

[5] Dice, S. D.: A Plaster Support for Gastroptosis, THE JOURNAL A. M. A., Sept. 30, 1911, p. 1125.

[6] McCaskey, G. W.: A Simple Method for the Mechanical Treatment of Glénard's Disease, THE JOURNAL A. M. A., Oct. 28, 1911, p. 1454.

In the first class we have (*a*) children under puberty, and (*b*) those having attained physical development.

In the second class we have (*c*) women whose abdominal walls on account of frequent pregnancies are so relaxed that their organs have become displaced, (*d*) those who have acquired the condition through accidents or because of the character of their work.



Figs. 1 and 2.—Abdominal breathing with the knees raised.
Figs. 3 and 4.—Same as 1 and 2, but with downward pressure against the knees by the operator.
Figs. 5 and 6.—Swinging of the knees from the middle line to the side under exhalation, with resistance by the operator. (These would have been better with the feet raised so that the thighs are at right angles or less with the trunk.)

Speaking of Group 1*a*, there is no doubt that good hygiene, plenty of outdoor exercise, and particularly daily gymnastic exercises of a rational kind carried out through their school years will do much to lessen or perhaps even entirely remove that inherited predisposition for this affection.

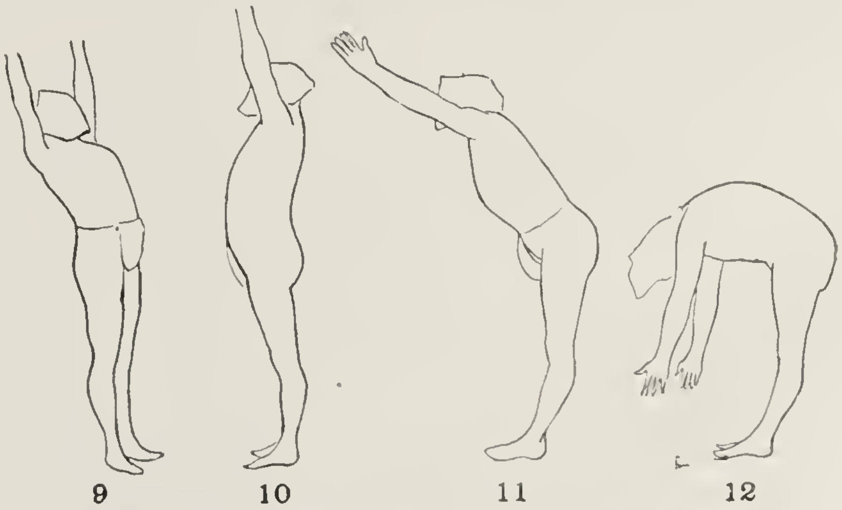
Of Group 1*b* we no doubt can say the same as about the preceding. Hygiene and outdoor and proper gymnastic exercises would be beneficial indeed; but here one meets the difficulty that the patients do not find the time and have not the perseverance necessary to accomplish results. As far as my limited experience goes these are the cases in which one will have the least success.

As concerns Groups 2*c* and 2*d*, I can best give my views on that by describing the routine way in which we treat this class of patients at the Central Free Dispensary. The patient is first placed prone on the table or bench and given a thorough manipulation of the tender muscles of the back, particularly those on both sides of the spinal processes and the edges of the trapezius; the latter are massaged in order to relieve the headaches that most of these patients are suffering from.[7] After the back has been thoroughly manipulated we try to mobilize the spine somewhat by fairly strong pressure on various portions of the back while the patient exhales.[8] We then turn the patients over on their backs and give a thorough massage of the abdomen for the purpose of stimulating the peristalsis, as almost all these patients suffer from constipation. The abdominal massage also has a tendency to increase the appetite. Then we begin with the exercises for training the muscles of the abdominal wall, and teach the patients abdominal breathing. Their knees being flexed we try to induce them to make a strong exhalation while contracting the abdominal walls. This takes a little time as most of them are chest breathers and are not in the habit of using their abdominal muscles.

The next in order is to teach them to pull their knees up while exhaling. Starting with the knees raised so that the thighs are at right angles to the body, the patients are told to pull them still higher while they blow out audibly. Later on the operator makes a resistance to the motion of the knees, this resistance being graduated according to the strength of the patient. When the patients after a time have learned to do these exercises with comparative ease, we increase the resistance to the motion of the knees to such a degree that the patients cannot move them, but have to hold them against the pulling of the operator while they do expire. Now they experience the real sensation of the lifting effect of the movement. Having advanced the patient that far one can add various exercises that will tend further to strengthen the abdominal walls, as for instance to swing the knees, feet still being lifted from the bench, from the middle line to the side with the operator resisting and the patient exhaling, or later to combine the swinging and the lifting of the knees by telling the patient to put the knees up toward the armpit, the operator resisting and the patient exhaling.

We also teach an exercise, described by Oldevig[9] of Dresden, in which the patient is lying flat on the back with the knees straight and one foot crossing over the other, slowly and gradually contracting all the muscles of the abdominal wall under exhalation, while the operator is making a slight resistance by pressing his hands over the trochanters. This exercise is a little hard to teach, but the intelligent patients soon learn. The fact about this exercise is that the muscular contraction is

Figs. 7 and 8. The Oldevig exercise.



Figs. 9 and 10.—A comparison of the outlines of the body in ordinary erect standing position with the arms raised (Fig. 10) and in the "strain-standing position" (an exercise from the Ling system) in which (Fig. 9) the exercising person stands about the length of a foot away from the wall and leans back against the wall, resting against the forefingers of his extended hands, while he tries to push his hand up as high as possible, thereby causing a strong contraction not only of the muscles of the abdominal walls, but also of the extensors in the upper region of the back.
Figs. 11 and 12.—Two periods in the bending of the trunk forward and down with exhalation.

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[7] Müller, A.: Deutsch. Ztschr. f. Nervenheilk., Nov. 23, 1910, p. 235.

[8] Taylor, Madison: Med. Rec., Oct. 17, 1908.

[9] Oldevig, J.: Therap. Monatsch., November, 1910.

exactly the same as the one used in the act of defecation, except that the diaphragm is relaxed and rises with the contraction of the other muscles, and consequently the abdominal pressure does not increase to any considerable degree; thus the danger of causing hernia is removed. This exercise has the advantage also of causing the contraction of the muscles of the perineum and the pelvic floor, which increases the bearing capacity in this region. Before rising from the table the patients put on a simple abdominal supporter (the pattern of which we furnish, so that they can make it themselves). Of late we have started to use the adhesive-plaster bandage which Rosewater of Cincinnati has described.[10]

After the patients have had their individual attention as above described we stand them in line and let them go through a series of free standing respiratory and trunk exercises, such as arm-liftings and various simple bendings or twistings of the trunk, all of those, however, made in the rhythm of respiration, the patients being told to breathe in time with their movements.

This paper is not a dissertation on the comparative values of the different forms of treatment of ptosis of the abdominal organs, but a description of a few simple exercises which, whether used as an after-treatment following surgical intervention or following a prolonged resting in bed and feeding of a neurasthenic patient, seem to work toward the correction of ptosis. They have the advantage that they can be employed while the patient is still confined to the bed and consequently their beneficial effects start before the vicissitudes of the erect position are again encountered. They are also given for the purpose of calling attention to the fact that exercises cannot be given promiscuously. Particularly do we lay stress on the point that patients never should be allowed to hold their breath. As to the effects of the treatment our experience has been too short to enable us to give any reliable opinion.

I am indebted to Dr. Charles Spencer Williamson and Mr. Charles O. Carlstrom for their kind assistance in preparing the illustrations.

122 South Michigan Avenue.

THE CONSERVATIVE TREATMENT OF SALPINGITIS BY UTERINE AND TUBAL INJECTION

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In the light of experience we are enabled to practice more conservative and less radical or sacrificial surgery when treating infectious disease of the pelvic organs of women. Many of our gynecologic patients come to us after the acute symptoms of salpingitis have subsided, and every one knows that operations are comparatively safe at this time. This alone indicates the wisdom of conservative treatment of some kind. The almost universal success now attained in the surgical treatment of salpingitis by competent operators leaves little to be desired unless we appreciate the fact that patients are not always well afterward, even if their lives are not in danger. Of this part of the subject the last word has not been said. We have therefore ventured in many instances during the past two decades to attempt the complete sterilization of the uterine and tubal mucosa, and to leave at least one tube and ovary, or even part of a tube, and part of an ovary when the mucosa of the tube has not been hopelessly destroyed.

In selecting cases for conservative treatment, obviously the preference is given subacute cases rather than those that are acute or of long standing. The relatively higher mortality of operations must always be considered in treating the acute cases, while in very chronic cases, or those with great distention and long-continued suppuration within the tubes, the mucosa is no longer capable of physiologic action, and is in reality a pyogenic membrane. Therefore while the very large pus tubes may be reduced to nearly normal size or even absolute innocuousness by incision and drainage, in the Columbia Hospital clinic we do not select these for conservative treatment by irrigation. But we do not hesitate to attempt the sterilization of the more acute cases, as I shall show later on, and have not regretted doing so, as our results are even more satisfactory since the new method has been given a permanent place in our clinic. Some one may ask if our work is confined to the cases of gonorrheal salpingitis. An expression of opinion on this subject is made with hesitation owing to the uncertainty of diagnosis. The rule is to treat all cases conservatively unless the condition of the tubes when seen is absolutely hopeless for retention, provided no operation is undertaken on the adnexa of patients with streptococcic infection. The lesions due to this microbe when unexpectedly discovered should attract our attention and cause the abandonment of any radical operation if contemplated, and the autogenous vaccine treatment should be instituted. Pus tubes are caused by several other bacilli besides the diplococcus, for example, the *Bacillus coli*, staphylococcus and *B. pyocyaneus;* and even if the diagnosis is not certain, we can rely on the method now proposed quite as safely as for the gonorrheal form of salpingitis. The result of several years' experience has fully convinced us that many pus tubes can be rendered perfectly innocent and germ free, if not physiologically perfect—which we believe to be an object worthy of our careful consideration.

METHOD OF STERILIZING THE MUCOSA OF THE UTERUS AND FALLOPIAN TUBES

The cervix uteri is seized with tenaculum forceps, carefully dilated, and a blunt curet used if thought necessary. A 2-ounce glass syringe is selected with a conical point which will reach through the internal os uteri. An ounce of diluted tincture of iodin (1 part to 3 of alcohol) is drawn into the syringe and the uterine cavity is thoroughly distended by strong pressure on the handle of the piston. The pressure is continued for at least two minutes—a matter entirely under the control of the assistant who makes the application. The conical point of the syringe held firmly prevents the escape of the fluid until the operator is satisfied that the work has been well completed. The patient is now placed in the moderately high pelvis position, the abdomen opened and the pathologic conditions observed. If no visible infection of the ovaries is seen, they are invariably retained. The tube is separated and brought into the wound and, if to be retained, is carefully irrigated and distended with strong pressure of the piston from its distal extremity, whether the fluid has passed through the cornu or not.[1] Afterward the mutilated pavilion may be excised, if hopelessly injured during the enucleation.

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[10] Rosewater: Lancet-Clinic, Feb. 25, 1911.

[1] The same syringe and diluted tincture of iodin are used in treating the tube which were used to inject the uterus.

A phimosis operation may be done for the purpose of imitating a fimbriated extremity if the tube is resected. As a matter of routine we leave one tube and ovary whenever possible, and even a portion of either may be advantageously retained.

The application of iodin to the distended uterine cavity is of far more value and efficacy than is the common practice of packing with gauze tapes saturated with an antiseptic, or the use of a return flow catheter. In a large number of instances, especially in infected uteri, it will be possible to project some of the fluid through the cornua into the tubes. Some authorities, as Zweifel, think that in at least one out of four cases this is true. Aulhorn[2] believes that nearly every uterus and fallopian tube is easily reached by injection. He uses argentamin and does not open the abdomen. H. Hoffmann[3] gives a summary of the various methods of conservative treatment of the uterine adnexa, including the methods employed by Fleischmann, Lewith and others, who open the abdomen and practice a technic similar to ours.

REPORT OF TYPICAL CASES

Case 1.—C. had gonorrheal salpingitis two weeks after infection, also acute appendicitis. There was a diffuse pelvic peritonitis; no attempt at "walling off." Operation consisted in removal of right tube and ovary with the appendix. The remaining tube was irrigated by solution of mercuric chlorid (1:1.000), which was forced through the uterus. The fluid appeared in form of a fine stream from the excised cornu and from the pavilion of the remaining tube in distinct drops. The patient had a narrow escape during the next twenty-four hours, but recovered, and nine years later had a child, and two years later a second child. Both children and mother are well at present.

Case 2.—Mrs. — had salpingitis and had passed through the acute stage, coming to the hospital about the time the infection was subsiding. Distinct "masses" were located in the region of the ovary and tube on each side, and the diagnosis of double pyosalpinx was established. Tincture of iodin (25 per cent.) was forcibly injected through the slightly dilated cervix and the fallopian tubes. Observing the failure of the fluid to return after removing the nozzle of the syringe, we were not surprised to find at least one ounce of free tincture of iodin in the culdesac when the abdomen was opened. The right tube was still distended and stained with iodin, while the left was stained, but empty. The amount of fluid indicated a rupture of a hydrosalpinx or pyosalpinx on the left side. One-half of the right tube was removed; adhesions were separated; the ovaries brought into better position; the excess of the tincture of iodin sponged away, and the abdomen closed without drainage. The recovery was prompt and uneventful.

Our interns have charge of the hospital dispensary and are constantly on the lookout for results of our method of treatment. As yet, no unusual results have been reported.

Finally, although we have conclusively ascertained that it is possible to reach the tube in a large number of cases by intra-uterine injection, yet we rely on irrigation from the distal extremity in addition to the effort to force the solution through the cornua. Actual tests show that it is not always possible to force fluids through the cornua, but our experiments appear to show that the infected mucosa does not close the cornua and resist the entrance of fluids so successfully as does the normal or uninfected membrane.

CONDITION OF PATIENTS IMMEDIATELY AFTER OPERATION

I am unable to report any unusual pain, shock or severe reaction following these conservative operations. On the contrary, less pain is observed as a rule when the adnexa are not removed, and in many cases I observe that the only discomfort is due to the incision. In only one instance have I seen a delay in the cure. This case occurred a year ago, and I was unable to explain a continuation of temperature elevation for nearly three weeks. The patient had no pain; there was no unusual induration about the uterus, and she finally recovered fully and has remained well.

PERMANENT RESULTS

Obviously a considerable period of time may be expected to elapse before these patients regain complete health and a perfectly normal or physiologic condition of their pelvic organs. Many cases are reported in the literature showing a number of pregnancies in patients having had some form of conservative operation on their pelvic organs. Our routine use of iodin in the manner now described began soon after we adopted it in skin sterilization, since which time we are not able to report success so far as pregnancy is concerned. The practice of injection of the uterus and tubes by strong pressure has been used from time to time since the date of the first case reported in this paper, but we used solutions of mercuric chlorid, methylene blue, boric acid, etc., instead of iodin, as we do at the present time.

SOME PRACTICAL PSYCHOTHERAPY

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Mental capital or positive suggestion is that renewed courage and hope which the old-time family doctor gave to his patients and which so endeared him to them. His patients said that they "actually felt better the minute he entered the room," and they undoubtedly did.

The wife of a prominent official in a New England city was afflicted with carcinoma of the cervix uteri and after some persuasion submitted to operation. For about one year she remained well, but was then afflicted with metastatic growths in the pelvis and soon became hopelessly cachectic, exhausted and bedridden. Her husband came at last to the family physician and said that he felt that his wife was very near her end, and that he wanted everything tried, no matter how heroic; but above all he wanted her demise as painless and comfortable as possible if no real help could be given her. The physician used the ferments, injections of ascitic fluid from other cancer cases, the *x*-ray and even *Streptococcus erysipelatis* (which, by the way, refused to grow), all to no avail. It was then that the idea of positive suggestion occurred to him. He went to her and told her that the whole previous treatment had been erroneous, that the diagnosis of cancer was a mistake and that now since her trouble was known she would be treated properly and would immediately recover. These ideas were strongly impressed on her mind by this physician, in whom she had every confidence. The result, while it lasted, was little short of marvelous. She began to eat and to take an interest in her surroundings and in two days was riding out in the open air with a nurse. This condition of affairs continued for three weeks at the end of which time she collapsed and died suddenly. She had been under the influence of analgesic drugs during this time. Now to what was the three weeks' respite due and was this method of giving mental capital justified? Each man must answer this for himself and he who neglects to mollify the sting of death must answer to his own conscience if indeed he has one.

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[2] Aulhorn, E.: Arch. f. Gynäk., 1910, xc, 213.

[3] Hoffmann, H.: Mitt. a. d. Hamb. Staatskrankenanst., 1910, xl, 87.

Psychanalysis seeks to look backward into the patient's life for an event or events, sexual or otherwise, which may be at the bottom of a given neurosis, which may have been coincident with the starting of the aberration, or which may have occurred at the parting of the ways of the normal and abnormal.

I believe that there are cases in which these psychic abscesses should not be opened and also that there are others in which "open confession is good for the soul." Each physician must judge his case and diagnose it accurately; if he does not he will sooner or later cast aside a valuable therapeutic instrument as not only worthless but dangerous. In functional, so-called, neurasthenias a world of good may be accomplished by one in whom the patient has faith and confidence. The operator must be a man thoroughly alive to the problems of life, its heartaches, its woes and its vagaries; and above all he must be able to paint its beauties and nobler aspects to the patient in that patient's more suggestible moments. Every one is more approachable and more amenable to suggestion at certain times than at others, and it is at these times that the work must be done. Successful palliative measures may be used in cases of fixed psychoses. I had under my care for one year a Mr. F., a paranoiac of many years' standing. He resided in a small town and was called "queer" by his neighbors. I discovered that he was the possessor of a well-developed system of persecutory ideas regarding a religious sect in his immediate neighborhood. He experienced great joy and relief when he could unload his imaginary troubles on me and have me take them down gravely in a notebook and promise to rectify and correct each and every one of them. He believed so firmly that I would do this that he went successfully about his business for one month at a time, when he would come back with new ideas which I handled as before. Tests showed that he was harmless and would not react to his delusions. He had five children and a wife to support; so considering all details, confinement was hardly to be thought of. This type of case is seldom or never treated in any other way than to try to reason the patient out of these delusions, which of course is useless. Credit must be given to intelligent cooperation on the part of this man's wife, who aided me greatly in my treatment of the case. Her knowledge of the true nature of the trouble made a happy home out of a hitherto somewhat turbulent one. The general condition of this man has steadily improved in the year he has been under treatment, although the delusions are as fixed as ever. He now pays but little attention to them. He has had attacks of auto-intoxication during which he has suffered more from his psychosis. He has learned to avoid constipation and all conditions predisposing to it. I doubt not that the study of internal secretions and hormones will add something to our armamentarium for these cases in the future.

When opportunity offers I intend to carry out some experiments on neurotic and certain insane patients with the *Bacillus bulgaricus.* I have done this in a few cases with apparently good results; but these results could easily have been remissions in the course of the disease and my cases were too few to be of value or to be worth reporting.

Two condemned murderers recently died happy under the influence of Christian Science. Have we all done as much for our own hopeless cases? You may say that this duty properly belongs to the clergy. It does; but there are many whom we and we alone can so stimulate mentally as to render true that saying of a learned physician that "we should leave life as we entered it, painlessly." Just as anoci-association enables one to take an anesthetic fearlessly and easily, so should it in a slightly altered form combined with our own vital forces and suggestions enable our chronic incurables to extract the most out of their last days on earth. Not to death itself belongs terror, but to the fancies attached to it. If the mind be carried away from these fancies to the simple fact itself, death will lose most of its gloom in the eyes of the doomed. This applies in those cases in which, for legal or other reasons, the patient must be informed of the inevitable.

I wish at this point to speak of a common phobia which is common in physically sound and otherwise mentally sound persons—the fear of death. I have found this to be the primary subjective symptom in many neurotic persons and, more to the point at issue, that in most cases they improved when this primary phobia was dispelled by competent argument, religious conversion or systematic attention to the emunctories. Like the fear of ghosts and dark places the morbid fear of death is frequently implanted in the childish mind by unthinking older persons; therefore we ought never depict death and the grave, either to ourselves or to others, especially to children, in more somber colors than in reality belong to either. Gloomy images of this kind serve only to disturb the imagination and exercise a baneful influence over the impressionable mind of the child. These influences are usually permanent, for we well know that many otherwise level-headed adults are somewhat disturbed by stories of the supernatural, and these persons may step from dark cellars at night with more haste than grace. Psychanalysis usually discloses in these cases some specific incident of a startling nature in the developmental period of life. When a person's vitality is lowered by transient illness or business reverses, his old phobia may come to the surface with sufficient force to precipitate an attack of depression from which he never fully recovers. In other words, a permanent mark is left on the brain, and future attacks of depression are more apt to appear and involutional melancholia is apt to occur. Hence the need for prophylaxis in childhood on the part of the child's parents.

An instinctive love of life has been intimately interwoven with our whole being, and this has resulted in a general revolt of our nature against dissolution in all its forms; were it not for this natural shrinking from death, the earth would ere this be a depopulated desert. Man errs grossly when he allows his instinctive love of life to degenerate into a tormenting passion for life, which leads him to entertain an unreasonable fear of death, and to place an exaggerated value on existence on this earth.

In some cases it is a pathologic state of the physical being which causes one to surround death with imaginary shadowy terrors; in others a gloomy temperament—a melancholic diathesis permitted to gain ground untreated—harasses them into a continuous blind dread of dissolution. Not the natural metamorphosis which takes place in death, but the unnatural images of it which float before the imagination are calculated to awaken terror; man himself has created these for his own torment.

This phobia is in some cases due to nothing more remote than a sedentary existence with too much time for reflection, and is frequently seen in unmarried persons who are too much alone and who have no absorbing hobby. Exercise, work, amusement and congenial companionship will do more here than the best consolatory argument and suggestion.

The dying are as little conscious of the transition from life to death as the weary are aware of the transition from the waking to the sleeping state. Many people have awaited, with full consciousness, the moment of dissolution, and have been aware of it in advance, and yet they fell asleep smiling and without fear. Their imagination had not been previously excited. We have all seen the hippocratic facies and the twitch of the final struggle, yet this change observed by the spectator at the bedside is seen not by the departing one nor is he in any way conscious of it. Illness may be painful, but its cessation never. These thoughts and arguments have been of great service and satisfaction to conscientious medical men who have treated sick persons as well as diseases. The physician should not allow science to tear him away from his Maker, and he should know that the feeling of his older patients, at least, is little short of a love kindred to the parental love, and that in this he has a powerful weapon to aid his patient while there is hope of life and after.

O Grave! where is thy victory?
O Death! where is thy sting?

EPIDEMIC CEREBROSPINAL MENINGITIS

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The report which follows is based on a series of 230 cases treated at the Kansas City General Hospital during the epidemic from Jan. 1 to June 1, 1912. The statistics are compiled from the observations and bedside notes made by the attending physicians and interns of the hospital. I believe the data to be accurate, and the whole report a reliable picture of the epidemic in its clinical features.

TABLE 1.—SUMMARY OF CLINICAL RECORDS MADE IN TWO HUNDRED AND THIRTY CASES OF EPIDEMIC CEREBROSPINAL MENINGITIS

	No. Cases	Per Cent.	Explanatory
Age (in years):			
2 and under	17	7.6	
2 to 10	32	14.3	
10 to 18	34	15.2	
18 to 35	93	41.5	
35 to 50	37	16.5	
Over 50	11	4.9	
No age recorded	6	...	
Sex:			
Male	169	73.5	
Female	61	26.5	
Onset:			
Sudden	169	83.25	
Gradual	13	6.5	
Medium	21	10.25	
Temperature: *			
High	77	33.5	
Moderate	114	50	
Low	43	18.7	
Variable	19	8.3	
Pulse:			
Rapid	85	37	
Slow	126	55	
Variable	21	9	
Mentality:			
Cloudy	60	26	
Delirium	123	53.5	
Unconscious	152	66.1	
Early	129	56.1	
Medium	12	5.2	
Late	11	4.8	
Headache:			
Present	180	84.1	
Doubtful	34	15.9	
Rigid neck:			
Early	179	84	
Developed	27	12.2	
Absent	7	3.3	
Kernig's sign:			
Early	147	77.3	
Developed	26	13.6	
Absent	17	9.1	
Convulsions	48	20.9	In two cases the convulsions were jacksonian.
Early	28	12.2	
Developed	20	8.7	
Vomiting	175	76	
Petechiae	49	21.3	Increased in frequency in latter part of epidemic.
Localizing signs:			
Strabismus	59	25.6	Two-thirds were divergent.
Early	39	....	Frequently transitory.
Developed	20	....	
Deafness	18	7.8	
Early	15	....	
Developed	3	....	
Nystagmus	5	2.2	
Paralysis	7	3	
Early	5	....	
Developed	2	....	
Pupils:			
Unequal	73	31.7	
Dilated	30	13	
Other symptoms:			
Herpes	138	60	On dorsum of hand in two cases; on ear in three cases.
Hyperesthesia	89	39	
Epistaxis	11	4.8	
Photophobia	7	3	
Retention of urine	39	17	
Cheyne-Stokes resp.	44	19	
Leukocytes: †			
Low (under 15,000)	8	15.7	
Medium (15,000 to 25,000).	27	53	
High (over 25,000)	16	31.3	
Spinal fluid: ‡			
Cloudy	207	94	
Clear	13	6	Very early cases.
Organisms:			
Many	129	58.6	
Few	77	35	
None on first puncture.	4	1.8	Meningococci found in subsequent punctures.
Absent	5	2.3	
Course:			
Av. No. days duration.	12.8	....	
Recurrences	13	5.6	One case with four recurrences.
Complications:			
Arthritis	18	7.8	Recovery complete in all cases.
Deafness	16	7	Temporary in four; unilateral in one.
Opisthotonos	14	6	
Dysphagia	4	1.7	Due to extreme retraction.
Aphagia	9	3.9	Due to extreme retraction.
Pneumonia	10	4.4	Pneumococci in spinal fluid in two cases.
Hydrocephalus	11	4.8	
Respiratory and cardiac paralysis.	10	4.4	Paralysis of resp. first in nine cases.
Conjunctivitis	7	3	All were purulent.
Cystitis	6	2.6	Majority due to repeated catheterization.
Paraplegia and hemiplegia.	6	2.6	
Epididymitis	4	1.7	Recovery complete in a few days.
Neuritis	4	1.7	
Decubitus	4	1.7	
Iritis	3	1.3	
Insanity	4	1.7	
Delirium tremens	3	1.3	
Bronchitis and laryngitis.	4	1.7	

Also two cases each of hysteria, tympanitis, persistent vomiting and pneumococcic meningitis, and one case each of otitis media, retinitis, cervical adenitis and furunculosis.

* "High" = 102.5 F. and over; "moderate" = 100 to 102.5 F.; "low" = less than 100 F.; "variable" = when frequent and sudden changes in temperature. Some cases are recorded as having "high," "low" and "variable" temperature.

† A count was made in only fifty-one cases. "Low" = below 15,000; "medium" = 15,000 to 25,000; "high" = over 25,000.

‡ "Clear" = clear at first puncture, subsequent fluid being cloudy; "organisms" = meningococci; "none first" = no organisms found in fluid withdrawn at first puncture but demonstrated in subsequent fluids withdrawn; "absent" = in five cases no meningococci were demonstrated, first fluid having been destroyed before examination could be made and subsequent examinations being negative, or patient died before another puncture was made.

It will be noticed that no attempt has been made to treat the etiology or epidemiology in this report. It was impossible to obtain sufficient data at the hospital to draw any definite conclusions. The pathology also has been disregarded, except the statements about the spinal fluid and the blood.

In regard to the statistics given, a few supplementary remarks may be of interest and add to the value of the figures.

The onset of the most prevalent clinical type was as follows: The patient in apparent good health is taken suddenly with a severe chill accompanied by an intense headache which persists and is most frequently frontal. Vomiting occurs during the first twelve hours, but seldom persists after twenty-four hours from the onset. Mental confusion or depression comes on early, often in the first hour, and in some cases is apparently the first symptom—this symptom varies from a slight drowsiness or stupor to extreme delirium or deepest coma. Fever usually follows the chill, but this is by no means constant, for the temperature may be normal or even subnormal for from twenty-four to forty-eight hours. Great variations were noted in the temperature, but in 50 per cent. of the cases it ranged from 100 to 102.5 F. No characteristic fever curve was present. Many sudden drops and sudden rises in temperature without any apparent cause made it impossible to draw definite conclusions regarding temperature. One patient who had been running a temperature of 102 or 103 for two days suddenly showed a drop to 96, the pulse at the same time going from 80 to 56. The temperature and pulse continued at this low mark for eighteen hours, when suddenly the temperature came up to 103 and the pulse to 90. No apparent change was noted in the condition of the patient during this time.

Muscular pains and rigidities are complained of early; the neck muscles and all of the back muscles become rigid and painful. Cramps in the muscles of the legs, especially the calf muscles, were quite commonly among the first symptoms. Rigidity of the neck muscles was practically universal, being absent in only seven cases; but it was not always an early feature: in twenty-seven cases it developed after the patient came to the hospital. The Kernig sign, though present early in over 77 percent. of the cases, was entirely absent in seventeen cases and developed after the patient was received in twenty-six cases.

The pulse, like the temperature, was a variable feature, but was slow during the early stages in the majority of cases. A rapid pulse from the onset was rarely found. Extremely low pulse-rate was noted in some cases.

Concerning other symptoms there were some interesting features that could not be brought out in the table.

Convulsions occurred much more frequently in children than in adults as an early symptom, and were seen in all degrees of severity, from slight muscular twitchings to severe and generalized convulsive seizures. In two cases they were markedly jacksonian in character, starting in one group of muscles and extending to other groups, the cycle being the same each time the convulsions occurred.

Petechiae were more frequently seen during the latter part of the epidemic than at first, and were more apt to be present in the more severe cases.

Herpes was commonly seen, usually around the mouth and nose but in unusual localities in some cases. Three patients had large crops of herpes on the lobe of the ear, and two on the dorsum of the hand.

The occurrence of a serum rash was not recorded in the chart but was commonly seen, appearing from five to eight days after serum had been used. The rash was an urticaria and often gave rise to symptoms which simulated a reinfection of the meninges, the fever rising after being normal for several days, and severe headache and general malaise being complained of. It usually disappeared in from forty-eight to seventy-two hours.

Typical Cheyne-Stokes respiration occurred in forty-four cases, usually when the patient was nearing the end. Other irregular forms of breathing were also noted. Respiratory failure from which the patient was seldom revived occurred in several cases; the heart continued to beat strongly and rhythmically for some time. In one case artificial respiration was kept up for fifty minutes, the heart beating strongly until within a few minutes of the end. Five patients recovered from respiratory paralysis with the aid of artificial respiration. Cardiac paralysis alone was noticed in two cases.

Retention of urine was an aggravating feature and quite common; thirty-nine patients were thus afflicted, and the necessity of catheterization was probably the cause of the cystitis which developed in several cases. Catheterization was sometimes necessary over a period of several weeks.

The mortality was as follows: total mortality, 52.6 per cent.; not counting patients in the hospital less than twenty-four hours, 46.5 per cent.; eliminating also those aged 50 years and over, and 2 years and under, 41.7 per cent.

TABLE 2.—INFLUENCE OF AGE ON MORTALITY

Age (Years)	Total No. Cases	Fatal Cases	
		No.	Per Cent.
2 and under.....	17	11	64.7
2 to 10..........	32	16	50.0
10 to 18..........	34	12	35.3
18 to 35..........	93	45	48.4
35 to 50..........	35	17	48.6
50 and over......	13	13	100.0
No age recorded...	6	6	.....

A number of patients died within a few minutes or a few hours after entering the hospital. It would obviously not be a fair judgment of the efficiency of the serum treatment to count these cases. It will also be noted from Table 2 that the extremes of life stood a very slim chance, so I have given the percentage after eliminating these cases.

It should also be stated that on several occasions serum was not available for days at a time, and patients died who might have been saved could they have received the serum in time.

Table 2 illustrates the influence of age on mortality.

Concerning treatment I shall not go into detail. Antimeningococcic serum was used in all cases when serum was to be had. Six patients received no serum and several others only a small amount on account of the scarcity of the serum during the last of March and the first of April. Normal horse-serum was used in a few cases, normal salt solution in others and a weak phenol solution in a few cases during this period. These substitutes seemed to have no influence on the disease. Improvement was seen in some from relief of pressure by withdrawal of spinal fluid, but was only temporary. The patients thus treated either died or had a very protracted course. Aside from the serum the treatment was symptomatic and will not be dwelt on.

The method of administering serum was practically the same in all cases, modified of course by the age and general condition of the patient. An initial dose of from 30 to 45 c.c. was usually given to adult patients as soon as they reached the hospital; a second injection of from 20 to 30 c.c. was given from twelve to eighteen hours later; and subsequently one or two doses of from 20 to 30 c.c. and a dose or two of from 10 to 15 c.c. at intervals of twenty-four hours. The continuance of the serum treatment depended, of course, on whether or not meningococci were still present in the spinal fluid. In favorable cases there was a marked diminution in the number of organisms after the first injection of serum and usually an absence of organisms after the second or third injection; but we noticed that we were much less apt to have a recurrence of infection if one or two injections of serum were made after the spinal fluid showed no organisms present. When symptoms reappeared and organisms again were found in the spinal fluid, the serum was administered again as when the patient first came in. Some patients received serum from time to time over periods of weeks before the infection finally subsided.

Epidemics differ so in their severity that it is not possible to state to what extent the serum treatment influenced the mortality in this epidemic. Nevertheless I am convinced, first, that the course of the disease was materially shortened in those cases that showed any response to treatment; second, that complications and sequelae were much less frequent, and third, that the remarkable results obtained in many cases seen early in the course of the disease were due to the specific action of the serum on the infection.

The statistics here recorded were gathered under the direction of Drs. Franklin E. Murphy, H. D. Hamilton, J. L. Robinson, F. M. Lowe, R. T. Sloan, C. C. Conover and S. P. Child of the attending staff; and I was assisted in accumulating and preparing these data by Drs. H. J. Schott, F. W. Aves, F. R. Teachenor, B. W. Turner, R. W. Spicer, E. V. Eyman, Rushton, R. C. Davis, Heatley and R. M. Mendelsohn of the house staff.

THE DISAPPEARANCE OF SUGAR AFTER THE REMOVAL OF TUMORS IN DIABETICS

MORRIS MANGES, M.D.
NEW YORK

In the discussion of Joslin's paper,[1] Miller called attention to a fact which is of great importance in the prognosis of diabetic patients who may require operations for the removal of tumors, and which may also have some value in the solution of the much-debated problems of the etiology of diabetes. I refer to the disappearance of sugar after the removal of tumors.

Miller's case is as follows:

A woman passed 50 gm. of sugar in spite of being on a rigid diet. She had very severe uterine hemorrhages, and as a result was markedly anemic. A hysterectomy was performed. It was found that a carcinoma had developed on an old fibroid tumor. Several months later the patient returned, and it was found that she was entirely free from sugar. She is still well, in spite of taking an unlimited diet.

In closing the discussion Joslin reported a similar case. The patient had a severe attack of diabetes; the glycosuria occurred in connection with a fibroid tumor of the uterus. When the fibroid was removed the sugar disappeared.

I wish to report two similar cases from my own practice, in both of which the patients were severe diabetics with advanced prostatic disease.

In the first case, which occurred ten years ago, the patient was a man of 62 years with a long-standing diabetes with prostatic bladder symptoms of several years' duration. On account of his severe diabetes—the daily amount of sugar ranging from 50 to 150 gm., and a marked acidosis being present—he was considered a bad surgical risk, the more so as he had a very vulnerable skin. Finally the condition of urinary sepsis became so urgent that the drainage of the bladder and the removal of the prostate gland could no longer be delayed. The operation was performed in two stages by Dr. Lilienthal, and to every one's surprise was very well borne. Great relief was afforded to the patient, but what was especially gratifying was the marked improvement in the diabetes. For a long time the sugar excretion remained below 20 gm. and the acidosis disappeared. This was all the more remarkable as the patient had a bad family history of diabetes, and all attempts to render his sugar less had not been successful to any marked extent. About a year and a half after the prostatectomy the diabetes again took on a severe form and he finally succumbed to it.

The second case first came under observation five years ago. The patient was a man, who was then 70 years old and who had been under the care of Dr. Chetwood for a long-standing prostatic disease and diabetes. For a long time the sugar ranged between 3 and 5 per cent. in spite of dieting, and there was a marked acidosis. This patient too was considered a bad surgical risk on account of his age and the diabetes. In his case also the development of a bad urinary sepsis left no choice. The removal of the prostate and several large stones was a difficult operation, and in spite of all precautions the convalescence was protracted. Nevertheless the patient made a complete recovery, and he never had any further trouble from his bladder. After the operation the sugar disappeared completely, and it never returned in spite of the most liberal diet. The sugar did not reappear even when he developed a pus kidney from which he died a few weeks ago after a short illness, as he refused to be operated on.

The results in these two cases offer a striking corroboration of the experience of Miller and Joslin; they seem to represent more than a coincidence, since in all the cases, four in number, the diabetes was a severe one with marked acidosis. In three of them the removal of a tumor was followed by a complete disappearance of the glycosuria, while in the fourth case there was a marked improvement for a year and a half, a result which was all the more remarkable since all efforts on my part to reduce the sugar had been unsuccessful for a long time, as the patient was an exceedingly neurotic man with a bad diabetic family history, and the suffering from his bladder and prostate had been most intense.

That diabetes can be cured even without dietetic treatment is a well-known fact even though such cases are quite uncommon. Naunyn, in his masterly treatise,[2] discusses this possibility, and shows its infrequency. It is most likely to occur when the diabetes has followed a cerebral trauma or in syphilitic diabetes. He also refers to cases of cured diabetes in which a curable organic disease cannot be diagnosticated, these cases being usually acute diabetes. He also notes the curious fact that a large proportion of the latter cases occur among children, who as a rule run such a severe and fatal course. He also warns against considering as cures the not infrequent cases of diabetes in old persons in whom the process simply becomes latent for a longer or shorter period. His conclusion is that "taken all in all, cures of diabetes are very rare, and not known to have occurred after the disease has lasted any length of time. It is only among the cases of traumatic diabetes in which a few cures occur, where the condition has not lasted more than three months."

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[1] Joslin, Elliott P.: My Experience with Diabetic Patients Living Ten or More Years, THE JOURNAL A. M. A., Sept. 21, 1912, part 1, p. 933.

[2] Naunyn: Der Diabetes mellitus, 1898, p. 351.

Von Noorden[3] also refers to the marked improvement or cure of diabetes in cases which develop chronic granular nephritis; these cases are usually associated with marked hypertension and cardiac hypertrophy. In these patients von Noorden has found that the blood is richer in epinephrin. It is to the latter that he attributes the improvement in the diabetes, for the epinephrin stimulates the liver and causes the pancreas to be overactive, and also possibly produces hypertrophy of the still intact islands of Langerhans. In such cases there may be a marked hyperglycemia without glycosuria. Von Noorden, however, confesses that these are merely theoretical considerations which still require confirmation. The fact, however, remains, which all clinicians know, that the development of a chronic nephritis is often associated with the complete and permanent disappearance of sugar.

None of these considerations, however, explains the cases under discussion, in which the disappearance of the sugar is sudden and complete after the removal of tumors which apparently have no etiologic relation in the causation of the diabetes. Curiously enough, in all four cases these tumors were situated in the genital sphere—two prostate glands and two uterine fibromas. In both of the prostatic cases which were under my observation the diabetes existed long before the prostatic disease appeared. I know nothing of the duration of the uterine fibromas, since neither Miller nor Joslin gives data on this point. Neither do these two authors refer to any renal disease in their cases; as no reference to this possibility is made, it is fair to assume that it did not exist. Renal disease certainly played no rôle in either of my prostatic cases, since the nephritis which was present in both cases was of the common type which is so often seen in elderly persons. In neither was there any hypertension, which von Noorden postulates for the cure of diabetes by the development of nephritis.

Whether there was any hyperglycemia in these four cases, as suggested by von Noorden, was unfortunately not noted in any of the cases. It is improbable that it existed, for in three of the patients even the most liberal diets failed to produce any glycosuria. This is most strikingly shown in the second of my cases, the patient remaining absolutely sugar-free for five years in spite of full diets of every kind. Even when he developed high fever and suppuration the sugar did not appear at any time, and he died sugar-free.

In the present state of our knowledge of the etiology of diabetes it is idle to speculate as to the explanation of the disappearance of sugar after the removal of tumors, as the cases which have thus far been reported are far too few to permit the drawing of any conclusions. The most plausible possibility is that the operation removes some nervous or toxic irritant which in some way, at present unknown, disturbed the carbohydrate metabolism.

Of far more importance than these etiologic speculations are the practical conclusions to be drawn from these four cases regarding the prognosis of operations on severe diabetics. These patients have always been a dread touch-me-not for the surgeon, with the result that many a patient has been allowed to die unoperated on. The outcome in these four cases would show that the prognosis from the operative point of view is far better than is generally believed; it should also make us bolder than we have hitherto been in advising operation on diabetics with tumors. We may even go further in hoping that operation may even have beneficial effects on the diabetes itself, if the excellent results in these four cases are confirmed by other observers.

In general, it may be said that the general practitioner and the surgeon have too much fear of acidosis; they have not yet learned to differentiate the cases in which acidosis is a menacing symptom. When diacetic acid or oxybutyric acid tests are negative there is no danger, no matter how intense the acetone reactions may be. When, however, diacetic or oxybutyric acid reactions are present, the prognosis should be more guarded. In such cases the physiologic chemist can give definite information as to whether coma is impending or not, by the determination of the relations of the ammonia nitrogen to the total nitrogen excretion of the urine. When this quotient is low and within the normal limits, the immediate prognosis is a good one, and the danger from grave acidosis or coma after operation is not great enough to prevent the performance of any operation which may be necessary.

72 East Seventy-Ninth Street.

BURNAM'S TEST FOR FORMALDEHYD IN THE URINE

A STUDY OF TWO HUNDRED CASES

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Dr. L'Esperance of Boston published an article recently on the excretion of formaldehyd in the urine of patients taking hexamethylenamin (urotropin), giving details of Burnam's test and the results of some experiments made at the genito-urinary department of the Massachusetts General Hospital.[1]

Having developed an interest in the test after reading the article, and having available men on whom tests could be made, I used the test on 200 men; and for the purpose of experiment divided the cases into two groups of 100 men each, varying the dosage and time of administration of hexamethylenamin in each group.

The results of these tests are so interesting, and so different in many respects from those of Dr. L'Esperance, that it seems advisable to publish the facts and conclusions in connection with the tests.

Burnam's test consists of a color reaction in the urine of persons who have taken hexamethylenamin, and is reported to be a simple and accurate test for the presence of formaldehyd. In the L'Esperance article the technic is described as follows:

> To about 10 c.c. of suspected urine in a test-tube at body temperature is added:
>
> 1. Of solution phenylhydrazin and hydrochloric acid 0.5 per cent., 3 drops.
> 2. Of solution sodium nitroprussid 5 per cent., 3 drops.
> 3. Of saturated solution sodium hydrate, a few drops poured along the side of the test-tube.

As this latter solution diffuses throughout the urine in the tube, if formaldehyd is present (or the urine is positive), a

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[3] Von Noorden: New Aspects of Diabetes, 1912, p. 51.

[1] L'Esperance, O. R. T.: Excretion of Formaldehyd by the Kidneys of Patients Taking Hexamethylenamin; A Study of Burnam's Test, Boston Med. and Surg. Jour., Oct. 24, 1912, p. 577.

> deep purplish-black color is seen quickly changing to dark green, gradually getting of a lighter shade of the same color, to, finally, pale yellow.
>
> With a urine that does not contain formaldehyd (or is negative) the color reaction is as follows: As the saturated solution of sodium hydrate diffuses through the urine in the tube, a reddish color is seen gradually turning to light yellow. . .
>
> The time of the appearance of the drug in the urine is about one hour after ingestion by the mouth; the earliest was thirty minutes, and the average was at about the end of one hour. The continuation of the excretion extended for from four and one-half to six hours, with maximum at about two hours.

In my experiments I followed the technic given above, and, in order to eliminate any inconsistency possible when two or more persons are observing the same color phenomena, the 200 tests were made by the same assistant. The tests were all made on men who were not under treatment for genito-urinary disease, and who had not previously received hexamethylenamin. The urines were examined by daylight in a well-lighted laboratory.

The first group of men (100) were given 10 grains of hexamethylenamin at 6 p. m. and a second dose at 6:30 a. m. the following morning. The urines were examined at the end of five hours.

The second group of men (100) were given 20 grains of hexamethylenamin at 6:30 a. m. and the urines were examined at the end of two hours.

The reaction in every case took place immediately but the colors produced, both in the positive and the negative urines, varied slightly from those reported by L'Esperance, and, while it is believed that the average practitioner would have little difficulty in recognizing the reaction, my experience with 200 tests convinces me that the "deep purplish-black" spoken of as the first change in a positive urine is not constant, and that departure from this color rule is not infrequent. In many of the tests the color was not deep purplish-black but purple, changing to a green (not dark green) and finally to pale yellow.

A rather constant diagnostic point in the positive urines was the striking rapidity of the color formation and its peculiar method of diffusion through the upper strata of the fluid. Immediately on the addition of the sodium hydrate solution the purple color appeared in flashes or jets, as it were, down through the column of liquid in the test-tube, forming irregular lines and figures of purple, then blending and coloring the entire liquid, the diffusion of color occurring in the lower strata first. Following this spectacular display of color figures and diffusion came the green hue which remained for some minutes.

In the negative urines the test was found to agree with those performed at the Massachusetts General Hospital with the exception that the end reaction was considered to be a display of greenish-yellow rather than light yellow.

Of the first group of 100 men 42 per cent. of the urines were positive. All but two of the urines in this group gave an acid reaction; those two were alkaline.

Of the second group of 100 men 53 per cent. of the urines were positive. In this group two urines were alkaline and one neutral. The rest were acid.

A total percentage of 47.5 was the result of the 200 tests, or about 5 per cent. less than was found in the L'Esperance tests.

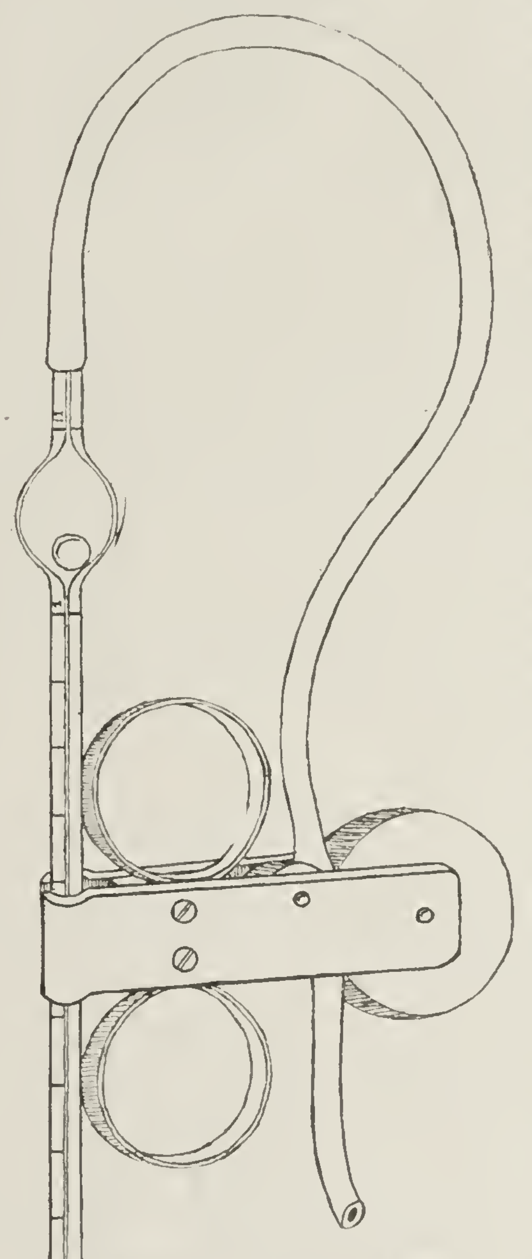
No symptoms were reported from men taking the hexamethylenamin.

72 East Seventy-Ninth Street.

A NEW APPARATUS FOR FILLING PIPETS

ROBERT D. MADDOX, M.D., CINCINNATI

There is a demand for a more simple and efficient method of filling pipets, especially those used in blood work, where accuracy of dilution is essential. Several recent instruments have not been satisfactory, chiefly because the production of the vacuum necessary to raise the fluid in the capillary tube depends on some form of piston or other sliding mechanism, which either complicates the apparatus or does not permit of sufficiently delicate use. To overcome these objections I have made an apparatus that is simple, inexpensive and highly efficient, as with ordinarily careful manipulation it will give accurate results. In this apparatus a well-established principle is used: a vacuum is produced by the compression of a rubber tube or hose, one end of which is attached to the pipet, between two movable rollers, so that the tubing may be moved in either direction between the rollers as they are revolved, just as clothes pass through an ordinary wringer. When the rollers are turned so as to increase the length of the tubing between the rollers and the pipet, a vacuum is produced in the tubing and the fluid is drawn into the pipet, slowly or rapidly, depending on the speed with which the rollers are turned. When the direction of the rollers is reversed and the amount of tubing between the rollers and the pipet is decreased, a pressure is produced and the contents of the pipet are expelled. A piece of metal is bent to form a rectangle about 2 inches long, ¼ inch wide and ½ inch deep, making a frame in which are mounted midway two rollers, 5/16 inch in length by ½ inch in diameter, the space between the rollers being about 1/16 inch.


Apparatus for filling pipets.

In the first form that was made the spindle of one of the rollers was carried beyond the side of the frame for 1 inch, and a 1-inch manipulating wheel attached to the end.

In the second form (see illustration), the size of the outer roller was increased to 1 inch, the roller placed so as to project beyond the edge of the frame, and its surface slightly roughened so that it could be moved by the thumb and thus serve as a manipulating wheel. In both forms the end of the frame is shaped so as to form a spring-clip to hold the pipet, an exceedingly useful feature, as the instrument and pipet may be held and manipulated with one hand, thus leaving the other hand free. Finger-rings attached above and below the frame between the roller and the pipet serve to facilitate this use. About 8 inches of 3 mm. rubber tubing is the convenient amount to use on blood pipets, but to pass about 3 inches of tubing between the rollers will draw the blood up to the first mark, and fill the mixing chamber at the top of the pipet with the diluting fluid up to the second mark.

4 West Seventh Avenue.

AN ARGYLL ROBERTSON PUPIL BECOMING NORMAL AFTER MERCURY AND SALVARSAN

J. J. Zaun, M.D., St. Paul, Minn.

H. W., aged 32, married eight years, whose child, aged 3, and wife show no evidence of syphilitic lesions, had gonorrhea years ago, but does not know of ever having had a chancre or initial lesion.

I saw him July 30, 1912. He consulted his physician then on account of difficulty in walking and cramps in the calves of his legs. Examination at that time revealed complete loss of patellar reflexes; Argyll Robertson pupil in both eyes (no reaction to light); cramps in the calves; gastric and intestinal crises; marked Romberg sign; testicular reflex increased so that stroking the skin on the inside of thigh caused the testicle to be drawn up into the canal; muscle sense disturbed; gait markedly affected; Wassermann reaction positive.

The treatment consisted of mercurial inunctions and potassium iodid until August 20. He was then given 0.6 gm. of salvarsan in the right gluteal region. A marked induration at the site of the injection has persisted up to the present (December 20). November 4 he was given an intragluteal injection of salvarsan, 0.7 gm., on the left side. This was followed by an induration which remains now, but is not so marked as that following the first injection.

December 9: Examination shows: patellar reflex unchanged; Argyll Robertson pupil gone (both eyes show an immediate response to light). The same condition exists now (December 20). The Romberg sign is not nearly so marked as before treatment. While formerly the patient had to steady himself, especially in washing his face, he now experiences very little difficulty, and the gait is much improved. There has been a gain in weight of 5 pounds. He feels better than he has in years and is surer of his movements.

The restoration of the pupillary reflex I take as justification for reporting in detail a case of tabes dorsalis, as this is the first time I have seen or read of this happening after the administration of mercury or salvarsan.

912 Laurel Avenue.

SPORADIC CEREBROSPINAL MENINGITIS; RECOVERY

George R. Green, M.D., Muncie, Ind.

Nov. 3, 1912, I saw in consultation with Dr. F. E. Hill of this city Paul W., aged 12. The patient was comatose and had a high temperature; the neck and back muscles were stiff, and Kernig's sign was well marked. The pupils were dilated and the eyes staring. Fearing cerebrospinal meningitis I made a spinal puncture within an hour and withdrew 50 c.c. of milky spinal fluid, and, without withdrawing the exploring needle, I injected into the canal 30 c.c. of Flexner's serum.

As soon as my son, Dr. E. S. Green, could reach our laboratory he made a careful microscopic examination and found the fluid loaded with the *Diplococcus intracellularis meningitidis.*

In twenty-four hours I made a second puncture and again allowed 50 c.c. of spinal fluid to flow out and again injected 30 c.c. of Flexner's serum. Again Dr. E. S. Green made careful slides and found that the diplococcus had partially disappeared and we could see macroscopically that the spleen fluid was not so thick or cloudy, and that leukocytes were very numerous. The muscular contractions were not so firm, and the boy, while still unconscious, was easier to handle and would voluntarily change his position, which he could not do before on account of opisthotonos.

Thirty-six hours later I made the third and last puncture, again withdrawing 50 c.c. of fluid and injecting 30 c.c. of serum, making in all 90 c.c. of serum. On this occasion the boy was held for thirty minutes by his father in an incline of 45 degrees head downward, in order that he might receive some benefit from gravity.

At the third puncture the spinal fluid was clear and seemed normal both to the eye and under the microscope. On this day the boy had two severe convulsions and on the next morning awoke, asked for food, inquired what was the matter, and promptly recovered.

I believe this case valuable because every step was verified by the microscope, and the rapidity of the disappearance of the meningococcus was carefully noted. The series of slides (three of each puncture) was preserved.

126 West Jackson Street.

THE EMETIN TREATMENT OF AMEBIC DYSENTERY

William Allan, M.D., Charlotte, N. C.

For a number of years English[1] physicians working in India have maintained that ipecac is the best remedy for amebic dysentery, and within the past few years the American profession has largely come to agree with them.[2] In March, 1911, Vedder,[3] working in Manila, published his findings that a fluid extract of ipecac would kill amebas in cultures in dilutions as high as 1:200,000. The next year Rogers[4] in Calcutta found that emetin hydrochlorid killed amebas in stools in dilutions of 1:100,000 and began the use of this salt hypodermically in cases of amebic dysentery. His brilliant results led me to try this therapy, and as I have seen so far no confirmation of his work, I submit the following cases:

Case 1.—White man, aged 51, farmer, contracted amebic dysentery in Alabama in October, 1912. I saw the case in consultation with Dr. L. W. Hunter, Dec. 20, 1912. At that time the man was in bed, having about six stools daily, with mucus and tenesmus, but no gross blood. There was irregular evening fever, at times reaching 103. Blood examination: hemoglobin 65 per cent., white count 6,000; differential count showed polynuclears 73 per cent., large mononuclears 5 per cent., small mononuclears 16 per cent., eosinophils 6 per cent. Feces were liquid, containing mucus, considerable blood microscopically, and many amebas engorged with red blood-cells. Physical examination showed considerable tenderness over the colon from the cecum to the splenic flexure.

December 21: Admitted to the hospital and given 0.8 grain of emetin hydrochlorid hypodermically. Patient had four stools before admission.

December 22: No nausea from emetin; two stools since yesterday; examination of a fresh stool failed to show amebas; blood and mucus still present; patient given 1.4 grains of emetin.

December 23: Slight nausea last night; two stools, without either blood or amebas; mucus still present; patient given emetin, 1.4 grains.

December 24: One normal stool to-day, the first in five weeks; no blood, mucus, or amebas; no tenesmus; tenderness over the colon improving rapidly; temperature subnormal since the first dose of emetin. The patient was dismissed, December 30, apparently well.

Case 2.—Male negro, aged 22, referred to me Sept. 7, 1912, by Dr. J. Q. Myers, contracted dysentery in the spring of 1910. He improved the following winter, but in the summer of 1911 had dysentery off and on, and had it steadily during the summer of 1912, with as many as thirteen bloody, mucous, painful stools a day. Hemoglobin 80 per cent.; differential count showed polynuclears 74 per cent., small mononuclears 15 per cent., large mononuclears 3 per cent., eosinophils 8 per cent. Feces showed blood, mucus and amebas containing red blood-cells. Physical examination was negative except for tenderness over descending colon, which was thickened. Patient was given 50-grain doses of ipecac by mouth and delayed vomiting and purging resulted, but the amebas remained. After several weeks another course of salol-coated ipecac pills was instituted, but the amebas did not disappear.

November 2: Given 0.6 grain emetin hydrobromid hypodermically, and after three days the dose had been increased to 1.3 grains. The salt was dissolved in 3 c.c. of water per grain, but caused great pain at the site of injection and apparently was not absorbed. The dysentery with amebas continued as before. Dr. F. W. L. Tydeman made an analysis of the emetin hydrobromid and failed to confirm its presence in the preparation. This was then discontinued.

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[1] Manson, Sir P.: Tropical Diseases, William Wood & Co. Rogers, L.: Fevers in the Tropics, Oxford Medical Publications.

[2] Brem, W. V.: Am. Jour. Med. Sc., 1910, cxl, 669. Simon, S. K.: New Orleans Med. and Surg. Jour., 1912, lxv, No. 5, etc.

[3] Vedder, E. B.: Bull. Manila Med. Soc., March, 1911.

[4] Rogers, L.: Brit. Med. Jour., June 22 and Aug. 24, 1912; Therap. Gaz., 1912, xxxvi, 837.

December 17: Since the last note, patient has taken ipecac pills again, but without effect. Patient given 0.8 grain emetin hydrochlorid (Merck) (5 per cent. solution in normal salt) hypodermically.

December 18: Blood, mucus and amebas still present.

December 19: Emetin hydrochlorid, 1.5 grains, administered hypodermically.

December 21: No effect; 1.6 grains given hypodermically. This salt is evidently absorbed but has caused so far no nausea or vomiting.

December 23: Amebas still plentiful; 2 grains of emetin given hypodermically.

December 27: Amebas still present. As this dose had caused no symptoms I determined to increase the dose until vomiting occurred.

December 30: Patient admitted to the hospital and given 2.4 grains of emetin hydrochlorid.

December 31: No symptoms from yesterday's medication, and blood, mucus and amebas still plentiful. Patient given hypodermically 4 grains of emetin hydrochlorid at 12:30 p. m. This caused nausea for several hours in the afternoon with vomiting once at 5 o'clock.

January 1: No blood and no mucus in the stools to-day, for the first time since last spring. No amebas on microscopic examination.

January 2: Stools formed, no blood, mucus or amebas. The aching over the sacrum has disappeared.

January 4: Patient dismissed as apparently well. No blood, mucus, pain or amebas since the last dose of emetin, December 31.

New and Nonofficial Remedies

The following additional articles have been accepted by the Council on Pharmacy and Chemistry of the American Medical Association. Their acceptance has been based largely on evidence supplied by the manufacturer or his agent and in part on investigation made by or under the direction of the Council. Criticisms and corrections are asked for to aid in the revision of the matter before publication in the book "New and Nonofficial Remedies."

The Council desires physicians to understand that the acceptance of an article does not necessarily mean a recommendation, but that, so far as known, it complies with the rules adopted by the Council.

W. A. Puckner, Secretary.

MENINGOCOCCUS VACCINE.—(See N. N. R., 1913, p. 223.)

G. H. Sherman, Detroit.

Meningococcus Vaccine.—Each Cc. contains about 1,000 million killed meningococci.

STAPHYLOCOCCUS VACCINE.—(See N. N. R., 1913, p. 225.)

G. H. Sherman, Detroit.

Staphylococcus Pyogenes Aureus Vaccine.—Marketed in two strengths: 1. Containing in each Cc. about 300 million *Staphylococcus pyogenes aureus.* 2. Containing in each Cc. about 600 million *Staphylococcus pyogenes aureus.*

Staphylococcus Pyogenes Albus and Aureus Vaccine.—A mixed vaccine containing in one Cc. *Staphylococcus pyogenes albus* and *aureus* each 600 million.

PNEUMOCOCCUS VACCINE.—(See N. N. R., 1913, p. 224.)

G. H. Sherman, Detroit.

Pneumococcus Vaccine.—Marketed in two forms: 1. Each Cc. contains about 40 million killed pneumococci. 2. Each Cc. contains about 100 million killed pneumococci.

Therapeutics

DISTURBANCES OF THE HEART

(Continued from page 595)

AURICULAR FIBRILLATION

While auricular fibrillation is a clinical entity, it is often difficult of diagnosis, and sometimes can be excluded only by treatment and the results of treatment, or by watching the patient for some time. When completely present, it consists really of a paralysis of the auricles; normal systolic contractions of the auricles do not occur, although there are little rapid twitchings of different muscle fibers of the auricles, which give the name to the condition.

In 1902 Dr. James Mackenzie of England discovered that in these irregular hearts the auricular wave in the jugular tracings did not occur, and assumed that the auricle was more or less paralyzed. In 1908 he concluded that from a stimulus, perhaps occurring in the auriculoventricular node, both auricles and ventricles contracted synchronously, and to these he gave the term of "nodal rhythm." But in 1909 Lewis[1] determined by experimentation that when fibrillations were caused in the dog the tracings were perfectly similar to those observed by Mackenzie, although Cushny and Edmonds, in 1906, had already suggested this similarity. It is now known that there is no nodal rhythm in auricular fibrillation, and that the ventricle fortunately generally responds to only a certain number of the auricular stimuli. The auricle loses coordinate activity but is probably not paralyzed.

The irregular pulse in auricular fibrillation is more or less distinctive, being generally rapid, from 110 upward. Occasionally the pulse-rate may be much slower, if the heart is under the influence of digitalis. The irregularity of the pulse in this condition is excessive; the rate, strength and apparent intermittency during a half minute may not at all represent the condition in the next half minute, or in the next several minutes. It has been thought that auricular fibrillation, while prevented many times by digitalis, is perhaps incurable. This is probaly not true in the early stages of the condition. If digitalis does not cure the irregularity, the condition has been termed the "absolutely irregular heart." Other terms applied to the condition have been "ventricular rhythm," "nodal rhythm" and "rhythm of auricular paralysis." The condition of the pulse has been Latinized as *pulsus irregularis perpetuus.*

While the condition is best diagnosed by tracings taken simultaneously of the heart, jugular and radial, still the jugular tracing is almost conclusive in the absence of the auricular systolic wave. The radial tracing is exceedingly suggestive, and if it is taken with a careful stethoscoping of the heart, an almost certain presumptive diagnosis may be made.

This condition of auricular fibrillation occurs occasionally in valvular disease, and perhaps most frequently in mitral stenosis; but it can occur without valvular lesions, and with any valvular lesion. If it occurs in younger patients, valvular disease is likely to be a cause; if in older patients, sclerosis or myocardial degeneration is generally present.

It may also follow depressing infections such as diphtheria, or some infection that has caused a myocarditis.

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[1] Lewis, Thomas A.: Heart, i, 311; also Brit. Med. Jour., Jan. 13, 1912.

Rarely this fibrillation may be caused by some of the drugs used to stimulate the heart.

It is astonishing how few symptoms may be present with auricular fibrillation and an absolutely irregular heart action. The patient may be able to perform all of his duties, however strenuous, until coincident, concomitant or causative ventricular weakening and dilatation or broken compensation occurs, and then the symptoms are those due to the cardiac failure. Often in the first stage of this weakening and later fibrillation of the auricles the patient may recognize the cardiac irregularity and disturbances. Generally, however, he soon becomes accustomed to the sensations, and, unless he has cardiac pains or dyspnea, he becomes oblivious to the irregularity. At other times he may be conscious of irregular, strong throbs or pulsations of the heart, as such hearts often give an occasional extra sturdy ventricular contraction. These he notes. Real attacks of tachycardia may be superimposed on the condition. Sooner or later, however, if the condition is not stopped, cardiac weakness and loss of compensation, with all the usual symptoms, occur. It seems to be probable that more than half of all cases of heart failure are due to auricular fibrillation, or at least are aggravated by it.

The condition may be stopped by relieving the heart and circulation of all possible toxins and irritants, and by the administration of digitalis. One attack is frequently followed by others, perhaps of longer duration. Occasionally, however, the patient may be observed for many years without the condition again being present. If the pulse, in spite of treatment, is permanently irregular, and auricular insufficiency is permanent, the patient is of course in danger of cardiac failure; but still he may live for years and die of some other cause than heart failure. The prognosis seems to be better when the pulse is not rapid—below a hundred. This shows that the ventricles are not much excited and do not tend to wear themselves out.

Any treatment that lowers the heart-rate is of advantage, such as the stopping of tea and coffee, the administration of digitalis, and an increased amount of rest and quiet. Digitalis should be increased gradually until a fair dose is given, and it is better to administer one dose a day than several. If it causes undesired symptoms, such as cardiac pain, a tight feeling in the chest, nausea or vomiting, or a diminished amount of urine, it is not acting well and should be stopped. If the pulse is gradually slowed to about what is normal, its action should be considered successful.

If the pulse is intermittent and there is apparently a heart-block, Stokes-Adams disease should be considered as possibly present, and digitalis would be contra-indicated and would do harm.

A scientific indication as to whether a heart is disturbed through the action of the vagi nerves or whether the disturbance is due to muscle degeneration may be obtained by the administration of atropin. Talley[2] of Philadelphia shows the diagnostic value of this drug. It is a familiar physiologic fact that stimulation of the vagi slows the heart or even stops it. Stimulation of these nerves by the electric current, however, does not destroy the irritability of the heart; indeed, the heart may act by local stimulation after it has been stopped by pneumogastric stimulation. It is also a well-known fact that anything that inhibits or removes vagus control of the heart allows the heart to become more rapid, since these nerves act as a governor to the heart's contractions. Under the influence of atropin the heart-rate is increased by paralysis of the vagi. Talley states that a hypodermic injection of from 1/50 to 1/25 grain of atropin produces the same paralytic and rapid heart effect in man. He advises the use of 1/25 grain of atropin in robust males, and 1/50 grain in females and in less robust males, and he has seen no serious trouble occur from such injections. The throat is of course dry, and the eyesight interfered with for a day or more, but Talley has not seen even insomnia occur, to say nothing of nervous excitation or delirium. Theoretically, however, before such atropin dosage, an idiosyncrasy against belladonna should be determined.

The value of such an injection rests on the fact that atropin thus injected will increase the normal heart from thirty to forty beats a minute, and Talley believes that if the heart-beat is increased only twenty or less, if the patient has not been suffering from an exhausting disease, it shows "a degenerative process in the cardiac tissue which makes the outlook for improvement under treatment unpromising." He also believes that when the heart in auricular fibrillation is increased the normal amount or more than normal, the prognosis is good. He still further advises in auricular fibrillation an injection of atropin before digitalis has been administered, and another after digitalis is thoroughly acting. Comparison of the findings after these two injections will determine which factor, vagal or cardiac tissue, is the greater in the condition present. The patients with a large cardiac factor are the ones who may be more improved by the digitalis treatment than those in whom the fibrillation is caused by vagus disturbance.

BRADYCARDIA

The first decision to be made is what constitutes a slow pulse or slow heart. A pulse below 58 or 60 beats per minute should be considered slow, and anything below 50 should be considered abnormally slow and a condition of more or less suspicion. A pulse from 45 to 50 per minute occasionally occurs when no pathologic excuse can be found, but such a slow rate is unusual. Before determining that the heart is slow, it must of course be carefully examined to determine if there are beats which are not transmitted to the wrist; also whether a slow radial rate is not due to intermittency or a heart-block. Auricular fibrillation, while generally causing a rapid pulse (though by no means all beats are transmitted to the peripheral arteries), may cause a slow pulse because some of the contractions of the heart are not transmitted.

While any pulse-rate below 50 should be considered abnormal and more or less pathologic, still a pulse-rate no lower than 60 may be very abnormal for the individual. For athletes and those who work hard physically a slow pulse is normal. Such hearts are often not even normally stimulated by high fever, so that the pulse is unusually slow considering the patient's temperature, unless inflammation of the heart has occurred.

Some chronic diseases cause a slow pulse; this is especially true of chronic interstitial nephritis. In fact, it may be stated that any disease or condition that increases the blood-pressure generally slows the pulse, unless the heart itself is affected. This is true of hypertension, of arteriosclerosis, of nicotin unless the heart has become injured, and often of caffein, unless it acts in the individual as a nervous stimulant. Chronic lead-poisoning causes a slow pulse on account of the increased blood-pressure.

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[2] Talley, James: Am. Jour. Med. Sc., October, 1912.

A slow pulse may occur during convalescence from acute infections such as typhoid fever and pneumonia, and sometimes after septic processes. While it may not be serious in these conditions, it should always be carefully watched, as it may show a serious myocarditis.

While weakness generally and myocarditis, at least on exertion or nervous excitation or after eating, cause a heart to be rapid, still such a heart may act sluggishly when the patient is at rest, so that he feels faint and weak and disinclined to attempt even the slightest exertion. In such a condition calcium, iron and strychnin, not too frequently or in too large doses, and perhaps caffein, are indicated. Camphor is always a valuable stimulant, more or less frequently administered, during such a period of slow heart. This slow heart sometimes occurs after rheumatic fever; it is quite frequent after diphtheria, and may show a disturbance of the vagi.

Although the prognosis of such slow hearts after serious illness is generally good, a heart that is too rapid after illness is often more readily brought to normal by proper management than a heart that is too slow. Either condition needs proper treatment and proper management.

It is well recognized that serious, almost major hysteria may be present and the heart not only not be increased, but it may even be slowed. The heart in this condition of course requires no treatment. In cerebral disturbances, especially when there is cerebral pressure, and more particularly if there is pressure in the fourth ventricle, the pulse may be much slowed. It is often slowed in connection with Cheyne-Stokes respiration. It may be very slow after apoplexy, and when there are brain tumors. It is often much slowed in narcotic poisoning, especially in opium, chloral and bromid poisoning. Serious toxemia from alcohol may cause a heart to be very slow. It is more likely, however, to cause a heart to be rapid, unless there is actual coma.

A frequent condition causing a slowing of the heart is the presence of bile in the blood, typically true of catarrhal jaundice. Uremic poisoning and acidemia and coma of diabetes may cause a pulse to be very slow.

Not infrequently after parturition the heart quiets down from its exertion to a rate below normal. If the urine is known to be free from albumin and casts and there are no signs of impending eclampsia, the slow pulse is indicative of no serious trouble; but the urine should be carefully examined and a possible uremia or other cause of eclampsia carefully considered. Sometimes with serious edema and after serious hemorrhage the heart becomes very slow, unless some exertion is made, when it will beat more rapidly than normal. This probably represents a diminished cardiac nutrition.

The cardiac lesions that cause a pulse to be slow are sclerosis or thrombosis of the coronary arteries, fatty degeneration of the myocardium and Stokes-Adams disease.

It is therefore seen that when a pulse is slower than normal, even below 65 beats per minute, the cause should be sought. If no functional or pathologic excuse is discovered, it must be considered normal for the individual, and as above stated, even 58 or 60 beats per minute are in many instances normal for men. This is especially true with beginning hypertension, and may be true in young men who are athletic or who are oversmoking but are not being poisoned by the nicotin, as shown by the fact that their hearts are not rapid, that they are not having cardiac pains, that they do not perspire profusely, and that they do not have muscle cramps. A pulse of from 50 to 55 is liable to be seriously considered by an insurance company in deciding the advisability of the risk, and below 50 must be considered as abnormal.

If a person has been long accustomed to a slow-acting heart, there are no symptoms. If the heart has become slowed from disease or from any acute condition, the patient is likely to feel more or less faint, perhaps have some dizziness, and often headache, which is generally relieved by lying down. Sometimes convulsions may occur, epileptiform in character, due possibly to anemia or irritation of the brain. If the slow heart does not cause these more serious symptoms, the patient may feel weak and unable to attend to his ordinary duties. As previously urged, an abnormally slow heart after serious illness should be as carefully cared for as a too rapid heart under the same conditions. Probably often a myocarditis and perhaps some fatty degeneration are at the base of such a slowed heart after serious infections.

A heart that has not always been slow but has gradually become slow with the progress of hypertension and arteriosclerosis will often disclose on post-mortem examination serious lesions of the coronary arteries.

Deficiency in the thyroid secretion will always cause a heart to be slower than normal. The more marked and serious the hypothyroidism, the slower the heart is likely to be. When such a condition is diagnosed the treatment is thyroid extract; or if the insufficiency is not great, small doses of an iodid should be given. In either case it is sometimes astonishing how rapidly a slow, sluggishly acting heart improves and how much improvement there is in the mental condition of the patient.

In acute slowing of the heart, as in syncope, the patient must immediately lie down with the head low, possibly with the feet and legs elevated, and all constricting clothing of the abdomen and chest should be removed. Whiffs of smelling-salts may be given; whisky, brandy or other quickly-acting stimulant, not much diluted, may also be given. Aromatic spirit of ammonia, camphor, a hypodermatic dose of strychnin or atropin if deemed necessary, a hot-water bag over the heart, and massaging of the arms and legs to aid the return circulation, are all means which are generally successful in restoring the patient's circulation to normal. Caffein is another valuable stimulant, perhaps best administered as a cup of coffee. Digitalis is not indicated; neither is nitroglycerin, unless the slow heart is due to cardiac pain or to an angina.

Some patients have syncopal attacks with the least injury or with any mental shock. Such patients as soon as restored are as well as ever. Other patients who faint or have attacks of syncope should remain at rest on a couch or bed for some hours.

A tangible cause being discovered for an unusually slow heart is sufficiently indicative of the treatment not to require further comment. While generally toxins from intestinal indigestion make a heart irritable and more rapid, sometimes they slow a heart, and in such cases the heart will be improved when catharsis has been caused and a modification of the diet is ordered.

(To be continued)

Beware of a Full Bladder.—As long as the possibility of the full bladder is not definitely excluded great caution should be exercised in making and especially in expressing a diagnosis. A distended bladder may be a great wrecker of reputations.—Arthur E. Giles in *Clin. Jour.*

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[*For other information see second page following reading matter*]

SATURDAY, MARCH 1, 1913

A NEW CONGENITAL ANOMALY IN NUTRITION

The existence of distinctive inborn errors of metabolism has become as firmly established in medicine as has the occurrence of congenital defects which manifest themselves in some more patent anatomic anomaly. Alkaptonuria and cystinuria are now recognized as illustrations of inherited perversions of the usual chemical changes which the proteins undergo in the normal course of their transformations in the cells and fluids of the organism. Earlier it was believed that the chemical upset which is responsible for the appearance of abnormal products, such as arise in the urine in the two conditions cited, had its seat in the gastro-intestinal tract. The appearance of unique derivatives of the proteins was charged to some exceptional bacterial invasion of the digestive canal; but the essential features of alkaptonuria and of the persistent elimination of cystin could not be imitated or induced by any scheme of bacterial inoculation or experimental procedure. It became more and more clear that the defects of metabolism, to whatever they may be due, are readily tolerated almost indefinitely by the individual; and the history frequently shows that they were present from very early periods and bore the stamp of inherited abnormalities. Cystinuria is probably an anomaly in the protein metabolism in which the cystin derived from the disintegration of the albuminous molecule for unknown reasons is not destroyed as it ordinarily is. The anomaly in the case of alkaptonurics is currently explained on the hypothesis that the demolition of the protein fragments, tyrosin and phenylalanin, which ordinarily is assumed to take place into homogentisic acid, stops at this point in these patients. Their organism has lost the capacity to rupture the benzene nucleus, and the undestroyed homogentisic acid — the distinctive component of the urine in alkaptonuria — is excreted as such. If one cares to venture into the domain of speculation it may be assumed that "the subject of alkaptonuria or cystinuria lacks an enzyme to which is intrusted a particular metabolic task which in consequence fails to be carried out." Such explanations involving the alleged deficiency or absence of some essential enzyme must, however, be accepted with extreme reserve, because it has come to be a familiar habit in pathology to ascribe chemical defects or perversions to the lack or the development of this or that enzyme. It is a convenient way of escaping a difficult proof, and the enzyme hypothesis has been greatly overworked.

Dr. A. E. Garrod, to whom we owe much of our systematic knowledge of these inborn errors of metabolism, and Dr. W. H. Hurtley of London have described a case of steatorrhea which appears to inaugurate a new type of congenital family defects.[1] An excess of fat in the stools[2] may, of course, be occasioned by a variety of conditions, and the term "fatty stools" is usually applied only in those cases in which there are visible masses of fat in the feces, or the excreta have a distinctly oily appearance. This rarely occurs from undue ingestion of fat unless a very prompt evacuation of the upper bowel has resulted. Diseases of the intestine, such as enteritis, ulcerations and amyloid conditions, often interfere with the absorption of fat. The fatty fecal discharges that follow the obstruction of the bile-ducts are familiar, and the cause is at once revealed by the color of acholic stools. The most characteristic cause of typical fatty stools is disease of the pancreas or obstruction of its ducts, whereupon a real steatorrhea may occur.

The novel case presented by Garrod and Hurtley involves a boy who had been subject from infancy to the passage from the bowel of liquid fat which solidified on cooling. He exhibited no other morbid symptoms, was well-grown and well-nourished, and in no way infantile. Naturally attention was at once centered on the possible existence of pancreatic disease; but the signs of this all failed. The fats were usually fairly well split (which is not true in the absence of pancreatic secretion); and the impairment of absorption was not dependent on deficient splitting or digestion of fats, since improved saponification of the ingested fats was not followed by improved absorption. There were no manifestations of disease of the intestines; and on a diet containing very little fat the stools assumed a normal appearance and consistency. The investigations of Garrod and Hurtley point to an error in fat absorption in this case, accompanied by, but not dependent on, a limitation in the power to split fats. These authors suggest that some function of the pancreas may be in abeyance. There was no defect in the pancreas secretion as a whole, for protein digestion was apparently unimpaired. The high degree of tolerance of carbohydrate afforded evidence of activity of the internal secretion of the gland, so that its influence on fat absorption is alone open to suspicion. The intimate clinical association of true steatorrhea with lesions of the pancreas favors this view.

The experience in this case emphasizes what has so often been pointed out of late in these columns, namely, that so-called functional tests have limitations which must constantly be kept in mind. The uncertain results of tests of the efficiency of the pancreas need excite no surprise; for, as Garrod and Hurtley remark, the pancreas is the seat of diverse morbid processes of widely different characters, some of which cause blockage of its ducts, while others induce changes in its secreting structures, and others again do both.

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[1] Garrod, A. E., and Hurtley, W. H.: Congenital Family Steatorrhea, Quart. Jour. Med., 1913, vi, 241.

[2] We note, as Garrod and Hurtley also point out, that the term "steatorrhea," or "stearrhea," is unfortunately defined in dictionaries in a quite different sense, namely, as what is commonly known as "seborrhea." This is the only definition thereof given in Webster's, for example.

Perhaps the most interesting feature of this case of steatorrhea, the first to be described as congenital, and unattended by any signs of illness, lies in the probability that the rare inborn error was probably a mendelian recessive characteristic. The same anomaly was exhibited by another child of the same parents, who are first cousins. The family tree thus closely resembles that of an alkaptonuric family[3] in which two out of five children of a first-cousin marriage were affected. By way of explanatory comment we may quote from the English investigators that such rare recessive characteristics will be especially apt to manifest themselves in children of parents who are closely related; for intermarriage of stocks in which they are transmitted will afford the best opportunities for the union of recessive gametes (as the biologist expresses it), and the appearance of recessive qualities which may have been dormant for generations. Now that attention has been directed to a new anomaly, other cases will doubtless be observed and placed on record.

THE LIPOIDS AND NUTRITION

Any statement regarding the rôle in the organism of the so-called lipoids must be prefaced by an admission of the vague and utterly indefinite significance of this expression. To the chemist it seems incongruous to group together such heterogeneous substances as cholesterol and lecithins solely because they happen to exhibit somewhat similar solubilities in unspecific organic solvents like alcohol and ether. Nevertheless the alcohol-ether-soluble constituents of tissues and cells have been considered by biologists and physicians for some time in a collective way; and at present it is impossible to examine the literature of immunology or of nutrition without taking cognizance of the "lipoids," however much one may justifiably object to the extreme inappropriateness of the designation and the unscientific uncertainty attendant on its use.

Some time ago we called attention[1] to Stepp's contention that some substance or substances of the lipoid class are indispensable to life. Mice invariably die when the food on which they ordinarily throve was thoroughly extracted with alcohol and ether prior to its use in the diet. The addition of lipoid extracts from various materials such as brain, egg-yolk, etc., sufficed to restore the depleted dietaries to nutrient efficiency. In the course of these investigations Stepp[2] observed that the restoration of the extracted lipoids, that is, the alcohol-ether-soluble components of the foods, was not effective in realimenting the animals unless precaution had been employed to prevent the application of higher temperatures in the manipulations involved in the extraction of the food materials. Not only heating with alcohol, but also boiling with water render a previously adequate food insufficient for permanent maintenance of health and nutritive equilibrium. This destruction of nutrient potency does not apply to the proteins, inasmuch as suitably prepared protein-free lipoid extracts remedy the inadequate character of foods that have been boiled in water.

These reports of the extreme heat-instability of an essential constituent of the dietary, and the apparent inability of an organism to construct suitable lipoids *de novo,* as it undoubtedly synthesizes its own tissue proteins from digestion fragments, have an immediate bearing on dietetic habits and culinary practices. There is other evidence that the prolonged heating of foods as in cooking may not be without serious import. It crops out at intervals in the debates about scurvy and has furnished an almost endless discussion in relation to the pasteurization or sterilization of certain products. Further than this, the studies of Gardner in London give justification for the belief that the organism conserves its own supply of cholesterol most carefully. The losses of cholesterol or its derivatives in the stools represent food residues, not tissue wastes under conditions of adequate nutrition. Cholesterol secreted into the alimentary tract is reabsorbed.

It will be a great step in advance when the "lipoid" substances are suitably isolated and distinguished. The current method of examining them collectively can lead only to continued confusion. When once the appropriate distinctions are made, further progress is certain to follow. The brain chemists have made a beginning which must be extended into other fields.

INHIBITORY PHENOMENA OF THE STOMACH

The idea of inhibition as applied to physiologic processes has been slow to win recognition in questions of medical import. We have long been accustomed to speak of the stimulation of some function or other by the various agencies that play on the organism. Thus our nervous and muscular systems are stimulated to more active response in diverse ways; our digestive functions are incited to activity both through nervous channels and by chemical agents now called hormones. All of this is a positive sort of response. When the stimuli are withdrawn or cease to operate, the corresponding reaction fails to appear, because it is no longer suitably initiated. In contrast to this passive type of cessation of function due to the withdrawal of stimuli, we are learning to recognize an active sort of stoppage of physiologic activities attributable to direct inhibitory impulses.

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[3] Compare Garrod, A. E.: Lancet, London, 1908, ii, 5.

[1] The Rôle of Lipoids in Nutrition, editorial, THE JOURNAL A. M. A., Nov. 4, 1911, p. 1540.

[2] Stepp, W.: Ueber die Hitzezerstörbarkeit lebenswichtiger Lipoide der Nahrung, Ztschr. f. Biol., 1912, lix, 366.

This positive inhibition as contrasted with a mere passive relaxation of effort is undoubtedly a phenomenon of pronounced importance. To the more familiar illustrations of inhibition as they are exhibited in the behavior of the heart and in certain types of cerebral inhibition, Professor Carlson has added further interesting examples in his fascinating studies on the physiology of the human stomach.[1] Mention was recently made in The Journal[2] of the unique subject — a modern Alexis St. Martin — whose gastric functions have been investigated at the University of Chicago. We referred to the demonstration that the contractions of the empty stomach give rise to the sensation of hunger and are, in fact, the undoubted cause of hunger "pangs." Further investigation shows that these contractions can be inhibited reflexly in a variety of ways. Both the tasting and chewing of palatable foods, which fail (owing to the subject's esophageal stenosis) to reach the stomach itself, bring about the speedy cessation of the rhythmic contractions of this organ. A careful analysis of the factors here involved, of the part played by the mechanical act of mastication and by the independent element of taste, discloses the cooperation of both of these in the inhibitory process. Chewing a tasteless substance like paraffin or gum is effective, although less so, on the whole, than are gustatory stimuli. The masticatory movements do not cause inhibition if the mouth is empty, so that the inhibition produced by chewing indifferent substances is presumably initiated by mechanical stimulation of afferent nerve endings in the mouth. Stimulation of the organs of taste, as it is produced by holding sweet, bitter, salty or acid substances in the mouth, promptly checks the gastric movements, the inhibition being proportional to the concentration of the sapid substances. Swallowing also effects a temporary inhibition. Carlson inclines to the view that these phenomena are fundamental reflex inhibitions, associated with, but not dependent on, the states of consciousness. The psychic element in all such reactions is, of course, difficult to estimate or exclude.

Certain details in the mechanism of the behavior just described seem to be settled. The "psychic" secretion of gastric juice described by Pawlow is familiar to our readers. When the chewing or tasting of palatable foods leads to copious secretory response, the gastric juice produced is one factor, though not the only one, in the accompanying inhibition of the stomach movements. The latter is here due not to the process of secretion, as such, but to acid stimulation of nerve endings in the gastric mucosa. Under appropriate conditions the reflex inhibition from the mouth merges into the acid inhibition from the stomach.

Inasmuch as the stomach movements determine the sensation of hunger, the tasting and chewing of palatable foods abolishes this quite as might be anticipated. Now Carlson points out that in every-day experience appetite is augmented by tasting palatable products. Since hunger is stopped in this way it may be concluded that hunger has reached its biologic end as a motor stimulus when the foods reach the mouth, and at that stage appetite takes the place of hunger as a guide to the quantity of foods to be ingested. Finally, we are reminded of the fact that although normal gastric juice inhibits the movements of the empty stomach, it does not check the stomach movements in digestion. This would indicate, in Carlson's opinion, that the motor activities of the empty and of the filled stomach involve, in part, different mechanisms.

THE IMMUNITY OF THE INTESTINE FROM DIGESTION BY THE ALIMENTARY ENZYMES

Why the portions of the alimentary tract within which a vigorous digestion of the foodstuffs takes place escape the proteolytic disintegration to which their contents are subjected has long been the subject of hypothesis and debate. In the case of the stomach, the fact that pepsin digestion proceeds best in acid mediums has made it logical to assume that the resistance of the gastric tissues is attributable to the neutral or slightly alkaline reaction of the tissues, constantly maintained and supplemented by the reaction of the circulating blood. This hypothesis of the neutralization of the acid of the gastric juice by the alkali of the blood and tissue fluids leaves us in the lurch, however, when we attempt to apply it to the comparable situation in the intestine, where the pancreatic juice can act favorably under the very conditions of reaction which also pertain in the tissues. This does not contradict the view that the reason for the non-digestion of either stomach or intestine during life is to be sought for in the normal circulation. The proper nourishment of the tissues is dependent on the integrity of their blood-supply; and if, as has been maintained, the defense of the alimentary tract against self-digestion lies in some specific resistance of its living cells, the circulation must have at least an indirect rôle in maintaining the normal functioning of the cell protoplasm. The acid neutralization theory as applied to the stomach is, however, not thereby made tenable.

This vague distinction between the living and dead protoplasm is no real explanation of the defense of the organs against self-digestion; for it merely directs attention to the new question as to what the resistance of the living protoplasm consists in. To answer this the existence of anti-enzymes has been postulated, and considerable interesting and suggestive evidence has been brought forward along such lines. Thus antipepsin and antitrypsin have become recognized terms. It can readily be demonstrated that the blood-serum possesses a native resistance to tryptic digestion which is no longer manifested when the serum has been heated. Intestinal parasites furnish similar evidence of an equipment in thermolabile anti-enzymes. Biologically this conception of the development of anti-enzymes as a protective device in the organism is quite analogous to that of the formation of other antibodies which play a conspicuous part in the immunity reactions of the body. In this sense there would be merely a specific case of a widely demonstrated response against detrimental agencies. Without denying the existence in the blood and certain tissues of substances which can impede digestive changes, it seems improbable that agents apparently possessing a comparatively slight retarding power should suffice to overcome the vigorous proteolytic efficiency that the gastric and pancreatic juices can demonstrate. Are there no other or added protective agencies?

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[1] Carlson, A. J.: Contributions to the Physiology of the Stomach, III, Am. Jour. Physiol., 1913, xxxi, 212.

[2] The Stomach in Hunger, editorial, The Journal A. M. A., Feb. 8, 1913, p. 448, and Feb. 22, p. 598.

Further possible explanations of the immunity of the alimentary wall to destruction by the digestive juices poured into the intestine have suggested themselves. It is not improbable, for example, that the enzymes fail to penetrate the mucous membranes which line the digestive tract. If such an explanation applies in any degree, the protective feature is more than likely to be associated in some way with the mucosa. In that event other mucous membranes might be expected to exhibit a comparable resistance to digestive enzymes. Kirchheim[1] has shown this to be the case. Like the intestine, the urinary bladder and esophagus are resistant to large volumes of concentrated pancreatic extracts placed in contact with their inner mucous surfaces. In this respect, therefore, the intestine occupies no isolated position. The resistance is not, however, a property of the living tissues in general. A small amount of pancreatic extract injected directly into the intestinal wall speedily gives rise to hemorrhagic necroses which involve not only the deeper portions of the wall, but the epithelial layer as well. Pancreatic extracts inactivated by heat so that they can no longer digest proteins are practically inert when injected in the same way. The striking difference in the resistance of the intestine to the same extract introduced into its lumen and into its wall speaks against the efficiency of any antitryptic power of the tissue proper in maintaining the integrity of the structure.

The alimentary mucosa secretes a peculiar viscid product which is familiarly spoken of as mucus. This substance is believed to be quite resistant to proteolytic changes by enzymes. By forming a protective coating over the interior of the alimentary tract it might well act to preserve the underlying structures from contact with the digestive fluids. This is a far more likely conception of its rôle than the view that the mucus directly inhibits the enzymes. If the latter were true, and the mucus exhibited a sort of antitryptic property, then one would expect a pronounced secretion of mucus to accompany every outpouring of pancreatic juice; and physiologically this reaction would tend constantly to render inert the digestive secretions, whereas they are obviously produced for purposes of functional efficiency. The chemical anti-enzymatic function of the alimentary mucus must therefore be dismissed as unlikely.

Kirchheim has summarized the situation in this way: There is no specific immunity of the intestine to the pancreatic enzymes. In so far as mucous membranes interfere with the ready absorption of trypsin they act as a protection to the underlying tissues. Any tissue the surface of which permits the absorption of trypsin only slowly will be protected; any tissue which is put into direct contact with the pancreatic enzymes can be attacked thereby. Added to all of this is the fact that however vigorous pure pancreatic juice may be in its proteolytic activity, the enzyme concentration which remains in the contents of the digestive tract after the admixture of the secreted juice with the food residues is relatively small. Whether the enzyme is adsorbed on the substrates on which it acts or is diluted by the admixtures it receives or is largely destroyed or transported, the fact remains that the mixture of chyme with which the intestinal wall actually comes into contact ordinarily shows only a slight excess of free enzyme. The experiments indicate that in every-day experience the intestine scarcely requires any protection against the digestive power of its contents

"THE DOCTORS AND ADVERTISED MEDICINES"

An interesting and instructive discussion of the "patent-medicine" business recently appeared in the editorial pages of the Philadelphia *North American* under the above quoted title. The editorial well described the difficulties which have beset that paper because of its advertising policy. It says that argument and pressure alike have been brought to bear by the "patent-medicine" men because it refuses certain kinds of medical advertising and it explains on what grounds the rejection or acceptance of "patent-medicine" advertising is based. On the other hand, the *North American* says that it has received almost as much criticism from the medical profession because it has not excluded *all* proprietary remedies. But, says the paper, "we believe their [the physicians'] contention that all these remedies are without merit is untrue." Then it propounds this question to the medical profession:

> Why is it that a remedy or preparation which the most ethical and conservative of them prescribe, so long as it is advertised only in medical journals, is immediately scouted and condemned by them when it appears among newspaper advertisements?

The answer to this question is that the physician does not condemn a non-habit-forming and non-toxic preparation that is first introduced only to the medical profession via medical journals but later is advertised direct to the public in newspapers, if — and this is a big "if"— the preparation is advertised with the same degree of truthfulness in the daily press as it was advertised in medical journals. To particularize, the *North American* refers to an ointment that a few years ago was advertised only in medical journals but more recently has been widely advertised in the newspapers. The paper says that since the preparation has gone direct to the public the doctors "have discovered that it is a useless sham." The ointment referred to, doubtless, is Resinol. Our answer to the *North American's* criticism is a simple one. The objections to Resinol are not that it is advertised in newspapers but that it is advertised fraudulently in newspapers. For instance, when the Resinol advertising was confined to medical journals no such statements were made as: "Resinol heals the worst cases of eczema." Yet this is exactly what has been claimed for this preparation in the newspapers. The outrageous falsity of such claims can be fully appreciated only by physicians who recognize and admit that many cases of eczema baffle the skill of men who have devoted a lifetime to its study.

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[1] Kirchheim, L.: Ueber den Schutz der Darmwand gegen das Trypsin des Pancreassaftes, Arch. f. exper. Path. u. Pharmakol., 1912, lxxi, 1.

The *North American* refers also to "a tonic and nerve food whose name is becoming a household word through advertising." And it says further:

> It seems but yesterday that it was recommended by specialists and endorsed by the professional journals. But now that it is urged direct on the public through magazines and newspapers, the doctors tell us that it is only a form of "cottage cheese" utterly without merit.

This statement contains both truth and error. It is true that Sanatogen — the product referred to, of course — has been "recommended" by physicians and "endorsed" by medical journals. And we would say that the same sort of physicians who endorsed it before it was advertised to the public are still endorsing it; and the same sort of medical journals which praised it before it went into lay publications are still praising it — because they are carrying the advertisements themselves. No doctor who had given the matter thought would say that Sanatogen is utterly worthless. In fact, it would be absurd to say that cottage cheese is worthless. What we have said, both at the time that it was advertised only in medical journals and to-day, is that Sanatogen is advertised under claims that mislead and thereby defraud the public.

The *North American* holds, and we believe rightly so, that simple home remedies, proprietary or otherwise, are legitimate articles of trade. To illustrate its point, however, the newspaper falls into an error that is not uncommon. This can best be explained by quoting:

> Having consulted our physician for a slight stomach disorder, we received a prescription and had it filled at a cost of 50 cents. The prescription, as it happened, was returned with the bottle of liquid. During a discussion, the paper was shown to an intern in a Philadelphia hospital. He said the formula was very well known; was used by physicians everywhere. And the same thing, he added, was on the market in convenient tablet form, sold under a registered name. We bought a package at a cost of 5 cents. The same remedy from a prescription, with a physician's fee, cost $2.50.

The fallacy of this argument is evident to every physician and to the average layman. The editor who consulted a doctor for a "slight stomach disorder" may have had merely a passing indigestion or he may have had incipient cancer of the stomach or other serious affection. That he had the former, he learned from the physician. It was for this information, primarily, that he paid his $2, not for the prescription. Furthermore, even admitting that the prescription was, as the intern said, a well-known one, the intern did not know and could not know that "the same thing . . . was on the market in convenient tablet form, sold under a registered name." The only man who knows the composition of the "convenient tablet" is the manufacturer of the tablets. Evidently, then, the editorial writer could have had no means of knowing that he was getting "at a cost of five cents" the "same remedy" that was called for by the doctor's prescription. In other words, in the one case the editor obtained an expert opinion on the matter of vital interest to him — his physical condition — and he obtained for the treatment of his condition a preparation whose composition was known. For these, he paid $2.50. In the other case, he would have obtained, for an unknown — to him — ailment, a box of tablets of unknown composition that might or might not have been of value. If the editor, in this instance, had had an incipient gastric cancer and decided to "treat it" in the cheapest way — by buying five cents' worth of tablets — he would have saved $2.45 and possibly lost — his life.

While, then, we cannot accept all of the arguments put forth by the *North American,* we believe that the editorial as a whole is an excellent one. It represents the attitude of the intelligent layman toward the "patent-medicine" evil. That the medical profession is responsible for at least a part of the evil we must regretfully admit. The prescribing of unknown preparations has been a practice so common in the profession as to nullify to a large extent all efforts that are being made toward ridding the public of the nostrum evil. We cannot too often assert, however, that the medical profession does not believe that there is no place in commerce for simple home remedies. Neither can the medical profession object to any proprietary preparation solely on the ground that it is advertised in the lay press. What it does object to is the fraudulence that is apparently inseparable from the exploitation of such preparations when sold to the public

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"OFFICIAL INFORMATION"—MEDICAL!

In order to provide a little amusement for our readers we frequently publish quotations from the lay press on medical matters. Were it not that the subject has a serious side we would be inclined to quote liberally from the official attempt of the government to enlighten its citizens on the "Friedmann Treatment for Tuberculosis," a document submitted by the Secretary of State to the President and transmitted by the latter to the Senate, by which it was published as Senate Document No. 1018. With the exception of a less than two-page introduction by the consul-general at Berlin, this document consists entirely of a translation of Dr. Friedmann's Berlin address and the discussions on it as they appeared some time ago in the *Berliner klinische Wochenschrift.*[1] The technical language of this translation can be compared only to that sometimes seen in the unedited letters of "voodoo" and similar "doctors."

On the first two pages of this document is a discussion of efforts to obtain from an "unvirulent," "untoxic" "exciter" a substance which would have the specific properties of the "exciter" without its "toxicalness," a disadvantage under which "the Alt tuberculin" whose "image still flickers in history" is stated to have suffered; this object was finally achieved by the use of "an unvirulent race of tubercles" but the "successful therapeutic results continued to be confirmed" only "a long time afterward"—and so on for fifty-four pages. This publication can be recommended to any one who wishes to test at the same time his knowledge of the German language and of tuberculosis; but we fear that some fairly familiar with both would have difficulty at times; for example, what is the diagnosis in the case of the patient who "had sharp pains in the chest, considerable oppression above to the right, and rattling in the small bladder"?[2] It might be cruel to inform the suffering, unsuspecting public of the existence of the "small bladder" in which "rattling" may occur were it not that the condition is curable; thus in the case of the patient cited, the "oppression and rattling" disappeared and the "hemoptoe" never appeared again after the treatment.

Why the government came to publish such a ridiculous document is an interesting question, the answer to which may throw some light on the manner in which the United States endeavors to handle medical problems. As appears from the President's letter of transmittal, the Senate passed a resolution requesting the President "to submit to the Senate the results of any investigation of the Friedmann cure made or being made by the American consul-general in Germany." The Senate probably made this request as the result of the sensational newspaper reports. The President turned the request over to the Secretary of State, who has charge of our foreign affairs, and he in turn transmitted it to the American consul-general at Berlin, who is there to look after our business relations with Germany. The consul-general did all that could be expected of a layman; he obtained from Dr. Friedmann the information that patients desiring his treatment must spend several weeks in Berlin (where "room and board may be obtained at the usual prices"); he obtained an opinion on the new remedy from a "local physician," and sent copies of Friedmann's address and the discussion on it. The fact that patients must go to Berlin for treatment was sufficiently advertised in the daily press; the German medical journals containing Friedmann's address were received by all the leading medical libraries of the United States, and by many private subscribers, in November; side-lights on the subject were given by the Berlin correspondents of the American medical journals. Would it not have been simpler for the Senate to appeal (through the President if this formality were necessary) to the Surgeon-General of the Public Health Service, who was presumably in possession of all this information several weeks ago and without whose sanction the "cure" cannot be sold in the United States? Were it deemed desirable to obtain further information on the subject, could not the Senate have authorized the Public Health Service to send to Berlin a man who is conversant with tuberculosis? To us this would seem a more direct method than the one pursued—but then the medical profession would have been deprived of the pleasure of reading this humorous document.

Current Comment

AN INHERITED ANOMALY

Anomalies of form and function are common inborn defects which come to the attention of every physician in the course of his routine of experience. Oddities of human skin color, aside from familiar pigmentation defects or cutaneous blemishes, are less frequently encountered. An interesting variation exhibited by a family of spotted negroes has been described by Simpson and Castle.[1] The "piebald" condition of the skin, which is spotted with white in a fairly definite pattern not unlike that of certain domesticated animals, made its appearance as a mutation or sport in a negro family of the Southern United States about sixty years ago. Aside from the immediate peculiarity of this rather unique variation there is decided biologic interest in the fact that it has already shown itself fully hereditary through two generations of offspring. To the student of heredity the data that have been collected in reference to the family are very suggestive and quite in harmony with the newer doctrines of inheritance. The negro founders of the "spotted line" were entirely normal in appearance and devoid of the characteristic pigmentation of their offspring. The pattern of the latter may be described, in terms of its black areas, as having a prominent back stripe which begins on the head and extends the entire length of the trunk, narrowing below and ending on the buttocks. The white areas are in all cases devoid of pigment, while the pigmented areas are apparently not subject to change from the definite boundaries fixed at

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[1] Abstracted in The Journal, Dec. 7 and 14, 1912. The subject has been discussed in various articles in The Journal, references to which are given in Queries and Minor Notes, Feb. 8, 1913, p. 466.

[2] The word "oppression" in the original is *Dämpfung*, meaning dulness, and "rattling in the small bladder" is *kleinblasiges Rasseln*, which some would render "fine bubbling râles."

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[1] Simpson, Q. I., and Castle, W. E.: A Family of Spotted Negroes, Am. Naturalist, 1913, xlvii, 50.

birth. Of the children belonging to the second generation eight are spotted like the mother, the remaining seven being normal, without spots. Six of these fifteen children, three normal and three spotted, married normal negro mates. The normals have had only normal children, in all seven. The spotted ones have had nine spotted and two normal children. There is no sex-limitation in the transmission of the spotted pattern, which behaves, according to Simpson and Castle, consistently as a simple mendelian dominant character, the only peculiarity being the excess of spotted grandchildren over the expected one-half. This is quite probably a chance deviation. It is suggested that if in the course of time two spotted individuals of this race, not closely related, should marry each other, a new type of individual would be produced and would transmit the unique character in all its germ cells. What the appearance of this race would be can only be conjectured. The present descendants of the spotted family are now widely scattered, some of the spotted ones being connected with public exhibitions. Inasmuch as their peculiarity is an "economic asset" to them it is not likely to be a hindrance to their racial increase.

DOES MANGANESE OCCUR IN THE BLOOD?

Scattered statements in the literature of physiologic chemistry have furnished the authority for the occasional announcement that manganese is not infrequently present in human blood and in the liver; but it is said to be neither constant in its occurrence nor significant in amount. At best, therefore, it must be regarded as a rare element in the tissues of higher animals. In the lower forms, such as the fresh-water clams, manganese has been asserted to be a normal tissue constituent.[1] Bertrand has reported a constant functional relation between manganese and the enzymes which are designated as oxydases. If this were found to be correct it would be logical to assume a biologic rôle for this element in the blood and tissues. The possible physiologic deportments of very small amounts of elements or their compounds no longer awaken the surprise which they did before the discovery of iodin in milligram amounts in the body and its localization in the thyroid gland. Claims have been made for the common occurrence of arsenic in minute traces in the tissues. Here, as is so often the case in biochemical fields, the validity of conclusions respecting the presence of very small amounts of substances in the organism must be judged by the accuracy of the analytic methods which have been employed and the care with which all sources of error or contamination have been controlled. For this reason haphazard statements about the finding of this or that unexpected element have repeatedly been subjected to critical revision and failed to stand the test. In a similar spirit of criticism Bertrand and Medigreceanu[2] have approached the question of the reputed manganese content of the blood. The outcome of a careful investigation at the Pasteur Institute is that if manganese occurs at all in the blood of man and the higher animals it is in quantities far smaller than the scattered previous reports had led one to believe. In nine species of blood examined the content at best did not exceed one-twentieth of a milligram of the element per liter. Whether the minute traces sometimes found by the refined analytic procedures employed represent a real functional component of the blood or merely an accidental and insignificant contamination remains for future experience to determine. Until some definite evidence is presented the probable biologic importance of manganese in the blood may safely be disregarded.

"CLINICAL REPORTS"

As physicians, we have long accused the public of being peculiarly susceptible to the *post hoc ergo propter hoc* line of reasoning in so far as it relates to the action of medicinal agents. One of the most discouraging phases of the fight against "patent medicines" is the impossibility of persuading John Jones, who has used Dr. Rogue's Ready Relief, that the nostrum had nothing to do with his recovery. You may prove to him that Ready Relief is only pink hydrant-water, but he still insists that as he was sick before taking it and recovered after taking it, there can be no doubt that Ready Relief cured him. But really we should not be too hard on the public. There are physicians, men who have had, or are supposed to have had, scientific training, who are just as susceptible to this error in reasoning as John Jones is. The sheaves of uncritical "clinical reports" that the exploiters of utterly worthless "ethical proprietaries" can furnish in support of the medicinal virtues of their nostrums constitute sufficient evidence to prove that the "after this, therefore because of this" style of reasoning is not confined to the laity. Unfortunately for scientific medicine there are many, many doctors who, in standing up for their pet proprietary, take the attitude, so ably described by George Eliot, of those persons who are distrustful of scientific methods. They will grudgingly admit that while, as a general thing, two sides of a triangle are together greater than the third side, yet after all we must be careful, as it is easy to carry mathematical reasoning too far!

LET THE PEOPLE KNOW

We print in our Propaganda for Reform department in this issue an exposure of a class of fakers of a different order from the "patent-medicine" swindlers and mail-order quacks whose exposés have occupied space in this department heretofore. There is room for only part of this "story"; in its completeness it will be printed in pamphlet form. This matter will not enlighten physicians; they already know — in a general way, at least — the fraudulent character of such concerns. If the facts we present are to be buried in The Journal, the effort of gathering them will have been wasted. There must be some way of enlightening the people, and that way is to circulate the "story" in pamphlet form, especially in those communities which are being preyed on by these fakers. But how? Here are the facts gathered and made available; it remains for the profession to see that they reach the people. The public tolerates and is swindled by these and similar frauds because it does not know better; because it is ignorant of the facts. We have no faith in the dictum, credited to Barnum, that the American people like to be humbugged. It is not true. Neither the American nor any other people like to be humbugged. They are humbugged because they do not know better; because they are ignorant. Give them knowledge; give them the facts, and in such a way as to convince them that they are facts, and the people will no longer be duped. We have made these facts available and we hope our readers will be sufficiently interested to do their part in enlightening the public. Just a hint. It will be noticed that the Business Men's Association of Wheeling, W. Va., received these fakers in a very effective way. Probably that association acted because some of the physicians in Wheeling called attention to the matter. In any event, if the business organizations of the places in which these fakers are working are approached in the right way, they will cooperate in enlightening the public. This is a case in which the commercial side of the proposition can be used as an argument. Aside from the fact that the people are being duped, is the other fact that money is being taken out of and not being brought into the town.

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[1] Bradley, H. C.: Manganese, a Normal Element in the Tissues of the Fresh-Water Clams, Unio and Anodonta, Jour. Biol. Chem., 1907, iv, 151.

[2] Bertrand, G., and Medigreceanu, F.: Recherches sur la manganèse normal du sang, Ann. de l'Inst. Pasteur, 1912, xxvi, 1013.

THE TUBERCLE BACILLUS A SYNTHETIC PRODUCT!

It has been discovered once more that the tubercle bacillus is not the cause of tuberculosis. This time the news comes from France in the shape of a pamphlet by Albert and Alexandre Mary, authors of some curious scientific and semireligious works. The authors conclude that the tubercle bacillus is made up of a collection of granules that can be produced by mixing tuberculin and sodium glycerophosphate. Phagocytes are not animal cells but are a collection of these granules, identical with the granules of Much arranged in the form of a cell. Will the scientific world shut its eyes to such a wonderful discovery?

THE LIMITATIONS OF SPECIFICITY IN THE TRANSMISSION OF DISEASE

Recently it has been reported that a carcinoma of the mouse[1] has been successfully transplanted in rabbits. This fact is not without greater significance than may appear at first glance, for it illustrates an important tendency in medical research. It may be remembered that not so many years ago it was believed that syphilis could not be transmitted to any animal but man. After expensive experiments Metchnikoff and Roux demonstrated the inoculability of chimpanzees, using, it is said, their Nobel prize money for the purchase of these close cousins of man. Soon after this, however, it was demonstrated that less closely related (and less expensive) monkeys were susceptible, and now we have learned how to inoculate ordinary rabbits with syphilis, so that they are now in general use in many laboratories. A similar history seems to be repeating itself with other infections diseases, which at first were supposed not transmissible from man to animals. Strauch's experiments have accomplished the widest jump in species yet recorded (and credible) in cancer investigation, and suggest, in the light of the considerations detailed above, that perhaps, after all, the specificity of tumors is not so strictly defined as we had believed, and that we cannot yet say positively that the inoculation of laboratory animals with human tumors is an impossibility.

Medical News

ILLINOIS

Personal.—Drs. M. W. Fitzpatrick and Wilbur C. Wood have been appointed consulting surgeons for the Wabash System in Decatur.

Rush Alumni Convene.—Drs. Marcus Whiting and John P. McMahon, Peoria, in commemoration of the thirtieth anniversary of their graduation from Rush Medical College, gave a dinner to the local alumni of the college, February 20, over which Dr. Otho B. Will presided as toastmaster.

Chicago

Weir Mitchell Before Physicians' Club.—On the annual ladies' night of the Physicians' Club of Chicago, Dr. S. Weir Mitchell of Philadelphia gave a delightfully reminiscent talk on "The Profession of Medicine in the War of the Rebellion." About four hundred were present.

Shattuck at Harvard Dinner.—At the annual Harvard banquet, February 21, Dr. Fred Cheever Shattuck, Boston, professor of clinical medicine, emeritus, in Harvard Medical School gave an address on the evolution of the new medical department of Harvard and a description of the new school. He was entertained at a luncheon on the same day by a number of local physicians many of whom had been his students at Harvard.

Personal.—Dr. and Mrs. Hugh T. Patrick sailed for Europe, February 19.——Dr. Jacob Frank has been commissioned major, M. C., Ill. N. G., and assigned to duty as secretary to the surgeon-general.——Dr. Walter H. Meents has returned after three and one-half years of study and travel abroad, including a trip around the world, and will locate in Chicago.——Dr. Caroline Hedger has resigned from the medical staff of the Frances Juvenile Home Association.

KANSAS

Thanks to Newspapers.—At a recent meeting of the Cowley County Medical Society held in Wichita, a resolution of thanks was adopted to newspapers which omit the names of physicians in attendance on patients whose cases are reported in newspapers.

Personal.—Dr. and Mrs. F. F. Allen, missionaries of Kiating, China, left Ottawa, January 31, on their return to their post of duty and sailed from San Francisco, February 6.——Dr. Lewis C. Day, Lawrence, formerly of Haskell Institute, Lawrence, has been transferred to a similar position in New Mexico.

New Officers.—Northeastern Kansas Medical Association at Kansas City, February 6: president, Dr. L. V. Sams, Topeka; secretary-treasurer, Dr. C. C. Goddard, Leavenworth.——Riley County Medical Association at Manhattan: president, Dr. Robert Leith; secretary, Dr. Thomas R. Cave, both of Manhattan.

LOUISIANA

New Board of Medical Examiners.—The governor has appointed Charles R. Mayer, New Orleans, a member of the Board of Medical Examiners to succeed himself; Dr. J. W. Belden, New Orleans, vice Dr. M. F. Howe, and Dr. R. A. Bayley, New Orleans, vice Dr. Gayle Aiken.

Personal.—Drs. George S. Brown and C. N. Chavigny, New Orleans, have been appointed members of the State Board of Examiners for Nurses.——Dr. A. R. Sweeney, Lake Arthur, has been detailed for duty at Ellis Island as acting assistant surgeon, U. S. P. H. Service, pending his confirmation by the senate as assistant surgeon.

Tour of Health Train.—The State Board of Health train started, February 7, on a tour of about seven months. After a week on the lines of the Louisiana Railway and Navigation Company, the train starts north, going to Kansas City, Denver, Ohio and Texas, and then makes a complete tour of Louisiana, visiting all county seats and at least one or two towns in each parish.

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[1] Strauch: Ztschr. f. Krebsforsch., 1913, xii, 577.

MARYLAND

Baltimore

Medical Art Exhibit.—An exhibit of medical drawings by Mr. Max Broedel and his pupils was held in the physiologic building of the Johns Hopkins Medical School, February 20-21.

Portrait Presented State Society.—A portrait of the late Dr. Christopher Johnston, president of the Medical and Chirurgical Faculty in 1886-7 and professor of surgery in the University of Maryland, has been presented to the faculty.

Personal.—Dr. William E. Wiegand and family are taking a trip through Florida and Cuba.——Dr. Louis Rubin has resigned from the superintendency of the Jewish Hospital for Consumptives, Reistertown.——Dr. Donald R. Hooker has resigned as a member fo the board of the Henry Watson Children's Aid Society.——Dr. Clarence B. Farrar of the staff of the Sheppard Pratt Hospital has been appointed assistant physician at the New Jersey State Hospital, Trenton.

Brigade Base Hospital.—The University Hospital has been made the base hospital for the First Brigade, N. G. Md., and Dr. William J. Coleman, medical superintendent, has been appointed assistant surgeon, M. C., and assigned to duty with the Fourth Infantry. Militiamen injured at armories or camps will be sent to the hospital under special arrangements with the state, and will receive the personal attention of Major Robert P. Bay, chief medical officer of the brigade, who is a member of the staff of the hospital.

MASSACHUSETTS

Lectures in Genito-Urinary Surgery.—Dr. Hugh Cabot and his associates at the Massachusetts General Hospital are giving a course of clinical lectures to graduates in medicine on Fridays from 10 to 12 a. m., till April 25.

Carney Hospital Changes.—The ear, nose and throat departments of Carney Hospital were merged February 1, with Dr. Edward Marwick Plummer as surgeon-in-chief. The staff of the institution consists of Drs. John T. Sullivan, Timothy J. Shanahan and Dana W. Drury, surgeons; and Drs. John L. Lougee, D. Campbell Smyth, William J. Sheehan and Frederick L. Bogan, assistant surgeons.

Leper in Boston.—In the case of Manuel Silva, Boston, who has been found to be suffering from a mild form of anesthetic leprosy, the State Board of Health and Charity has committed him temporarily to the Southampton Street Hospital for Contagious Diseases, pending the breaking up of the ice in the harbor when he will be transferred to the Massachusetts Leper Colony, Penekese Island.

Antityphoid Inoculation.—The State Board of Health has given its approval to the opinion of Maj. O. U. Patterson, chief medical officer of the National Guard of the Boston district, that this precaution should be compulsory for all enlisted men. Many of the officers have already been so protected. The prophylactic may be obtained free from the State Board of Health by any physician, the same as the diphtheria antitoxin and the small-pox vaccine.

Personal.—Dr. L. Vernon Briggs has been elected president of the medical staff of the Boston Dispensary; Dr. John D. Adams, secretary, and Dr. Elmer W. Barron, Malden, treasurer. During 1912 more than 17,000 sick children were cared for by the dispensary.——Dr. F. H. Thompson has been made chairman of the Fitchburg Board of Health and Dr. A. P. Mason has been elected city bacteriologist.——Dr. Henry McLaughlin, Brookline, who has completed a quarter of a century as physician to St. John's Seminary, Brighton, was the guest of honor at a banquet, February 3, at which he was given $1,300.——Dr. John F. O'Brien has been reappointed trustee of the Consumptives Hospital Department, Boston.——Dr. Edward J. Fitzgibbon, Dorchester, Boston, has been appointed first lieutenant, M. C., M. V. M., and assigned to the Ambulance Company.

MICHIGAN

Want $600,000 for Hospital.—Members of the poor commission of Detroit have asked for an appropriation of $600,000 for a new hospital to be built on Hamilton Boulevard.

Personal.—Dr. E. P. Lockart, Norway, has been appointed surgeon of the Verona Mining Company with headquarters at Palatka.——Dr. Victor C. Vaughan, Ann Arbor, has been reappointed a member of the State Board of Health.——Dr. Charles F. Smith, Whitehall, has moved to 2587 Woodward Avenue, Detroit, and entered general practice.

Sanatorium to be Built.—The board of supervisors of Genesee County have voted an appropriation of $1,000 for a county tuberculosis sanatorium to be erected south of Flint.

General Hospital Staff Appointed.—The following announcements of appointments to the medical staff of the Detroit General Hospital are announced by Dr. John N. E. Brown, superintendent: department of internal medicine—director, Dr. Frank J. Sladen, Baltimore; Dr. Homer E. Safford, senior associate; general surgery—director, Dr. H. N. Torrey; senior associate, Dr. H. W. Hewitt; diseases of children—director, Dr. R. S. Rowland; senior associate, Dr. T. B. Cooley; associate, Dr. D. J. Levy; abdominal and pelvic surgery—director, Dr. William F. Metcalf; senior associate, Dr. E. K. Cullen; diseases of ear, nose and throat—director, Dr. J. E. Gleason; genito-urinary surgery—director, Dr. Harry W. Plaggemeyer; obstetrician, Dr. W. H. Morley; orthopedic surgery, Dr. F. C. Kidner; diagnosis and research—director, bacteriologist and pathologist, Dr. C. R. Meloy, and roentgenologist, Dr. W. A. Evans.

MINNESOTA

Wholesale Typhoid Vaccination.—The Fergus Falls State Hospital has undertaken typhoid inoculation on a large scale. All the seventeen hundred inmates of the institution are to be inoculated.

Millard Hall Completed.—Millard Hall, the main building of the medical and surgical department of the University of Minnesota, is practically completed and has been turned over by the contractors. The entire cost of the building has been $259,202.

Personal.—Dr. H. A. Tomlinson, superintendent of the State Inebriate Hospital, Willmar, is reported to have suffered a cerebral hemorrhage.——Dr. W. T. Councilman of Harvard Medical School lectured, February 25, at the University of Minnesota, Minneapolis, on "The Nature of Disease."

Tribute to Late Colleague.—The faculty of the College of Medicine and Surgery of the University of Minnesota has recorded its sorrow for the loss of the late Dr. Parkes Ritchie, an old friend and faithful associate, in the form of a memorial engrossed for presentation to Dr. Ritchie's family.

MISSISSIPPI

New Officers.—Tri-County (Tate-Panola-DeSota) Medical Society was organized at Senatobia, February 5: president, Dr. M. C. Ellis; secretary-treasurer, Dr. D. C. Laverne, both of Senatobia.——Hinds-Rankin County Medical Association organized at Jackson: president, Dr. R. S. Curry, Jackson; secretary-treasurer, Dr. J. H. Fox, Asylum.

Personal.—Dr. Ethelbert H. Galloway, Jackson, has been elected executive secretary of the State Board of Health, vice Dr. W. W. Smithson, appointed superintendent of the State Insane Hospital, Jackson.——Dr. L. H. Howard, Jackson, was robbed by hold-up men near his home, February 10.——Dr. Nolan Stewart, superintendent of the State Insane Hospital, Jackson, has resigned.

MISSOURI

Personal.—Dr. Elizabeth Enz, Kansas City, who has been ill with neurasthenia, has gone to Florida.——Dr. E. C. Hill, St. Joseph, is reported to be seriously ill at his home.——Dr. Daniel Martin, St. Joseph, has been appointed a member of the board of managers for the St. Joseph Hospital for Tuberculosis.

To Investigate Sanatoriums.—At a special meeting of the Kansas City Hospital and Health Board, February 11, a committee was appointed consisting of two doctors and one layman to investigate all sanatoriums in the city with especial reference to the care and treatment of patients therein, and the provision for safeguarding patients against fire and other casualty.

Gift to Medical College.—The Pagel collection of books on the history of medicine, being the library of the late Prof. Julius Pagel, has been given to the Medical Department of Washington University through the generosity of a friend of the institution. The library is now on the way to this country and will be catalogued. It contains about 2,500 titles and is varied enough to form a valuable nucleus for a library of medical history.

St. Louis

Infectious Hospital Site Not Approved.—The St. Louis Medical Society adopted resolutions endorsing the location of the proposed city infectious hospital as advocated by the Hospital Board, but the bill was defeated three days later in the City Council, 13 to 8.

Division of Diagnostics.—The newly created division of diagnostics of the Health Department has been filled by the following appointments: chief diagnostician, Dr. M. C. Woodruff, and assistant diagnosticians, Drs. J. A. Smith, S. W. Hauck, W. S. Lawrence, C. L. LaBarge, M. P. Morrell, Henry C. Lloyd, J. S. Pope, R. W. Wills, J. O. Farrar and Victor A. Carriere.

Personal.—Dr. A. S. Barnes, Jr., E. Lee Dorsett and Frank Hinchey have been appointed by the St. Louis Medical Society a permanent Red Cross Committee to cooperate with the American National Red Cross.——Dr. L. S. Luton has been elected chairman; Dr. O. H. Brown, vice-chairman; Dr. H. W. Loeb, secretary, and Dr. G. Gellhorn, treasurer of the medical staff of the St. Louis City Hospital.

NEBRASKA

Personal.—Dr. M. W. Baxter, recently appointed superintendent of the Ingleside State Hospital has been seriously ill with gastritis.——Dr. Claude Watson, Nebraska City, has been appointed physician to the State Institute for the Blind.——Dr. W. H. Crutcher, Palmer, has been selected as first assistant physician and Dr. C. W. Charlton, Mooresfield, second assistant physician to the Ingleside Hospital.

NEW JERSEY

In Memoriam.—A memorial tablet to the late Dr. Charles J. Kipp, Newark, was unveiled in the Eye and Ear Infirmary, Central Avenue, Newark, recently. The bronze tablet bears a portrait medallion of Dr. Kipp and an inscription setting forth his services to the infirmary as founder and executive surgeon.

Personal.—Dr. Edgar B. Funkhouser, Trenton, is spending the winter in Munich, Germany.——Dr. J. Boyd Risk and family, Summit, are spending the winter in Bermuda.——Dr. Martin W. Reddan, Trenton, fractured his leg while attempting to crank his automobile, recently.——Dr. William C. Sandy, Jr., assistant physician at the Trenton State Hospital, has resigned.

Hospital Notes.—Plans for a new children's ward for Mercer Hospital, Trenton, are under construction and it is probable that work will be commenced in the early spring. The new wing will be added to the eastern end of the building and will cost about $12,000.——A committee of business men, clergymen and physicians met in Jersey City, February 14, and formulated the plans for raising $10,000 to furnish the new German Hospital which has recently been completed at Boulevard and Warner Avenues at a cost of $20,000. The institution has accommodation for about fifty patients.

NEW YORK

Legislature Gets Recommendations of Health Commission.—Governor Sulzer has sent a message to the legislature embodying the recommendations advised by the special commission appointed to investigate health conditions in this state. Among the recommendations made are the abolition of town and village boards of health and the substitution of a state system of sanitary supervision; fixing the term of the State Commissioner of Health at six years and his salary at $10,000 instead of $5,000 as at present; that he must be either a physician or a recognized authority on public health work and should not be permitted to practice medicine or have any other occupation. It is advised that there be created a State Public Health Council of seven members, including the Commissioner of Health, Commissioner of Labor, one commissioner or other health officer of a city of the first or second class, and three members to be appointed by the governor. This council should have authority to adopt public health regulations, but should not have executive, administrative, or appointive powers. The State Commissioner should exercise supervision over local health authorities and be charged with the enforcement of public health laws. The state should be divided into at least twenty sanitary districts with an expert supervisor in each district. Local officers should be charged with continuous supervision of their districts, examination of school children, inspection of schools and other public places, popular education as to public health and with securing full registration of births and deaths. There are also suggestions in regard to child hygiene, working conditions, registration of vital statistics, etc.

New York City

Laboratory for Experimental Surgery.—A laboratory for experimental surgery has just been opened at the Flower Hospital. Special courses in surgery are offered to the medical profession. Dr. A. L. Soresi has been appointed professor of experimental surgery and director of the laboratory.

Harvey Society Lectures for March.—The Harvey Society announces the following schedule of lectures for March: March 8, Prof. Edward G. Conklin, Princeton University, "The Size of Organisms and Their Constituent Parts in Relation to Longevity, Senescence and Rejuvenescence;" March 22, Prof. Franz Knoop, University of Freiburg, Germany, "Modern Problems of Nutrition," and March 29, Prof. John Howland, Johns Hopkins University, "The Scientific Basis for the Artificial Feeding of Infants."

Personal.—Dr. I. Epstein, in responding to an ambulance call from the Lebanon Hospital, received severe injuries in a collision, and is reported to be in a precarious condition.——Dr. John H. Huddleston has been appointed manager of the Tuberculosis Hospital at Ray Brook.——Dr. Stephen Smith celebrated the ninetieth anniversary of his birth on February 20.——Dr. José M. Delgado, U. S. P. H. S., Brooklyn, recently underwent an operation at St. Luke's Hospital and his condition, though serious, is said to be encouraging.——Dr. R. Melville Cramer sailed for Europe on February 22.——Dr. Samuel Milbank, instructor of applied pharmacology in the Cornell College of Medicine has resigned; Dr. C. C. Barrows has been made professor of gynecology.——A reception was given by the Manhattan Medical Society, February 28, to Dr. Jacques Loeb of the Rockefeller Institute at which he spoke on "Some Recent Experiments in Artificial Parthenogenesis."

Semi-Centennial of Obstetric Society.—On February 14 the New York Obstetric Society celebrated the fiftieth anniversary of its founding by a dinner, at which about ninety were present. Dr. George G. Ward, Jr., acted as toastmaster. There were present as guests of the society: Drs. Abraham Jacobi, New York City; Matthew D. Mann, Buffalo; E. P. Davis, Philadelphia; Edward Reynolds, Boston; Frank F. Simpson, Pittsburgh; G. M. Boyd, Philadelphia; William M. Sprigg, Washington, and Albert M. Judd, Brooklyn. Portraits of Dr. Thomas Cook, the first president of the society; Drs. J. Marion Sims, Edward E. Peaslee, T. Addis Emmet, J. Gaillard Thomas, William C. Lusk, Alexander J. C. Skene, Emil Noeggerath, Paul F. Munde and Josiah Knox were shown on the screen and were responded to by members of the society. A brief history of the society was given by Drs. J. Riddle Goffe and Dr. William S. Stone. Addresses were also made by Drs. E. W. Davis, Edward Reynolds, J. Whitridge Williams and Abraham Jacobi.

OKLAHOMA

Personal.—Dr. A. B. Leeds, Chickasha, has been appointed grand medical examiner of the A. O. U. W. of the state.——Dr. J. D. Ballard, Oklahoma City, has resigned as assistant state examiner and inspector.——Dr. William J. Jolly has succeeded Dr. Robert F. Williams, Jr., as dean of the faculty of the Medical Department of Oklahoma University, Oklahoma City.——Dr. O. C. Coppedge, Bristow, has been appointed health officer of Creek County.

New Officers.—Seventh Councilor District Medical Society at Muskogee: president, Dr. W. A. Tolleson, Eufaula; secretary-treasurer, Dr. A. B. Montgomery, Muskogee.——Logan County Medical Society at Guthrie: president, Dr. Fred Y. Cronk; secretary-treasurer, Dr. J. Lewis Day, both of Guthrie.——Central Oklahoma Medical Society at Enid: president, Dr. T. M. Aderhold, El Reno; secretary-treasurer, Dr. J. M. Cooper, Enid. El Reno was selected as the next place of meeting.

OREGON

Physicians' Building for Portland.—A twelve-story building which is being erected in Portland, for the exclusive use of physicians and dentists, is almost completed and will be ready for occupancy in the spring.

Honor Senator-Elect.—Dr. Harry Lane, Portland, United States senator-elect from Oregon, was given a banquet by members of the Portland Medical Society, February 6, at which eloquent tributes were paid to the worth of Dr. Lane as a citizen, a physician and a public official. Dr. W. T. Williamson presided as toastmaster.

PENNSYLVANIA

Sanatorium Site Selected.—The City Council of Pittsburgh on February 17 voted to erect a municipal tuberculosis hospital on the Leech Farm, an addition to Highland Park.

Personal.—Dr. P. Y. Eisenberg was recently elected president of the Norristown Charity Hospital Association.——Dr. Victor S. Messinger was elected president and Dr. W. Gilbert Tillman, secretary, at a recent meeting of the Physicians' Protective Association of Easton.——Dr. J. W. Ellenberger, Harrisburg, has returned from Europe.——Dr. Olin K. McGarrah, Altoona, was thrown from his automobile on an icy pavement, but escaped with a few bruises.

Philadelphia

Resolutions on Death of Dr. Steinbach.—The faculty of the Philadelphia Policlinic on February 17 adopted resolutions setting forth the notable services of Dr. Lewis W. Steinbach who was "a skilled and learned surgeon and ophthalmologist and successful internist and in addition possessed exceptional personal characteristics, standing for good morals, highest ideals and the soundest of personal and professional ethics."

Personal.—Dr. William R. Nicholson has been appointed visiting gynecologist to the Methodist Episcopal Hospital.——Dr. Matthew Woods has been elected president of the Philadelphia Society of Arts and Letters.——Dr. J. Solis-Cohen was the guest of honor at the banquet of the Mount Sinai Hospital Alumni Association, New York, February 22.——Dr. S. Weir Mitchell, Philadelphia, celebrated his eighty-fourth birthday on Saturday, February 15.——Dr. L. J. Hammond, retiring president of the Philadelphia County Medical Society was presented with a gold-mounted gavel by members of the society, February 12.——A silver loving-cup was presented to Dr. John B. Deaver, February 14, at a meeting of the John B. Deaver Surgical Society on the occasion of its fifteenth anniversary.

University Day.—Gov. Phillips Lee Goldsborough of Maryland, delivered the annual oration on University Day, February 22. A portrait of Dr. DeForest Willard, by William Chase, was presented by Dr. Gwilym G. Davis, and was accepted by Provost Edgar Fahs Smith on behalf of the board of trustees. Immediately after the exercises, the provost and the trustees entertained the special guests at luncheon and in the afternoon the annual University Day Tea was held. In the evening the twenty-first annual dinner and smoker of the Philadelphia Alumni Society of the University Medical Department was held and was attended by more than six hundred. The sum of $500 was voted for the establishment of a scholarship at the University Medical School, to be known as the Roland G. Curtin scholarship, in honor of Dr. Roland G. Curtin, who is now seriously ill. According to the provisions of the resolution, additional sums will be added to the original $500 each year until the total is sufficient to support the scholarship. At the annual election of the society Dr. Clarence P. Franklin was elected president, and Dr. William S. Wray, recording secretary.

UTAH

Personal.—Dr. C. C. Snyder has been appointed physician, Dr. W. N. Pugh, assistant physician, and Dr. E. F. Chamberlain, pathologist, of Salt Lake County.

Fire in Sanatorium.—The Ogden Sanatorium, three miles east of Ogden, was completely destroyed by fire, February 12, with a loss estimated from $30,000 to $40,000 partially covered by insurance. The building is owned by the Ogden Mineral Springs Company.

New Officers.—Uintah County Medical Association at Vernal, February 6: president, Dr. George H. Christy; secretary-treasurer, Dr. Homer E. Rich, both of Vernal.——Weber County Medical Association at Ogden: president, Dr. A. A. Robinson; secretary-treasurer, Dr. Carlyle K. McMurdy, both of Ogden.

VIRGINIA

Personal.—Dr. St. Julian Oppenhimer has been elected police surgeon of Richmond.——Dr. R. D. Wolfe has been elected medical superintendent of the Norfolk Protestant Hospital.——Dr. Julian M. Robinson has been elected city physician of Danville and Dr. W. E. Jennings has been made a member of the local board of health.

Visitors Appointed.—Governor Mann has appointed the nineteen members of the board of visitors to direct the affairs of the Medical College of Virginia which recently entered into a merger with the University College of Medicine. The visitors designated by the Medical College of Virginia are: Drs. T. H. Barnes, Suffolk; G. F. Bowie, Fredericksburg; J. B. Fisher, Midlothian; William L. Harris, Norfolk, and H. S. Myers, Forks of Buffalo, and Messrs. E. L. Bemis, Richmond; C. P. Cardwell, Hanover; John S. Harwood, Richmond, and J. D. Johnstown, Roanoke. Those designated by the University College of Medicine are: Drs. Paulus A. Irving, Farmville; and Robert C. Randolph, Boyce, and Messrs. George L. Christian, L. Z. Morris, E. D. Taylor, H. L. Cobell, Thomas L. Moore, William R. Miller and John Johnson, Alexandria; and the appointment of Mr. Eppa Hunton, Jr., was mutually agreed on by both institutions.

WASHINGTON

State Board Meeting.—At the annual meeting of the State Board of Health held in Olympia, it was voted to adopt regulations regarding the sanitary conditions of railroad cars, and the proposed laws to protect the water-supply of municipalities were discussed.

New Officers.—Spokane County Medical Society at Spokane: president, Dr. E. B. Nelson; secretary, Dr. Carl H. Weisman, both of Spokane.——Pierce County Medical Society at Tacoma: president, Dr. C. S. Wilson; secretary, Dr. O. E. Sutton, both of Tacoma.——Yakima County Medical Society at North Yakima: president, Dr. R. S. Weyer; secretary, Dr. H. H. Skinner, both of North Yakima.——King County Medical Society at Seattle: president, Dr. J. C. Moore; secretary-treasurer, Dr. Henry D. Brown, both of Seattle.

Personal.—Dr. Frank Hinman, city bacteriologist of Spokane has been appointed assistant to Dr. Hugh H. Young on the surgical staff of Johns Hopkins Hospital.——Dr. Willis H. Corson, formerly superintendent of the King County Hospital at Seattle, has been appointed assistant county health officer and will be in charge of the southern half of the county, Health Officer Sparling taking charge of the northern section.——Drs. J. R. Yocom, Tacoma; H. M. McLaughlin, Seattle; W. C. Cox, Everett; A. L. MacLennan, Raymond, and F. W. Anderson, Tacoma, have been appointed examining physicians of the Industrial Insurance Commission on recommendation of Dr. J. W. Mowell, Olympia, chief physician.——Dr. E. J. McCausland has been elected president of the State Board of Health and Dr. E. R. Kelly, Seattle, has been elected secretary.——Dr. J. M. Semple, for four years superintendent of the Medical Lake State Hospital, is reported to have resigned.

GENERAL

New Officers.—Tri-State Medical Society of Virginia and the Carolinas, at Norfolk, February 20-21: president, Dr. Southgate Leigh, Norfolk; vice-presidents, for Virginia, Dr. Stephen Harnsburger, Catlett; for North Carolina, Dr. E. Reid Russell, Asheville; for South Carolina, Dr. J. H. Taylor, Columbia, and secretary, Dr. Rolfe E. Hughes, Laurens, S. C.——Fox River Valley Medical Society, at Green Bay, February 18: president, Dr. F. Gregory Connell, Oshkosh; secretary, Dr. R. H. Sweetman, Green Bay.

Infectious Diseases.—The infectious diseases, including small-pox, scarlet fever, measles and whooping-cough, have continued to be prevalent throughout the United States, particularly east of the Rocky Mountains, throughout February, but with considerable abatement as compared with January. In many cases the schools have been closed for brief periods. In no instance has any of these diseases assumed the form of a serious epidemic and the local authorities, by vigorous measures, have been able to control the situation. In Philadelphia, however, from 600 to 800 cases of measles have occurred each week during the month. Philadelphia and Baltimore in the East and Berkeley, Cal., in the West, have been centers of small-pox. At Fort Wayne, Ind., 28 cases broke out in the State Institution for the Feeble-Minded and at Evansville, Ind., a small epidemic occurred, which caused the authorities to close the schools. Considerable opposition arose to the orders of the health board excluding children from the schools who were not vaccinated and the matter was taken to the courts. Parochial schools refused to comply with the regulations of the board and they were closed by the police. In a decision refusing to sustain the demurrer of the antivaccinationists to the answer of the city to the complaint filed against the health board the local court held that the power of the health board to require vaccination was probably questionable but that the board had undoubted authority to determine whether an epidemic existed. Opposition to vaccination in Philadelphia and Baltimore flattened out and vaccination was vigorously enforced in the epidemic area. In Berkeley, Cal., the seat of California University, considerable opposition developed from the antivaccinationsts, who seemed to be supported by the League for Medical Freedom. Berkeley is one of the strongholds of the league. As an argument against vaccination, one of the papers supporting the antivaccinationists stated that in the pure air and sunshine of California no epidemic diseases could exist; but that did not prevent the city from having a large number of cases of small-pox. The meningitis situation in the South is much improved, nothing resembling an epidemic being present in any locality. There are a few cases, however, in several of the Southern states.

PARIS LETTER

(From Our Regular Correspondent)

Paris, Feb. 7, 1913.

International Saccharin Conference

The opening session of the international conference for regulating the use of saccharin and like substances took place in Paris, February 3, under the presidency of Dr. F. Bordas, head of the laboratories of the treasury department. This conference will consider anew the plan agreed on at the first international conference assembled for this purpose in 1909. The present conference will be participated in by representatives of Germany, Austria-Hungary, Belgium, France, Greece, Holland, Italy, Portugal, Russia and Switzerland.

Treatment of Pregnant Syphilitic Women by Salvarsan

At a recent meeting of the Société médicale des hôpitaux de Paris, Dr. Jeanselme read an interesting paper on this subject. In the past two years all pregnant syphilitic women in his service have been given intravenous injections of salvarsan in doses of 0.2, 0.3 and 0.4 gm. From four to six injections were given in each case, and were renewed from week to week. Fourteen women who presented signs of recent and active syphilis during their pregnancy were treated by this method. All were delivered at term of living infants, which were as a rule of normal weight. No signs of hereditary syphilis were found in any of these infants. While four died shortly after birth, death was caused by accident. Two women with cases of syphilis of long standing, who had formerly had numerous miscarriages, stood their pregnancy well. Dr. Jeanselme concludes that salvarsan has no unfavorable effect in pregnancy, and even exercises a favorable influence.

The Abuse of Narcotics

Owing to poisoning by cocain and morphin, of which I have already written (The Journal, Jan. 25, 1913, p. 298), the public prosecutor has instructed police officers in the Department of the Seine to enforce all the regulations concerning the sale of poisonous substances. Each time that a police officer is called in cases of violent death, wounds or illnesses which appear to have been provoked by the abuse of morphin, cocain, opium or other poisonous substance, he is to take pains to ascertain by whom and in what shape the poisons were sold. Officers are reminded that they have the authority to enter places where these drugs are sold, provided that they are accompanied by a physician or a chemist named by the prefect of police.

BERLIN LETTER

(From Our Regular Correspondent)

Berlin, Feb. 7, 1913.

Friedmann's Treatment of Tuberculosis

My criticisms of two weeks ago on the Friedmann treatment of tuberculosis have received a gratifying endorsement in a statement of Bier, director of the Berlin surgical clinic, at the last meeting of the Berlin Medical Society. Heretofore Bier had continually been receiving inquiries from foreign countries, especially America and Spain, whether or not the new remedy is really so effective as he was alleged to have publicly stated, according to the newspapers of the respective countries. Finally last week a military officer from Huelva brought his tuberculous daughter to Bier. They came as a result of a report in the *Diario de Huelva*, which was much more encouraging than the exceedingly non-committal remarks of Bier had warranted. Bier searched in vain in the *Diario de Huelva* for any of the weighty objections which were expressed in connection with that discussion by some of the most prominent physicians.

It is apparent, therefore, that if this remedy should not prove effective, which has been the experience in many previous similar instances, the result will be a considerable injury to the reputation of German medical science and the medical profession, as it was announced everywhere in the foreign press, without contradiction, that the most prominent German medical society, the Berliner medizinische Gesellschaft, consisting of well-known Berlin physicians, had endorsed the remedy.

Bier concluded as follows: "I must therefore publicly protest against the misuse of my name for the recommendation of a remedy of whose effectiveness I have so far no evidence. I hope that this statement may find its way into the foreign press as quickly and as widely as my alleged recommendation of the treatment. It should also relieve me of the burden of constantly answering letters and stating that I have seen as yet no evidence of any unusual curative action of Friedmann's treatment."

Three Conferences on Infant Welfare

Last week three successive meetings on the care of infants were held in Berlin. A commission chosen by the department of the interior to consider the training of nurses for infants, held its meeting, January 29, in the Kaiserin Augusta Victoria Institution for the Reduction of Infant Mortality in the German Empire, for the purpose of establishing a uniform standard for such training. The speakers were Langstein of Berlin and Ibrahim of Munich.

TRAINING OF NURSES FOR INFANTS

The following resolutions were adopted: 1. It is necessary to make a distinction between the training of nurses for sick infants and nursemaids tending healthy children in a family. 2. The length of time for the training of nurses for the care of sick infants is set at two years. At least one of these two years must be devoted to the care of infants and children. 3. The training shall be completed by an examination which is to be passed in one of the public institutions. After this the nurse is granted a state diploma, which is issued on the basis of her previous training in the general care of the sick. The length of training required by the state for this purpose is one year, but it can be limited, under certain circumstances, to six months. 4. The training and examination in the care of infants may be carried on only by institutions for infants, children's hospitals or children's wards where the care of infants is in accordance with the most modern ideas and which are under the direction of a specialist. Children's hospitals with appropriate material (older children, surgical wards) are also entitled to give the training in the general care of the sick. 5. In granting the diploma, not the time spent by the applicant in the practical care of infants, but the time devoted to training and also the institutions in which she received her training should be considered. In case of doubt, a proof as to ability must be furnished by an examination in one of the approved institutions. 6. Uniform regulations shall be adopted for the training of nursemaids of healthy children. This training, which requires at least six months, may be carried on only in those homes for infants, children's hospitals or wards which employ the most advanced, modern ideas in the care of infants, and which are under the supervision of a pediatrist, and are approved by a commission appointed by the German League for Infant Welfare. The training is to be concluded by an examination in one of these institutions. 7. A commission shall be appointed for the purpose of outlining a uniform system of training.

DAY NURSERIES

In the same place next day this was followed by another large meeting of delegates from all over Germany representing societies which maintain day nurseries. Dr. Boehm of Frankfort-on-the-Main and Dr. Rott of Berlin discussed the development of the crèche societies, whose functions are continually growing in importance in view of the growth of the cities, the increasing numbers of women wage-earners and the diminishing birth-rate. The speakers emphasized that the day nursery system should be fostered and extended.

The next task is to make the day nurseries conform to the requirements of the modern care of infants, which often is not the case, partly on account of ignorance, partly as a result of inadequate means. It was therefore decided to organize a league of the German day nursery societies, whose aim will be to unite existing societies, organize new societies, and endeavor with advice and example to improve conditions generally. This league is to be combined with the German League for Infant Welfare. It is to be known as the Deutscher Krippenverband

The third meeting was a regular session of the members of the Prussian Central Association for the Protection of Infants, the Landeszentrale für Säuglingsschutz. After the annual and financial reports were attended to, the preparations for the second Landeskonferenz, which will be held March 26 this year, were discussed. This meeting will take place in the great hall of the upper house. Reports will be presented on the importance of aiding nursing mothers and on the system of giving premiums to promote breast-nursing, and on systematized welfare work for small children.

Association News

THE MINNEAPOLIS SESSION

Meetings in University of Minnesota Buildings—Entertainments at Club-Houses on the Lakes

At the Minneapolis session, the section meetings are to be held on the university campus in the various buildings of the University of Minnesota. The campus is located between Minneapolis and St. Paul on the river bank in a restful spot away from the dust and dirt of the cities. Several street-car lines running between Minneapolis and St. Paul pass through or near the campus. Therefore the hotels of both cities may be utilized.

This location is an especially advantageous place for a meeting because of the many halls which are so arranged that they can be supplied with lanterns, microscopes, etc. To avoid the necessity of returning to the hotel at noon, luncheon will be served in the buildings on the campus. It is planned to hold the section entertainments at the various country clubs situated on the lakes around the Twin Cities. The local Committee on Arrangements is making special effort to feature the Scientific Exhibit, and the new anatomic building of the Medical Department of the University of Minnesota is to be used for this display.

THE TRUSTEES' MEETING

Elections by the Board of Trustees

At the regular meeting of the Board of Trustees of the American Medical Association, February 21, Dr. George Dock, St. Louis, was reelected as a member of the editorial board of the *Archives of Internal Medicine.*

Dr. L. E. Holt, New York, was elected for one year to succeed Dr. Abraham Jacobi of New York, resigned, on the the editorial board of the *American Journal of Diseases of Children.*

Drs. J. A. Capps, Chicago; David L. Edsall, Boston, and R. A. Hatcher, New York, were reelected as members of the Council on Pharmacy and Chemistry.

Marriages

Naaman J. Karagulla, R.A.M.C., Mardin, Asiatic Turkey, to Miss Stella Emily Toal, at Baltimore, February 3.

Charles R. Castlen, M.D., M. C., U. S. Army, to Miss Lura Marega Galbraith of Seattle, Wash., January 20.

Lucius L. Hopwood, M.D., M. C., U. S. Army, to Miss Audentia Hansen at Alameda, Cal., February 4.

Dana Cecil Post, M.D., U. S. Navy, to Miss Helen McEwen Dick of Washington, D. C., February 6.

Arthur Joseph Bedell, M.D., Albany, N. Y., to Miss Bessie Wilson of New York City, February 12.

David Pollock McCune, M.D., to Miss Lena Frances Walker, both of McKeesport, Pa., January 2.

Arthur Mitchell Gregg, M.D., to Miss Myra Ryland Grigg, both of Joplin, Mo., February 10.

Edwin Cobb, M.D., Iowa City, Iowa, to Miss Mildred Brown of Manchester, Iowa, February 8.

Adolph Herman Nahman, M.D., to Miss Anna Ascher, both of San Francisco, May 5, 1912.

Philip Rexford Waughop, M.D., to Miss Nellie Kloss, both of Seattle, Wash., February 4.

Arthur John Light, M.D., to Miss Mathilda M. Eichenhorse, both of Cincinnati, recently.

Efficacy of So-Called Remedies for a Disease in Inverse Proportion to Their Number.—You may take it as a rule that when an enormous number of remedies are recommended for any disease we do not know what the remedy really is.—W. Hale White in *Clin. Jour.*

Deaths

Flavius Josephus Van Vorhis, M.D. Rush Medical College, 1866; of Indianapolis; assistant surgeon of Volunteers during the Civil War; a graduate in law of 1880 and a state senator from 1881 to 1883; a pioneer in health legislation; who drafted and secured the passage of the law creating the first state board of health; died in the Methodist Episcopal Hospital, Indianapolis, February 9, three weeks after an operation for the removal of gall-stones, aged 72.

Samuel Whitfield Hartt, M.D. College of Physicians and Surgeons, Baltimore, 1889; formerly a member of the Duquesne County (Pa.) School Board; later a member of the Port Angeles (Wash.) School Board; and thereafter chief of staff in the surgical department of the Denver County Hospital for two years; died at his home in Seattle, February 5, from pleurisy complicating pneumonia, aged 47.

Henry Ellsworth Locher, M.D. Long Island College Hospital, Brooklyn, 1877; formerly professor of therapeutics in Grand Rapids (Mich.) Medical College and of chemistry in the Grand Rapids Veterinary College; president of the Board of Health of Grand Rapids; a member of the school board for eighteen years and for two terms its president; coroner of Kent County from 1880 to 1888; died at his home in Grand Rapids, February 9, from nephritis, aged 62.

Charles O'Neil Dunlap, M.D. Columbus (Ohio) Medical College, 1878; a member of the Ohio State Medical Association; for many years secretary of the Vinton County Medical Society; first assistant physician at the Athens State Hospital from 1886 to 1891 and superintendent of the institution from 1891 to 1896; died at his home in McArthur, February 13, from interstitial nephritis, aged 56.

James Reagles, M.D. Bellevue Hospital Medical College, 1864; captain, M. C., U. S. A., retired; assistant surgeon of the Sixty-Second Volunteer Infantry during the Civil War; in 1872 a member of the United States Geological Survey; who served in Porto Rico during the Spanish-American War; died at his home in Schenectady, N. Y., February 10, from pneumonia, aged 71.

Josephus Robert Lemen, M.D. Missouri Medical College, St. Louis, 1875; formerly professor of diseases of the chest in St. Louis University; consulting physician and chief-of-staff of Deaconess Hospital and consulting physician to the Rebekah Hospital, St. Louis; at one time a member of the St. Louis Board of Health; died at his home, February 15, from heart disease, aged 59.

John A. Barry (license, ten years of practice, Michigan, 1900); a member of the Michigan State Medical Society; a member of the State Legislature from 1906 to 1908; for ten years chairman of the Wexford County board of supervisors; superintendent of the poor and president of the village of Harriette; died at his home, February 9, from cerebral hemorrhage, aged 64.

Benjamin Cheever, M.D. New York University, New York City, 1891; city physician of Portsmouth, N. H., and health officer of Rockingham County from 1893 to 1895; died at his home in Portsmouth, February 14, from the effects of a gunshot wound, self-inflicted, it is believed with suicidal intent, while mentally unbalanced on account of an attack of influenza, aged 43.

George H. Witter, M.D. College of Physicians and Surgeons, Baltimore, Md., 1885; a member of the American Medical Association; state senator from the forty-fourth district of New York State from 1908-1910 and state committeeman for six years; died at his home in Wellsville, February 13, aged 54.

John S. Potts, M.D. American Medical College, Eclectic, St. Louis, 1875; College of Physicians and Surgeons, Keokuk, Iowa, 1877; a member of the Medical Society of the State of California; for fifteen years a practitioner of San Francisco; died in Los Angeles, February 9, from nephritis, aged 72.

Adolph O. Bjelland, M.D. University of Minnesota, Minneapolis, 1896; a member of the American Medical Association; formerly health officer of Mankato, Minn.; local surgeon for the Chicago and Northwestern System; died at his home in Mankato, February 14, from pneumonia, aged 42.

John Eberle Chitwood, M.D. Cincinnati College of Medicine and Surgery, 1864; assistant surgeon of the Thirteenth Indiana Volunteer Cavalry during the Civil War; until 1909 a practitioner of Connersville, Ind.; died at his home in Indianapolis, February 8, from heart disease, aged 68.

George Clinton Jeffrey, M.D. Pulte Medical College, Cincinnati, 1875; for eighteen years attending surgeon and later consulting surgeon to the Cumberland Street Hospital, Brooklyn; surgeon to the Memorial and Prospect Heights hospitals; for a time surgeon of the Jamaica Hospital and surgeon to the Brooklyn and Queens County Suburban Railway; died at his home in Brooklyn, February 11, from heart disease, aged 61.

Julius Silberstein, M.D. St. Louis College of Physicians and Surgeons, 1891; a member of the American Medical Association; for twenty years a member of the United States Indian Service; a veteran of the Austrian-Turkish War and of the Indian campaign against the Lame Deer Band in 1886; died at his home in Sacaton, Ariz., January 16, aged 53.

Hamilton Kemp Derr, M.D. University of Maryland, Baltimore, 1881; a member of the American Medical Association; for twelve years treasurer of the Washington County Medical Association; local surgeon at Hagerstown for the Western Maryland Railroad; died at his home, February 5, from heart disease, aged 60.

James Alan Neville, M.D. George Washington University, Washington, D. C., 1910; formerly an intern in the United States Marine Hospital, Chicago; superintendent of the Iroquois Memorial Hospital, Chicago; died in that institution, February 20, from pneumonia, aged 28.

Joseph T. Coveny, M.D. College of Physicians and Surgeons, St. Joseph, Mo., 1882; at one time assistant superintendent of Buchanan County Insane Hospital, St. Joseph; for fourteen years a practitioner of Oskaloosa, Iowa; died at his home, February 5, from bronchitis, aged 53.

Arthur Bascom Loving, M.D. University of Louisville, Ky., 1874; a member of the Arkansas Medical Society; a Confederate veteran; for several years physician of Jefferson County; died at his home in Pine Bluff, February 13, from diabetes, aged 68.

George William Carrington, M.D. University of Virginia, Charlottesville, 1859; New York University, New York City, 1861; a surgeon in the Confederate service throughout the Civil War; died at his home in Richmond, Va., February 4, aged 74.

Maria S. Gilmore Pontius, M.D. Columbus (Ohio) Medical College, 1883; a member of the American Medical Association; died at her home in Canton, Ohio, from the result of injuries received in an automobile accident nearly two years before, aged 55.

A. S. Simmons, M.D. Graffenberg Institute, Dadeville, Ala., 1861; of Grand Saline; a practitioner of Texas since 1870; formerly vice-president of the First National Bank of Wetherford; died in a sanatorium in Fort Worth, February 14, aged 76.

Samuel Souders, M.D. Bellevue Hospital Medical College, 1871; a member of the Ohio State Medical Association; and a practitioner for more than half a century; died at his home in Beavertown, Ohio, February 9, from senile debility, aged 82.

Hiram G. Nelson, M.D. Cincinnati College of Medicine and Surgery, 1864; for many years a practitioner of Jennings County, Ind.; died at the State Foresters' Home, Greenburg, February 6, from cerebral hemorrhage, aged 74.

Manuel Garcia Monteiro, M.D. College of Physicians and Surgeons, Boston, 1890; formerly a prominent Portuguese practitioner of New Bedford, Mass.; died at his home in Cambridge, February 7, from pneumonia, aged 54.

Mason S. Seymour, M.D. Vermont Medical College, Woodstock, 185—; for many years a practitioner of Waterbury, Conn., and Flushing, L. I.; died in the Flushing Hospital, February 5, from senile debility, aged 85.

William Foster Ganster, M.D. Long Island College Hospital, Brooklyn, 1896; a member of the American Medical Association; died at his home in Brooklyn, February 11, from the effects of a nervous breakdown, aged 47.

James Atwood Tabor, M.D. Eclectic Medical Institute, Cincinnati, 1879; Boston University School of Medicine, 1883; formerly of Lawrence, Mass., and later of Corinna, Maine; died in Bangor, February 13, aged 54.

John McClellan Lacy, M.D. University of Nashville, Tenn., 1861; a pioneer practitioner of Santa Ana, Cal.; surgeon in the Confederate Service during the Civil War; died at his home in Santa Ana, February 3, aged 75.

Kimmel Rauch, M.D. Eclectic Medical Institute, Cincinnati, 1899; of Johnstown, Pa.; died in the Johnstown City Hospital, February 11, from gangrene of the intestine a week after an operation for appendicitis, aged 40.

Ebenezer L. McKinnie, M.D. College of Physicians and Surgeons, Keokuk, Iowa, 1880; of Colorado Springs; a member of the Colorado State Medical Society; physician of El Paso County for six years; died February 13, in Los Angeles, Cal., where he had gone on account of his health, aged 64.

James F. Duffy, M.D. University of Vermont, Burlington, 1891; of Providence, R. I.; a member of the American Medical Association; died in the Providence Hospital, February 8, from heart disease, aged 62.

William H. Campbell, M.D. Washington University, St. Louis, 1856; for more than half a century a practitioner of Missouri; died at his home in Kansas City, February 7, from senile debility, aged 83.

Elmer Ellsworth Moore, M.D. Dartmouth Medical School, Hanover, N. H., 1886; a member of the American Medical Association; died at his home in East Providence Center, R. I., January 30, aged 51.

William R. Hoch, M.D. University of Pennsylvania, Philadelphia, 1880; a Denver specialist on diseases of the throat, nose and ear; died at his home in that city, Dec. 7, 1912, aged 56.

Brookfield Gard, M.D. Eclectic Medical Institute, Cincinnati, 1865; one of the oldest practitioners of Fort Wayne, Ind.; died at his home, February 2, from cerebral hemorrhage, aged 80.

Edgar W. Smallwood, M.D. Jenner Medical College, Chicago, 1910; for eight years one of the staff photographers of the *Daily News*; died at his home in Chicago, February 18, aged 40.

Edward Lyman Washburn, M.D. Yale University, New Haven, Conn., 1865; for many years a druggist of New Haven; died at his home, February 10, from arteriosclerosis, aged 73.

Samuel H. Sturgeon, M.D. Medical College of Ohio, Cincinnati, 1873; died at his home in Akron, Ohio, February 11, from septicemia following a fracture of the toe, aged 64.

Horace Edwin Harmon, M.D. Sioux City (Iowa) College of Medicine, 1902; a practitioner since 1897; died at his home in Jeffers, Minn., February 2, from pneumonia, aged 39.

Calvin Wesley Smith, M.D. State University of Iowa, Iowa City, 1878; a member of the Iowa State Medical Society; died at his home in Muscatine, February 9, aged 67.

Joseph M. De Trana, M.D. Rush Medical College, 1892; of Chicago; died in the Presbyterian Hospital in that city, February 11, from hemorrhage into the pons, aged 46.

Ernest Ensign Banker, M.D. Cornell University, New York City, 1903; of Clermont, Fla.; died in a private hospital in Orlando, Fla., February 1, from typhoid, aged 32.

Isaac W. Douglass, M.D. Cincinnati College of Medicine and Surgery, 1864; a veteran of the Civil War; died at his home in Michigantown, Ind., about February 5.

Holman M. Freeman, M.D. Atlanta (Ga.) Medical College, 1876; died at his home near Carnesville, Ga., February 1, from cerebral hemorrhage, aged 60.

George A. Brown, M.D. University of Nashville, Tenn., 1855; died at his home near Mooresville, Tenn., about February 3, from senile debility, aged 84.

Amos Clyde Staley (license, Illinois, 1897); an experimental chemist of Chicago; died suddenly in his laboratory in that city, February 18, aged 43.

Rodney Y. Sheppard, M.D. University of Louisville, Ky., 1891; died at his home in Louisville, February 7, from nephritis, aged 46.

John Willett Pease, M.D. College of Physicians and Surgeons, Boston, 1906; died at his home in Cambridge, Mass., February 4, aged 35.

Thomas S. Lloyd, M.D. Medico-Chirurgical College of Philadelphia, 1901; died at his home in Shamokin, Pa., February 1, aged 34.

George B. Smith, M.D. Kansas City (Mo.) Medical College, 1880; of Brussels, Ill.; died in Los Angeles, Cal., February 7, aged 60.

Adam Mackay, M.D. University of Louisville, 1889; died in Wesley Hospital, February 11, from the effects of exposure, aged 63.

Daniel Curley Ross, M.D. Jefferson Medical College, 1907; died at his home in Ambridge, Pa., January 20, aged 30.

William Webb Underhill, M.D. Fort Worth (Tex.) University, 1898; died in Berkeley, Cal., January 4, aged 44.

James C. Frazier (license, Missouri, 1884); died in his office in Gallatin, February 11, from heart disease, aged 60.

The Propaganda for Reform

PA-PAY-ANS (BELL)

Baking Soda and Charcoal as a Panacea

Dr. W. W. Harper, Selma, Ala., received a postal card from Bell & Company (Inc.) extolling their nostrum, Pa-pay-ans (Bell). The card seems to have impressed Dr. Harper in a way that it ought to impress—but unfortunately does not—every intelligent physician. He writes in part:

> *To the Editor:*—I enclose a postal card which I received some time since. Will you please have the Council on Pharmacy and Chemistry make an analysis of this wonderful (!) remedy that so speedily cures cases of indigestion! . . .
>
> It is an insult to the intelligent members of the profession for Bell & Co. to send over their signature such slush as is written on the enclosed card.
>
> I look on THE JOURNAL as a great exponent of what is right and high. THE JOURNAL is and has been foremost in denouncing unworthy, proprietary remedies, and I trust that you will continue to do so until they are driven out of the market.

Dr. Harper's indignation is a healthy sign. If the "slush" sent out by Bell had the same effect on all physicians, that firm would conduct a more reputable, if less profitable, business.

While we presume every physician in the country has received a similar card from the Bell concern, we reproduce it for the purpose of refreshing the memory. Here it is:

> "Dear Doctor:—A prominent Tennessee physician, with an exceptionally large practice, writes:
>
> " 'As a Christmas gift to you, I want to say that of all remedies that I have used for acute Indigestion, I have found Pa-pay-ans Bell the best—and I will further state that in cases of almost immediate death following an onset of Indigestion—cases where we notice so many men of prominence dying—if their physicians had prescribed Pa-pay-ans Bell—six tablets in half glass hot water, instead of hypos or strychnin, with aromatic spirits of ammonia on the side, there would have been many men at work the following day instead of undergoing preparation by the undertaker for burial.'
>
> "Yours very truly, "BELL & COMPANY (INC.)."

This advertisement is typical of those sent out by this company—that is, testimonials alleged to have been written by "prominent physicians" of various parts of the United States. The names of the physicians are not given. One doctor who received the Pa-pay-ans Bell testimonial-advertisement decided to call the bluff of Bell & Co. and wrote the concern asking the name of the "prominent Pennsylvania doctor" that Bell & Co. claimed had written the testimonial. This is all the satisfaction he received:

> "We appreciate your little note requesting the name of the Pennsylvania physician whose statement we issued on blotter folders, but in fairness to the men who write us we must withhold their names. No one of any standing in the profession would allow us to publish his name. . . ."

We are glad that Bell & Co. still have a sufficiently high opinion of the medical profession to realize that no physician "of any standing" would allow them to publish his name in connection with a Pa-pay-ans Bell testimonial. And yet we are somewhat surprised that they hold such an opinion. For the ease with which Bell & Co. have been able to "put one over" on our profession must, we believe, have had a tendency to give that concern a very poor opinion of the intelligence of the average physician.

Dr. Harper wants us to make an analysis of Pa-pay-ans Bell. This was done more than three years ago and a rather complete report was issued by the Council on Pharmacy and Chemistry (THE JOURNAL, Aug. 14, 1909). In addition to the Council's report, somewhat extended editorial comments were made. The whole matter has been reprinted in the "Propaganda for Reform" book. In our previous exposé, the following facts were brought out:

First, the analysis showed that Pa-pay-ans Bell consisted essentially of sodium bicarbonate, charcoal and ginger sweetened with saccharin and flavored with oil of wintergreen.

Second, Bell and Co. were shown to be closely identified with another concern known as L. D. Johns Co., the president of the Bell concern being the president of the Johns company; the vice-president of Bell & Co. being secretary and treasurer of the Johns company, and the secretary of Bell & Co. being vice-president of the L. D. Johns Co.

The L. D. Johns Co. is one of those pseudomedical concerns that obtains its capital by selling stock to physicians who are not above going into that kind of business. It puts out two tablets: "Dr. Johns Digestive Tablets," which are apparently identical in composition with Pa-pay-ans Bell, and "Dr. Johns Tablets," a laxative pill whose composition apparently, is similar to Cas-car-ans Bell.

Pa-pay-ans Bell, the baking soda-charcoal-ginger tablet, is to be found advertised in these, among medical journals:

New York Medical Journal
Massachusetts Medical Journal
Woman's Medical Journal
International Journal of Surgery

THE UNITED DOCTORS

The History and Methods of a Fake Concern of Advertising Quack Specialists

In the past few years we have repeatedly exposed the monstrous deception and fraud practiced on the public by the "patent medicine" venders and the exploiters of "sure cures". The money wasted on these worthless nostrums amounts to many millions every year, but the harm they do the public can not be conjectured.

Another form of fraud which not only constitutes an enormous tax on the financial resources of the public but which also works an untold amount of harm to its health and welfare is that of the advertising quack whose cupidity, conscienceleshness and pretentiousness constitute a menace almost equal to that of the "patent medicine" business. This form of fraud is less well understood by the public, and it is the intention in this article to describe the characteristics and the methods of one type of these advertising frauds.

The quack has appropriated and practically converted into his exclusive property the name "specialist," which means much to the public. In addition he usually tacks on to the term some high-sounding or significant handle, which he believes will aid him in his plans; thus we have the "Great English Specialists," the "Battle Creek Specialists," the "German-American Specialists," "Associated Medical Specialists," "Union Specialists' Association," "United Specialists," "United Doctors, Specialists," etc., or such designations as "Associated Doctors," "Associated Doctors, Specialists," "Associated Specialists Co.," "German and English Specialists," "Oriental Doctors," "Cleveland Institute of Medicine and Surgery," "Original United Doctors," "Northwestern United Doctors," "Hot Springs Doctors," "Known Doctors," the "United Doctors," etc.

THE UNITED DOCTORS—WHAT THEY CLAIM TO BE

The United Doctors is an organization of quacks whose methods are somewhat different from those of the mail-order quack, on the one hand, and the itinerant "specialist" on the other. The United Doctors establish offices in towns of considerable size and remain there for varying periods of time, from a few weeks to a few months, claiming a new and wonderful system of treatment, which includes the good things from all the so-called "schools" of medicine, etc., and securing new victims by extensive advertising in the local newspapers[1]

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[1] Much of the matter describing the scheme of the United Doctors and a number of illustrations have been omitted from THE JOURNAL for lack of space. The complete matter, with additional illustrations, will be printed in a pamphlet, for sale at 4 cents each.

Like all medical fakers the United Doctors make free use of exaggerated or fraudulent testimonials alleged to have been written by grateful patients. They claim to be equipped with many wonderful instruments and appliances which are not known to the ordinary physician, and to possess a skill far beyond that of regular physicians in diagnosing and treating disease. For instance:

> We treat diseases of the Nerves, Blood, Skin, Heart, Liver, Stomach, Kidneys and Liver, including Rheumatism, Paralysis, Goitre, Constipation, Catarrh, Epilepsy, Indigestion, Dyspepsia, Weak Back, Bloating, Dropsy, Eczema, Scrofula, Diseases of Women and Diseases of Men.
>
> To prove to you that chronic diseases are our life study, and that we know the human body to the most minute detail, we will undertake to diagnose any case, in a few minutes, describing every ache and pain, without asking the patient a single question. To aid us in diagnosis we have instruments of our own, used by no other doctors.
>
> ***UNITED DOCTORS***
>
> **CONSULTATION FREE**

WHAT THE UNITED DOCTORS REALLY ARE

"United Doctors" is a name for a business originated and owned practically by one man. It is not a professional organization but a business concern. The "great specialists" are professional renegades hired at a small salary, old and young, many of them with the most meager equipment, training and experience; others who have been failures in the regular practice or who, for various other reasons, have been induced to engage in this form of quackery.

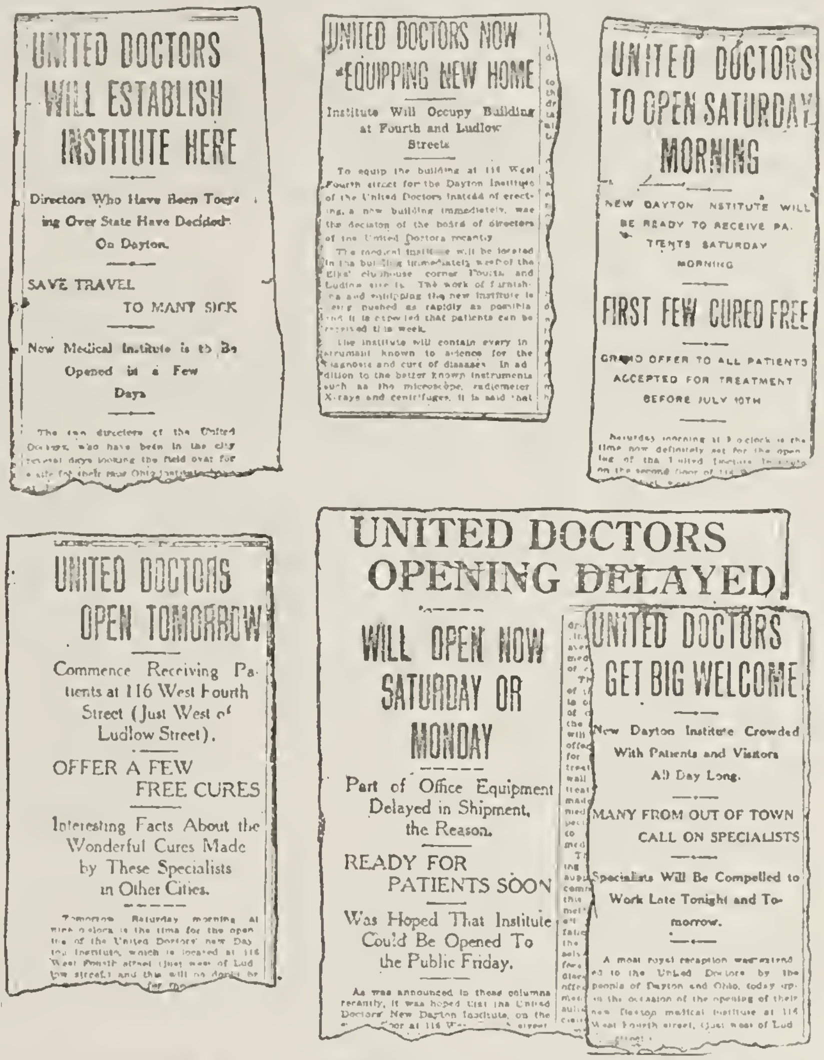
How such men are obtained, these two advertisements, which appeared on different dates in a Chicago paper, will show:

> DOCTOR—GOOD CASE TAKER, FOR ADvertising office, registered in Iowa; give full description, experience, and state salary in first letter. United Doctors, Waterloo, Iowa.
>
> PHYSICIAN—FOR ADVERTISING OFfice; state salary and experience; must have Indiana registration. Address S H 39, Tribune.

It will be seen that the principal qualifications required are that the man be a good "case-taker"—in other words, a good salesman of fake medical services—and that he be registered in the state in which he is to be employed. The latter qualification is necessary in order to conform to the letter—not the spirit—of the state medical practice laws. On general principles it should not be difficult to estimate the value of the services of doctors procured by the advertising method; but of this more later.

METHODS OF ADVERTISING AND RUNNING THE OFFICES

When it is proposed by the United Doctors to open an office or "institute" in a town, a preliminary advertising campaign is conducted in the local newspapers. Except names and dates the advertisements are precisely the same in every place. First it is announced that two or three of their "directors" have visited the city and have decided that it would be a suitable place to open one of their permanent "institutes." These men are not directors at all but only hired men—really, advance press-agents. They try to impress the public with the great favor they are doing the community in establishing therein one of their offices. At first they always profess that it is their intention to buy ground with the object of building later. In a subsequent advertisement they announce that they have decided not to build until fall or spring, as the case may be, but have leased such and such a location and the offices will be open about such a date. In their advertisements they announce one or more postponements of the time of opening the office, one of which will always be on account of the non-arrival of furniture and equipment. The same claims and promises appear in all places and with great regularity. Finally the "opening day" comes. Following this the advertisements—in every town—state that the office was crowded all day, that people were turned away, that many prominent business men called and wished them success, etc. They advertise "free consultation" and "free treatment" for a short time, requiring their patrons to pay only for their medicines which, it is needless to say, are always charged for at enormous prices and the patient is duly impressed with the expense and difficulty of obtaining the medicine. In subsequent advertisements they tell of the great amount of business they are doing, and publish testimonials of supposed patients—these, usually are from other towns, seldom from the town in which the office is located. Of the character and value of some of these testimonials we shall have something to say later.



UNITED DOCTORS WILL ESTABLISH INSTITUTE HERE

Directors Who Have Been Touring Over State Have Decided On Dayton.

SAVE TRAVEL TO MANY SICK

New Medical Institute is to Be Opened in a Few Days

The two directors of the United Doctors, who have been in the city several days looking the field over for a site for their new Ohio institute

UNITED DOCTORS NOW EQUIPPING NEW HOME

Institute Will Occupy Building at Fourth and Ludlow Streets

To equip the building at 116 West Fourth street for the Dayton Institute of the United Doctors instead of erecting a new building immediately, was the decision of the board of directors of the United Doctors recently.

The medical institute will be located in the building immediately west of the Elks' clubhouse corner Fourth and Ludlow streets. The work of furnishing and equipping the new institute is being pushed as rapidly as possible and it is expected that patients can be received this week.

The institute will contain every instrument known to science for the diagnosis and cure of diseases. In addition to the better known instruments such as the microscope, radiometer, X-rays and centrifuges, it is said that

UNITED DOCTORS TO OPEN SATURDAY MORNING

NEW DAYTON INSTITUTE WILL BE READY TO RECEIVE PATIENTS SATURDAY MORNING

FIRST FEW CURED FREE

GRAND OFFER TO ALL PATIENTS ACCEPTED FOR TREATMENT BEFORE JULY 10TH

Saturday morning at [illegible] o'clock is the time now definitely set for the opening of the United Doctors Institute on the second floor of 116

UNITED DOCTORS OPEN TOMORROW

Commence Receiving Patients at 116 West Fourth Street (Just West of Ludlow Street).

OFFER A FEW FREE CURES

Interesting Facts About the Wonderful Cures Made by These Specialists in Other Cities.

Tomorrow, Saturday morning at nine o'clock is the time for the opening of the United Doctors' new Dayton Institute, which is located at 116 West Fourth street (just west of Ludlow street) and there will no doubt be

UNITED DOCTORS OPENING DELAYED

WILL OPEN NOW SATURDAY OR MONDAY

Part of Office Equipment Delayed in Shipment, the Reason.

READY FOR PATIENTS SOON

Was Hoped That Institute Could Be Opened To the Public Friday.

As was announced in these columns recently, it was hoped that the United Doctors' New Dayton Institute, on the floor at 116 West street

UNITED DOCTORS GET BIG WELCOME

New Dayton Institute Crowded With Patients and Visitors All Day Long.

MANY FROM OUT OF TOWN CALL ON SPECIALISTS

Specialists Will Be Compelled to Work Late Tonight and Tomorrow.

A most royal reception was extended to the United Doctors by the people of Dayton and Ohio, today upon the occasion of the opening of their new Dayton medical institute at 116 West Fourth street, (just west of Ludlow street).

Fig. 1.—Series of advertisements in the form of reading notices inserted in the Dayton (Ohio) papers at the time of the opening of the "Institute" of the United Doctors in that city. Almost identical advertisements are used in every city where offices are opened, with the same delay and postponements on account of the non-arrival of furniture and equipment, and with the same "Big Welcome," etc. The same advertisements were used at Elmira, N. Y., where after a "Royal Reception" they closed the office inside of two weeks for lack of business.

To illustrate some of the points just mentioned the following extracts from their advertisements are given:

> "Yesterday it was announced in these columns that the United Doctors had at last consented to establish one of their world-famous Medical Institutes in Muncie, and that it would be ready to receive patients soon."
>
> "The board of directors have been looking about the city for some time for a suitable site upon which to erect a permanent home for the institution, but have at last postponed building until spring."
>
> "Several fine suites of rooms have been leased on the second floor of the Little Block occupying the second floor of the building; this will be occupied by the institute for the first year, or until a more suitable building can be purchased or erected for a permanent home for the institute."

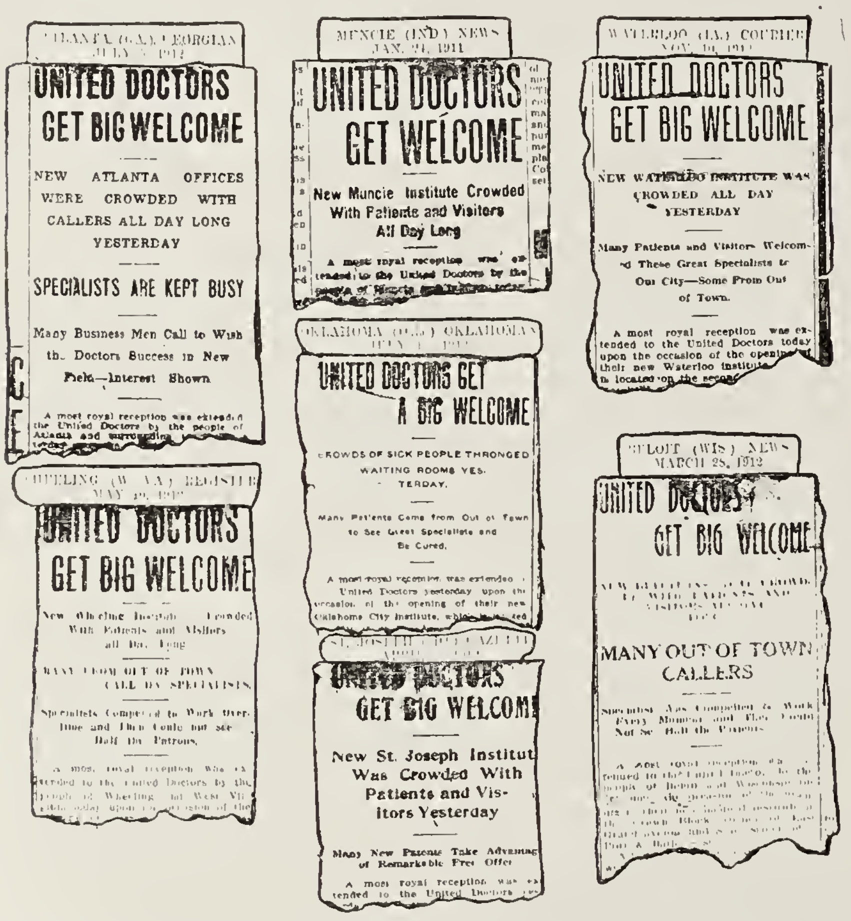
WIDE EXTENT OF THIS CONCERN

Such then, is the plan of the United Doctors. They now have established about fifty offices or "institutes" spread over thirteen states. During the last six months of 1912 at least ten new offices were opened in as many cities. They extend from Fort Dodge, Iowa, and Fort Worth, Tex., on the west and south, to Trenton, N. J., and Atlanta, Ga., on the east. They are all owned or controlled (with a few exceptions which will be noted later) by one man who exercises general supervision over the offices, writes practically all the advertising matter, contracts for insertion in the newspapers, rents the offices, buys the supplies and, most important of all, pockets the lion's share of the proceeds.

This man is Ben W. Kinsey, whose former headquarters were in Chicago. His history shows the evolution of the typical quack and should convince any one that medical services rendered under the circumstances here set forth and by a concern employing the methods of Kinsey could be nothing less than a swindle.

PERSONNEL OF THE UNITED DOCTORS

Ben W. Kinsey was born and reared at Mackinaw, Tazewell County, Ill. He was graduated by the Jenner Medical College (then a low-grade night-school), Chicago, in 1904, engaged in private practice for about a year, and then became a pupil and assistant of "Phenomenal" Kraus, a notorious quack who on account of his methods got into trouble with the federal and state authorities in Missouri and Ohio for misusing the mails and irregularity in practice, and was described as a "most shameless medical advertiser."



ATLANTA (GA.) GEORGIAN

UNITED DOCTORS GET BIG WELCOME

NEW ATLANTA OFFICES WERE CROWDED WITH CALLERS ALL DAY LONG YESTERDAY

SPECIALISTS ARE KEPT BUSY

Many Business Men Call to Wish the Doctors Success in New Field—Interest Shown

A most royal reception was extended the United Doctors by the people of Atlanta and surrounding

WHEELING (W. VA.) REGISTER

UNITED DOCTORS GET BIG WELCOME

New Wheeling Institute Crowded With Patients and Visitors all Day Long

MANY FROM OUT OF TOWN CALL ON SPECIALISTS.

Specialists Compelled to Work Overtime and Then Could not See Half the Patrons.

A most royal reception was extended to the United Doctors by the people of Wheeling and West Virginia today upon the occasion of the

MUNCIE (IND.) NEWS

UNITED DOCTORS GET WELCOME

New Muncie Institute Crowded With Patients and Visitors All Day Long

A most royal reception was extended to the United Doctors by the people of Muncie

OKLAHOMA (OKLA.) OKLAHOMAN

UNITED DOCTORS GET A BIG WELCOME

CROWDS OF SICK PEOPLE THRONGED WAITING ROOMS YESTERDAY.

Many Patients Come from Out of Town to See Great Specialists and Be Cured.

A most royal reception was extended United Doctors yesterday upon the occasion of the opening of their new Oklahoma City Institute, which

UNITED DOCTORS GET BIG WELCOM

New St. Joseph Institut Was Crowded With Patients and Visitors Yesterday

Many New Patients Take Advantag of Remarkable Free Offer

A most royal reception was extended to the United Doctors

WATERLOO (IA.) COURIER

UNITED DOCTORS GET BIG WELCOME

NEW WATERLOO INSTITUTE WAS CROWDED ALL DAY YESTERDAY

Many Patients and Visitors Welcomed These Great Specialists to Our City—Some From Out of Town.

A most royal reception was extended to the United Doctors today upon the occasion of the opening of their new Waterloo institute, located on the second

BELOIT (WIS.) NEWS MARCH 28, 1912

UNITED DOCTORS GET BIG WELCOME

MANY OUT OF TOWN CALLERS

Fig. 2.—Collection of advertisements of the United Doctors showing their identical character in widely-separated states and cities.

HOT SPRINGS DOCTORS

Kinsey spent a few months with "Phenomenal" Kraus learning the ins and outs of the quack specialty business and then, being an apt pupil, branched out for himself, about 1906, under the name of the "Hot Springs Doctors." He pursued much the same methods at that time as at present and established so-called institutes during 1906 and the next two or three years in Ottumwa, Iowa, Lincoln, Neb., Topeka, Kan., and other places. As at present, he claimed then that he intended to purchase property and build permanent institutes; but so far as known he never did so.

The idea exploited at that time was "a wonderful Hot Springs system of home treatment." Kinsey claimed in his advertisements that he was a specialist whose scientific research and ingenuity had enabled him to discover the secret of the Hot Springs waters and made it possible to give in any home the same results which formerly could be obtained only by a visit to Hot Springs, Ark. As is well-known, the Hot Springs of Arkansas are under the supervision of the United States government and physicians who practice there must have a license endorsed by the government authorities. With the shrewdness of the true quack, Kinsey ingeniously claimed that his system of treatment was highly endorsed by the United States government and that the Hot Springs Doctors held a government license to treat all chronic diseases, etc. He described himself as being "better known among his associates in the medical profession as the man with the x-ray eye on account of his marvelous skill in locating and curing diseases." It will be seen that within a year or so after Kinsey graduated from a third-rate night medical school in Chicago he bloomed out as a wonderful specialist with the "x-ray eye," claiming marvelous power in the cure of all sorts of chronic diseases. About 1909, probably on account of the grossly false claims made for his system of Hot Springs treatment and the government endorsement thereof, he found it expedient to change the name and methods under and by which he operated and began establishing offices under the name of the United Doctors.

LEGAL SNAGS

The practice of the United Doctors has not been all clear sailing, and Kinsey and his hired men have been legally called to account in numerous instances. Together with one of his hired specialists, Dr. Fletcher T. Riley, Kinsey was indicted in Milwaukee, Wis., in 1910, for violation of one of the statutes of Wisconsin regarding the publication of obscene matter in medical advertisements and for practicing without a license. Kinsey was convicted on the first charge and plead guilty on the other and was fined. Other indictments for similar violation of the statutes still hang over his head in Wisconsin. At the trial in Milwaukee, Kinsey on the witness stand stated that he used the term "United Doctors" simply as a name under which he conducted his business; that he wrote the advertisements and attended not only to their insertion in the newspapers but also to all business matters connected with the offices of the United Doctors. Kinsey has grown rich from the business and is said to own 400 acres of good corn land in the Illinois River bottoms in Tazewell County, Ill., and 1,500 acres in Canada. The income from the fifty or more offices is said to be large.

While Ben W. Kinsey has been apparently the sole owner of the United Doctors, his brother, Lee B. Kinsey, seems to have acquired an interest in the business. L. B. Kinsey lives at South Bend, Ind., and helps supervise the offices in Indiana and neighboring states. He formerly practiced as a civil engineer, but no doubt found from the experience of his brother that the advertising quack specialty business was a much more lucrative one.

SOME COUNTERFEIT "SPECIALISTS"

The character of the men employed by Kinsey as "specialists" in the offices of the United Doctors may be known by a brief history of a few of them.

Dr. Samuel C. Beach.—Beach graduated at Rush Medical College in 1892. In 1897 he practiced for a short time at McCook, Neb., a town of about 4,000 inhabitants, and according to our informant, after trying various other locations, he returned to McCook in 1902 where he remained up to about 1909 or 1910 when he opened an automobile repair shop. After a few months he again hung out his shingle as a physician, only to withdraw it in a short time. In 1910 he was connected with a traveling medicine show, it is said. He then became an assistant to a reputable physician in Omaha. He did not stay there very long—naturally, enough—but soon was reported to be engaged in "theatrical work" at Plattsmouth, Neb. After a short time he returned to Omaha for a brief period, and then became an employee of the United Doctors and went to the Port Huron office, where a prosperous business was done until the local clientele was milked dry and the office closed, when he was sent to the Bay City office. It is said that he is eccentric and unreliable, and that when he left McCook a number of creditors mourned his departure.

Dr. Fletcher T. Riley.—In 1910 this man was arrested with Ben W. Kinsey in Milwaukee for a violation of the Wisconsin statutes in regard to obscene advertising. He was graduated by the Ohio Medical College in 1877 and practiced for a time in Wisconsin. In 1909 he was connected with the United Doctors' office in Danville, Ill., and in 1910 with the Milwaukee office. Later he severed his connection with the United Doctors and is now running an advertising specialist concern under his own name in Milwaukee.

Dr. Lee M. Barney.—This man was graduated by Northwestern University in 1889 and seems to be troubled with *Wanderlust*. He was licensed in Illinois in 1907, in Indiana in 1908, in Florida in 1910, and in Wisconsin in 1912. In 1909 he was employed as one of the "Hot Springs Doctors" and his license was revoked at Fort Wayne, Ind., on account of improper methods. He applied to the courts and, owing to the weakness of the Indiana medical practice act, was reinstated in 1910. In May, 1912, it is reported that he turned up at Wilton, Wis., with a bunch of fakers comprising Dr. Barney, an "optician" and a dentist, with a crude vaudeville show accompaniment. Barney left the company at Wilton and returned to Elkhart, Ind., and later went to Pensacola, Fla., where he is running an advertising office under the name of the "German-American Doctors."

Dr. Warren D. Scott.—Scott is a homeopath who graduated at Hahnemann Medical College, Chicago, in 1882, and has been associated with Ben W. Kinsey since the days when he was running the offices under the name "Hot Springs Doctors." He is sometimes referred to as one of the "directors" of the United Doctors. Dr. Scott, like most of the other men employed by Kinsey, is moved around from one office to another as the occasion demands or prudence dictates. In 1907, while he was working at Terre Haute, Ind., for Kinsey as one of the Hot Springs Doctors an attempt was made to revoke his license on account of irregular practice. Scott, however, was not a resident of the state and did not remain in Terre Haute. The case against him was dropped.

Dr. Pierre Lafayette Stewart.—This man was graduated at the American College of Medicine and Surgery, Chicago, in 1905. After practicing at the village of Shelburne, Ind., for a time he was employed by the United Doctors at different times in the offices at Bloomington and Decatur, Ill., Omaha, Neb., and Logansport, Muncie and South Bend, Ind. In 1911, while he was practicing at Muncie and South Bend, Ind., charges were filed against him before the Indiana State Board of Medical Registration and Examination on account of fraudulent advertising and misrepresentation in connection with the Muncie office of the United Doctors and also because of his alleged excessive use of intoxicants. One specification in the charges referred to the fraudulent nature of a testimonial prepared by Stewart to which he secured the signature of one of his victims. This testimonial will be referred to later. Stewart's advertisements claimed that he used many complex and wonderful instruments for diagnostic and other purposes. When asked by the state board to tell with what instruments the Muncie office was equipped, Stewart could name only a few of the instruments known to and used by nearly every practicing physician. He admitted that he had no x-ray apparatus, no centrifuge and no cystoscope, and he further admitted that he had no instruments whose use was unknown to other doctors. Of course, he claimed that he had nothing to do with the advertisements inserted in the newspapers and that he had no hand in writing them, his only duty being to examine and treat patients—and collect the fee! The case before the state board for revocation of Stewart's license has never been decided. He severed his connection with the United Doctors, however, and later opened an advertising business of his own at Richmond, Ind., under the name of the Stewart Medical Company. According to the Richmond *Item* he suddenly left there about the middle of April, 1912, leaving several accounts owing to Richmond tradesmen for office furnishings, etc. The Bloomington (Ill.) *Bulletin*, April 15, 1912, states that Stewart, while in the employ of the United Doctors in that town, spent considerable time in neighboring barrooms and adds that a number of creditors in that city are anxious to find him.

Dr. L. F. Elston, alias L. F. Elstein, alias L. Fink Elstein, alias Leopold Finkelstein.—This multinamed individual at the time of its opening and for some time thereafter, conducted the office at Wheeling, W. Va. Formerly he supplied the Wisconsin offices in Eau Claire, Milwaukee, Racine, Janesville and Beloit, and is referred to in some of the advertisements as a "director" of the United Doctors. He received a diploma under the name of Leopold Finkelstein from the College of Physicians and Surgeons in Baltimore in 1885. The modesty of the real quack is shown in the statement made by him concerning his qualifications in the Wheeling *Intelligencer*, May 16, 1912:

> "One of the originators and the head of the United Doctors is L. F. Elston, A.B., M.D., a physician of vast learning, having devoted many years in obtaining his education to study [sic]. Dr. Elston has studied in France, Greece, Italy, England, Switzerland, Austria, Turkey and Russia. He has taken a scholarship at both Oxford and Yale. He has taken post-graduate work at the College of Physicians and Surgeons at Baltimore, Md., and was assistant to the great nerve specialist, Prof. Arnold, of the University of Pennsylvania. Dr. Elston was personally appointed a state health officer for the state of New Jersey by ex-Governor Abbott. A remarkable record is finished by the fact that he speaks, reads and writes nine languages."

The writings of Elston do not indicate that he profited much by the "extensive studies" in the various foreign countries mentioned by him. It is one of the customs of many men coming from abroad to claim graduation from foreign institutions which, when investigated, have no existence. Inquiry of the dean of the medical department of the University of Pennsylvania reveals the fact that no great nerve specialist by the name of Professor Arnold was ever connected with that university, and they know nothing of Dr. Elston, Elstein or Finkelstein. His claim to having been appointed a state health officer of the state of New Jersey is apparently based on the fact that Elston was appointed for a temporary service in 1893 for the purpose of making a report relative to the Russian-Jewish colonies in Southern New Jersey.

These men are typical of the men employed by the United Doctors and heralded by them in their extravagant advertisements as great specialists with marvelous powers of diagnosing and curing disease. They probably are as good as could be secured by advertisements in the daily newspapers, and are men of the stripe needed to carry on such a swindle as that perpetrated by the United Doctors.

BUSINESS MEN'S ASSOCIATION ACTS

When the institute of the United Doctors was about to be opened in Wheeling, W. Va., the Retail Business Men's Association of that city, prompted by some inquiries concerning their advertising methods, undertook to look into the standing of the United Doctors. Accordingly a letter signed by the Business Men's Association was addressed to the United Doctors asking the manager (Elston) to meet the Association and present credentials so that the Association might place them before the public correctly. The United Doctors or its representatives, of course, failed to appear and the Business Men's Association, in a statement in the Wheeling *Register* of May 15, 1912, made the following comments:

> "The public will have to put its own construction on the failure of the United Doctors to appear and give proper information concerning themselves to the recognized organization of the legitimate business concerns who deal directly with the people. A fair inference would seem to be that the men who are advertising here under the name of the United Doctors are part of the same crowd who are using this name in the central west to hide the true character of the individuals in actual charge of the offices, and are unwilling to be questioned too closely concerning their antecedents."

As a "come-back," Elston, for the United Doctors, in one of his advertisements in the Wheeling *Intelligencer*, May 16, 1912, attempts to answer these criticisms. Notwithstanding his claim to be master of nine languages his English does not show up very well in this quotation:

> "An article appeared in these columns recently, stating that a local business organization were to investigate the methods of the United Doctors. Owing to the unfairness of this organization in inserting this article in such a manner as to lead the public to believe that they had some moral or legal right to set themselves a judge and jury for the community and then placing still another article in the papers with further insinuation through no apparent reason for this badgering. There is a reason, of course—a very live and real reason, if one thinks and sees behind the scenes. Should one look hard enough he will not unlikely see a competitor pulling the strings."

A further attempt to offset the damaging criticisms made by the Business Men's Association appeared in an advertisement in the Wheeling *News*, May 19, 1912. Elston says:

> "A telegram was received yesterday saying that the Beloit Commercial Association of Wisconsin would be pleased to answer all inquiries regarding the professional standing of the United Doctors. They state that the United Doctors' standing is in every way of the very best."

This statement was brought to the attention of the Commercial Club of Beloit which replied that there was no truth in it and that the president of the Commercial Club, who at the time was in California, would, if he were in Beloit, probably push the matter against the United Doctors for making such a statement. Neither the secretary of the club nor the members knew of any such action or endorsement.

FRAUDULENT TESTIMONIALS

The testimonial[2] is a time-honored institution and is the thing chiefly relied on by both the "patent-medicine" fakers and the quack in selling medicines or in procuring victims. It is freely employed by the United Doctors and a few examples to illustrate the shameless manner in which the public is deceived will not be amiss.

RHEUMATISM—A CURE THAT DIDN'T CURE

One of the charges made against Dr. Pierre Lafayette Stewart before the Indiana State Board was that he had prepared and inserted in the Muncie *Morning Star*, March 18, 1911, the following testimonial:

> "Muncie, Ind., Feb. 5, 1911.
>
> "*To the Public:*—I want to make a statement to the public concerning my wife. As I am a resident of Muncie, I am not ashamed for anyone to know where she got her first and only relief. For thirteen years my wife has been suffering with inflammatory rheumatism and has been confined to her bed all this time. I tried doctor after doctor with no results and last Sunday I persuaded the specialist of the United Doctors to come and see her. He at once diagnosed her case and told me she could be relieved. I could scarcely believe this as I had experimented so much with other doctors, but I told him to put her under treatment.
>
> "It has now been just one week since she began taking the doctor's treatment and she has been out of bed three days this week and I owe everything in praise of these specialists. If anyone does not believe this they can call at my house and I will gladly answer any questions. F. O. Trout."

The real status of this testimonial is made plain by the following affidavit made by F. O. Trout and filed with the State Board:

> "State of Indiana, }
> County of Delaware } ss.
>
> "I, F. O. Trout, of my own free will and under oath, hereby state that I have read an advertisement of the United Doctors, who are practicing medicine in Muncie, Indiana, said advertisement appeared in the Muncie *Morning Star*, March 18, 1911, and contained a letter to the public over my signature. This letter contained statements that are untrue and which I did not authorize. At no time while doctoring with the United Doctors could my wife get out of bed without assistance.
>
> "I wish to further state that Dr. Pierre Lafayette Stewart is the man who attended my wife as above stated, and who represented the United Doctors. The aforesaid Dr. Pierre Lafayette Stewart made the statement at the beginning of his treatment of my wife that he would have her walking in six weeks, and on this representation and agreement I paid him $19.50, which he obtained under false pretenses, as at no time since the beginning of his treatment has my wife been able to walk without assistance. At this date, May 6, 1911, she is still an invalid and is confined to her chair.
>
> "I make the foregoing statements voluntarily that the public may know the truth about this case.
>
> "(Signed) F. O. Trout,
>
> "Subscribed and sworn to before me this 6th day of May, 1911.
>
> "(Signed) Omar G. Weir,
> "Notary Public.
>
> "My com. expires May 28, 1911."

MAKING CAPITAL OF A SIMPLE CONDITION

As an instance of the way in which the United Doctors and other quacks make capital out of some simple condition the following testimonial of Mrs. William E. Moon of Greentown, Ind., is interesting:

> "Greentown, Ind., April 29, 1912.
>
> "*Gentlemen:*—In the night of July 8, 1906, our little boy, who was three years old, began to choke and gasp for breath. He was so bad that we did not think he would live until we could get the doctor, and from that time on up to one year ago, before we visited the United Doctors, which was in October, 1911, he had the same spells every six or eight weeks, which would last from eight to ten days. For one year before we visited the United Doctors the bad, loud, hard breathing bothered him all the time. He coughed and breathed so hard and loud that together with the constant care he required the rest of the family were worn out. The condition could not be exaggerated. He vomited great quantities of phlegm and about all his nourishment. He became pale and bloodless, and was not able to play or go to school on account of the distressing symptoms. We tried doctor after doctor, and bottles and bottles of patent medicines, and almost smoked his eyes out, all to no avail, for he grew worse all the time. Two of the best specialists in Evansville utterly failed to benefit him.
>
> "On October 4, 1911, we began the United Treatment of the United Doctors. Wonderful to say, for it sounds like magic, the first night he slept like a new born babe, something he had not done for a year before. He has had no trouble since. He goes to school every day, and can run and play with any boy. He has picked up in flesh until the neighbors hardly know him.
>
> "Mrs. Wm. E. Moon."

On inquiry into this wonderful case it was found by our informant that this child was subject to ordinary spasmodic croup occasionally, which was relieved by the family physician by the usual simple methods. In the hands of the United Doctors, however, the case becomes a horrible example of the failure of the ordinary doctor to recognize the true condition. This all helps to impress the gullible as to the great powers of the United Doctors.

A RELATIVE BOOSTS THE GAME

John D. Clark says that he is a real-estate dealer and resides at Mackinaw, Ill. The South Bend (Ind.) *News*, Jan. 7, 1912, contains a long testimonial from John D. Clark in which he praises the United Doctors highly for curing him of constipation of sixteen years' standing which, he says had made him a nervous wreck and at times rendered him utterly unfit for business. He also boosts their game by including in his testimonial a statement that when he saw what this wonderful new treatment was doing for him, he advised a friend who had gall-stones to go to the United Doctors for treatment. After going the rounds of all the other doctors without relief, some of whom advised operation, John D. persuaded his friend to go to the United Doctors. He fails to state whether or not the United Doctors cured the gall-stone patient, but leaves it to be inferred that they did.

On inquiry it was found that John D. Clark is connected by marriage with Lee B. Kinsey, who manages the South Bend and other offices, and that during the previous two years, at least, Mr. Clark had apparently been a perfectly healthy man and had never been laid up a day during that time. Possibly the testimonial supply was getting a little stale and so Cousin-in-law John D. was called on for a little boost.

INFRINGEMENTS ON THE UNITED DOCTORS' GRAFT RESENTED

As might readily be supposed the success of the graft worked by the United Doctors has not been overlooked by other fakers, and the name "United Doctors" with slight modifications has been appropriated by them, so that we have the "United Doctors, Specialists," "Original United Doctors," "United Doctors, Incorporated" and "Northwestern United Doctors." This infringement on their particular form of swindle is resented by the United Doctors, and in their advertisements they complain of the "small-fry imitators" who claim to have "something just as good" or "the same thing under a different name." They say: "The phenomenal success of the United Doctors in curing old chronic and deep-seated diseases by their wonderful new system of treatment has brought forth a lot of swindlers pretending to have the same treatment." This is an instance of the pot calling the kettle black. They even offer in one of their advertisements $100 reward for any person in Nebraska, Iowa, Missouri or Kansas who convicts any doctors or persons of fraudulently obtaining money by pretending to be the agents of the United Doctors. This offer of reward is set forth as a "WARNING TO SICK PEOPLE." As a piece of skilful advertising this probably brings returns. Among other quacks who have appropriated the name "United Doctors" are the United Doctors of Joplin, Mo., run by Dr. Harry V. Dresbach, who has also recently opened an office at Pittsburg, Kan., and who exploits the "oxyoline machine" and the "Alfalfa Remedies." Also the "United Doctors," incorporated in Indiana by Dr. James Monroe Hancock, formerly of Chicago, and a number of other men. This concern has offices at Michigan City, Marion and Lafayette, Ind. Their advertising matter is practically the same as that of the United Doctors owned by Kinsey, and they refer to his other offices and use some of the same testimonials.

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[2] Only a few testimonials are given here on account of lack of space. Others will be found in the pamphlet in which the story appears in full.

The "United Doctors, Specialists," "Original United Doctors" and the "Northwestern United Doctors" and a host of other similar concerns, some of which have been named above, do not establish offices, but visit certain places for a day or two periodically or occasionally, after announcing their coming in the local newspapers. Otherwise their methods are much the same and the advertising matter for these concerns is almost identical. They employ cheap doctors as Kinsey does and their equipment and services are, if possible, more worthless than those of Kinsey's hired specialists.

NEWSPAPERS PARTNERS IN THE SWINDLE

The success of these swindling concerns in making money depends on their use of the newspapers, and the credulity of the people in accepting the false and fraudulent statements they make in their advertisements. When once the people know how they are defrauded and deceived in a matter so important as their health, and when they realize that the newspapers of their respective communities which they support, are really partners in this cruel swindling game, they will call the newspapers to account, and the United Doctors and all the other shameless medical frauds of this character will suddenly find themselves out of business.

THOREMEDIN ONCE MORE

We have received the following letter for publication:

"In justice to my reports in regard to my experience with what I called a 'thorium paste,' which was afterward known as 'Thoremedin,' and criticized in The Journal, I claim a right to speak in regard to the Report of the Council on Pharmacy and Chemistry, and Dr. Pusey's article on 'Sulphuric Acid Pastes,' in a recent issue of The Journal: for I still do not believe that a full, fair and impartial investigation of the subject has yet been given, and I feel confident that a wider experience with the exact combination, rightly prepared and correctly used, will show the error in the hasty conclusions of Dr. Pusey and others.

"The report of the Council refers to securing 'the help of some men of established reputation in the treatment of cancer,' and three petty reports are furnished, one of them stating that 'in only one instance was it possible to test very accurately the action of the two mixtures,' while the other reports give nothing clinically which can be of the slightest service in guiding the profession in regard to the value or proper use of the combination which I have advocated.

"Opposed to this I can give the names of one hundred or more qualified practitioners, many of them well-known dermatologists, who have used the preparation referred to with satisfaction, and of a hundred or more others who have watched the results at my clinics at the New York Skin and Cancer Hospital; these men can, and many of them will, testify to the surprising results constantly seen to follow the correct use of these remedies, as I have described it in a recent article on 'The Technic of Using Thorium Paste,' shortly to appear.

"In the light of such an experience, dating back now two years and a half, and relating to between two and three hundred of my cases in hospital and private practice in New York, and very many elsewhere, testified to by hundreds of practicing physicians, many of very high standing, I claim that it is unreasonable to accept the conclusions of a 'Council on Pharmacy and Chemistry' who do not profess to know anything clinically in regard to the value of remedies, but who accept such flimsy negative evidence as is presented in their report.

"I think the medical profession has a right to demand the names of the members of the Council who had actual knowledge of the matter before the publication of the report and who voted for its publication, and also the names of the three men 'of established reputation in the treatment of cancer,' who made the astonishing reports, on which was printed the report of the Council. When this is done I will furnish the names of one hundred reputable practitioners in many lines of practice, many of them 'of established reputation in the treatment of cancer,' who will testify as to the truth of what I have reported and as to the value of the remedy in question. I regard it as unfortunate that Squibb and Sons have discontinued the manufacture of the article under question, for its practical value is now so widely recognized by the profession that spurious substitutions may be used with harm. I am employing it almost daily in my office, sometimes several times in the day, and shall continue to do so, hoping that the Squibbs will manufacture it for me.

"The length of this letter precludes my considering Dr. Pusey's article, except to say that it has very little bearing on the subject: for, as I have shown elsewhere, the paste, as I have used it, is not a caustic, but a profound alterative of tissue from the peculiar combination, in which the thorium plays undoubtedly a part. In using the paste I often wash out the sulphuric acid before applying it.

"I regret that I have been drawn into this controversy, and yet I feel that from the first there has been a rather hasty and imperfect judgment of this important new remedy, in which I have had absolutely no other interest than a scientific and humanitarian one.

"L. Duncan Bulkley, M.D., New York."

This letter is published not because it is germane to the subject, but because Dr. Bulkley feels that it should be published. Thoremedin is a dead issue. It no longer exists. Its manufacturers withdrew it from the market after it had been demonstrated that the preparation had no therapeutic action that was not also possessed by a sulphuric acid paste. This was the point under discussion, and that point has been settled.

Dr. Bulkley's ill-concealed slur on the Council on Pharmacy and Chemistry may be ignored. For his information, however, it may be said, in passing, that every member of the Council "had actual knowledge of the matter before the publication of the report"—as, of course, is the case in every report issued by the Council.

We refrain from commenting on Dr. Bulkley's statement that a mixture consisting of nearly one-third its weight of concentrated sulphuric acid "is not a caustic but a profound alterative of tissue." We also hesitate to comment on his further statement that "in using the paste I often wash out the sulphuric acid before applying it."

In view of Dr. Bulkley's remarkable results with the preparation we can only suggest that if he will bring the same enthusiasm and skill to bear in the use of a plain sulphuric acid paste, he may get results that will average well with those obtained with Thoremedin. Unfortunately, it is hard to read into results obtained with a simple old-fashioned remedy the same marvels that seem to follow naturally in the use of a speciously named secret product.

THE SINCERITY OF THE PHYSICIAN IN ADVISING CONCERNING "PATENT MEDICINES"

The *Progressive Farmer* (Raleigh, N. C.) February 1, says editorially:

"It has always been a mystery to the writer, why it is that most people have such confidence in the medical advice of physicians when serious illness comes and their lives are at stake; but with regard to 'patent medicines,' repudiate this same expert medical advice, and charge the men with whom they trust their lives with being ignorant of the value of these 'patent medicines,' or as being influenced to give false advice from personal or mercenary motives. In fact, the advice of the medical expert of high standing regarding these 'fake' medical advertisements is just as accurate and reliable and just as unselfish and uninfluenced by prejudice as is his advice regarding the personal disease of his patient. That the medical man does not advise against 'patent medicines' for fear of losing practice is conclusively shown by the counter facts, that medical men are the greatest advocates of preventive vaccination for small-pox, and all other modern methods of preventing disease, and of all the hundreds of medical men engaged in original research (trying to find out new medical facts), 95 per cent. of them are studying methods of preventing disease."

Correspondence

What a Local Society Can Do

To the Editor:—One of our local papers recently carried a large advertisement of "English Hemorrhoidal Remedy," containing what purported to be a signed statement from forty local druggists, stating that they were much impressed with the value of this remedy, and unreservedly endorsed it. Our local medical society sent each one of these druggists a letter, asking them to let us know on what they had based this strong endorsement. They scrambled all over each other to send replies disclaiming any such endorsement, and sent back to the exploiters their stocks of the nostrum, which they had held on consignment. One establishment replied naively that it never had approved of this method of advertising, and, *as the goods had not sold well*, it had sent them back.

Our action will materially decrease that kind of advertising in the future, and was well worth the trouble it cost. It is reported as a tip to other local medical societies.

In return, perhaps you or some one else can tell us if there is real hope for a community in which the leading paper, one of the most conservative and influential in New England, and controlled by the president of the local antituberculosis society, who is also a member of the State Tuberculosis Commission, still publishes advertisements of Eckman's Alterative for Tuberculosis, and enlivens its columns with the answers of the sprightly Mae Martyn to her anxious inquirers, incidentally mentioning the virtues of those simple and inexpensive household remedies. Spurmax, Gogag, Puquik, Pemore and Ogosh.

Augustin A. Crane, M.D., Waterbury, Conn.

Comment.—The local society at Waterbury is to be commended. Yes, we believe "there is real hope for a community" that has the kind of local medical society that exists here. We would suggest that the editor, owner, publisher and advertising manager each be sent one of our pamphlets showing the fraudulence and worthlessness of "Eckman's Alterative" and that our exposé of the Mae Martyn "prescription fake" humbug, also be called to their attention.

Another Misstatement Concerning Phylacogen

To the Editor:—In the Special Phylacogen Number of *Therapeutic Notes*, published by Parke, Davis and Company, Phylacogens (Schafer's Modified Bacterial Derivatives) are said to have been discussed at the meeting of the Westmoreland County Medical Society, held at Greensburg, Pa., June 17, 1912.

This statement of Parke, Davis and Company is not true. We held no meeting on that date, and this product has never been discussed by our society

M. W. Horner, M.D., Mount Pleasant, Pa.
Secretary, the Westmoreland County Medical Society.

The Inadequacy of Bishop's Antitoxin Hypothesis to Explain Fully the Symptomatology in Morphin Addiction

To the Editor:—Dr. Bishop in his article on narcotic addiction in The Journal (Feb. 8, 1913, p 431), does not, it seems to me, lay sufficient emphasis on the part played by the nervous system in the symptomatology of drug addiction. Whether or not we accept his hypothesis of antitoxin development in morphin users, it comes up to us in the end to deal with the addiction as manifesting itself in a disordered mental and nervous system. Therapeutically, we use narcotic drugs in order to produce some definite effect on or through the nervous system. In addiction the patient attempts to continue indefinitely a reaction which takes place physiologically in therapeusis.

Thus the nervous system deprived of opportunity for normal functioning through the inhibiting influence of a drug necessarily becomes pathologic in its reactions. In the case of morphinism physiologic tolerance is quickly exceeded; toxic effects are noticed practically from the beginning. It is well known that any toxin introduced from without, or elaborated within the body, acts injuriously on the cortical and ganglionic cells and nerve fibers. Therefore, whether we consider the symptoms as due directly to the toxic effects of morphin, or to effects of an antitoxin induced by morphin, we face a disease syndrome which must be regarded and treated in the light of nervous and psychic deterioration. In thus regarding morphinism as a nervous and psychic disease picture, I do not for a moment lose sight of local organic disturbances, or belittle the therapeutic measures taken by Dr. Bishop and others for their correction. It is certainly essential that therapeusis shall be instituted for the direct correction of such disturbances. Yet the fact remains that back of all such disorders, whether secretory, trophic or cardiovascular, there exists a deranged nervous system, the great etiologic factor in their causation.

The sensations streaming into consciousness from the various organs of the body normally function without the individual being aware of the process. It is when this metabolic equilibrium is upset or disturbed that the individual becomes cognizant, through discomfort or pain, of his normally unconsciously performed bodily processes. By locking up the secretions and otherwise interfering with the normal metabolic action of the organs, including the nervous system and brain, morphin induces a disturbed or painful cenesthesia—a sense of general bodily discomfort—which may become unbearable. In order to maintain a sense of well-being against the cumulative toxic effects occasioning this bodily and mental discomfort, the dosage must be gradually increased. The time comes in the majority of cases when no dosage is sufficient to produce the desired effects. All the while the patient is losing resistance; he is becoming habituated to the shutting out of all painful sensations or impressions whether in the physical or psychic realm. Thus is brought about that character deterioration which is always seen in the drug addict and which varies according to the individual's original fiber. The higher mental qualities constituting character regain their former vigor only after a lengthy absence from the drug, and when complete organic rehabilitation has taken place. This delayed character (will-power, proper ethical valuations, etc.) reestablishment is to my mind the main factor in the causation of relapses.

In dealing with the mechanism of relapse, the important bearing of the vicious mental processes which have been established during addiction must be taken into account. The patient is, as it were, under the yoke of his associative memory processes. His habitual reaction to pain or fatigue or mental stress has been resort to his drug. He has, in reality, established a sort of pain—morphin reaction, paralyzing, thereby, his natural resistive resources. From this associative process it is extremely difficult for the patient to release himself. Long after bodily health has apparently been reestablished, when physical stress (digestive, cardiovascular, conditions of fatigue, etc.) or mental strain arises, he is likely to react automatically, instinctively, as it were, with no volition whatever in the matter, in resort to his drug.

C. C. Wholey, M.D., Pittsburgh, Pa.

Restatement of the Position of Meigs on the Behavior of Muscle

To the Editor:—In my recent article on the colloid-chemical theory of water absorption in The Journal, Feb. 1, 1913, p 348, I say that "Meigs has himself now given up his original osmotic notions regarding the behavior of muscle." This is only half true, for in a letter just received Dr. Meigs informs me that he does still believe that "striated muscle fibers are surrounded by semipermeable membranes," and that "smooth and striated muscle differs in this very point," the smooth muscle acting purely colloidally.

This correction is made in order to express the views of Meigs more accurately. It does not of course alter my own opinion in the matter, which, while it loses in part the support of Meigs, runs parallel to that of F. Hofmeister, N. R. Proctor, von Fürth and Lenk and Wolfgang Pauli.

Martin H. Fischer, M.D., Cincinnati.

Queries and Minor Notes

Anonymous Communications will not be noticed. Every letter must contain the writer's name and address, but these will be omitted, on request.

DERIVATION OF FAT IN THE STOOLS FROM THE FOOD INTAKE

To the Editor:—In the *British Medical Journal* (Nov. 9, 1912, p. 1281), Williams reports the finding of saturated fat and fatty acid in intestinal concretions, intestinal sand and appendix concretions, and refers to the case of Mr. Paul in which brownish-red granules containing fat in large quantities were found in the biliary passages. He implies that the intestine excretes fat from the blood. Is there any scientific foundation for this opinion? S. L. B.

Answer.—The occurrence of true intestinal concretions consisting largely of fat or fatty material is so unusual or problematic that the current text-books have little or nothing to say on this subject. Many years ago Robiquet and Lassaigne reported analyses of concretions which indicated 60 and 74 per cent. of "fat," respectively (see Gorup-Besanez, E. F., Lehrbuch der physiologischen Chemie, 1867, p. 505). These data were obtained at a time when the expression "fat" represented the crude ether extract which might well have included numerous contaminating substances other than fat itself. The steatorrhea mentioned in our editorial column ("A New Inborn Error of Nutrition," The Journal, March 1, 1913, p. 668) and the lumps of soap sometimes passed after the ingestion of olive oil are not due to a true excretion of fat through the intestinal wall from the blood or tissue itself. We are not aware that any justification whatever exists for the type of excretion to which our correspondent refers, although Williams has lately described concretions rich in calcium soaps and found in the appendix and elsewhere which he suggests are due to the abnormal excretion of these soaps or allied compounds by the mucous membrane. His evidence for the origin of such concretions in the intestinal mucosa is, however, most indirect and far from convincing. From the investigations of Mendel and others it is known that calcium is excreted by the bowel; and this fact is sufficient to account for the precipitation (as calcium soaps) of any fatty acids with which the alkali earth may come in contact in the lumen of the intestine. The production of fatty masses in the degenerative changes in cells lining the intestine can scarcely be referred to as a secretion of fat into the bowel. Fat and its derivatives in the stools are derived, in ultimate analysis, from the food intake. Fat-like substances soluble in ether and represented by cholesterol, etc., may, however, be derived from the alimentary secretions and find their way into concretions.

EFFECT OF PASTEURIZATION ON BACTERIA IN MILK

To the Editor:—I enclose a copy of a recent report of the Milk Commission of the Chicago Medical Society in which occurs the statement that "the commercial pasteurization, while sufficient to destroy ordinary milk bacteria, does not kill the tubercle bacillus." Please inform one desirous of knowing the facts whether this statement is true. D. L. K.

Answer.—If the expression "commercial pasteurization" in the report referred to is intended to mean a method of heating which does not kill the tubercle bacillus—which is not real pasteurization at all—it simply prejudges the whole question and there is nothing more to be said. If, on the other hand, it has the meaning plainly attaching to the words and relates to pasteurization on a large scale under commercial conditions, the statement is not correct. Experiments have shown that the tubercle bacillus is killed by exposure at 71 C. (160 F.) for one minute; or if the holding type of pasteurizer be used, a temperature of 63 C. (145 F.) for from thirty to forty-five minutes will suffice. Well-known types of pasteurizing machines which will fulfil one or the other of these conditions are in practical daily use in large cities in this country. The report referred to is erroneous in another particular—namely, in its statement about the destruction of "ordinary milk bacteria." The well-known work of Ayers and Johnson showed that commercially pasteurized milk always sours through the development of lactic acid bacilli, which survive the heating process. Some of these lactic acid bacteria, which we suppose to be meant by "ordinary milk bacteria," have a higher thermal death-point than the tubercle bacillus.

CORRECT MEDICATION

To the Editor:—After reading the article "Bad Medication" (The Journal, Jan. 25, 1913, p. 280), I would like to know where I can obtain a book which will give me, along with other things, the action and dosage of drugs, how often to repeat the dose and the length of time after administration it requires for each drug to begin to act. S. E. Jones, M.D., Lucerne, Ind.

Answer.—Unfortunately, there seems to be no book which will give these data for every drug. It depends on the object to be gained and the nature of the disease for which we are prescribing. Obviously, if we were giving strychnin as an ordinary tonic, we would give it not more than three times daily. If we wish to get its effect on the respiration, we might find it necessary to use doses once in three or four hours. The U. S. Pharmacopeia, the "Physicians' Manual of the U. S. Pharmacopeia," the National Formulary, the "Handbook of Therapy" and Osborne's "Materia Medica and Pharmacology," 1906, will give a great deal of information and many valuable hints on these matters. Of course, a modern work on pharmacology should be consulted, which will describe the action of drugs and their therapeutic uses.

TEST FOR UROCHROMOGEN IN URINE

To the Editor:—Please inform me how the test for urochromogen in urine is made. According to the abstract of the article by Weisz, The Journal, Feb. 8, 1913, p. 485, "the urochromogen test is applied to urine diluted to one-third and separated into two equal portions. To each half is added three drops of a 1 per thousand solution of permanganate, and the tint is compared with the untreated half. A pure distinct yellow is the positive reaction." I want to make this test, but cannot do so according to these directions. Samuel P. Hand, M.D., Demopolis, Ala.

Answer.—Instead of "to each half," the directions should read "To one-half are added three drops," etc. The directions in full are: "Fill a test-tube to one-third with the clear fresh urine; then dilute it three times (*hierauf wird dreimal verdünnt*) and separate into halves. Add to one half three drops of 1:1,000 solution of potassium permanganate; mix thoroughly and compare with the other half."

A REQUEST FOR HISTORY AND CASE-RECORD BLANKS OR CARDS

To the Editor:—I am endeavoring to get a history and case-record card. Please give me your idea of a good card of this kind. My idea is to have history, clinical record, diagnosis, treatment and all analyses on same card. F. G.

Answer.—Other correspondents occasionally ask similar questions. It will be appreciated if our readers will send us two specimens each of any cards and blanks of this sort which they are using. We also would be glad to know the source of the card, that is, whether a stock card from some firm, or a specially printed card by some local printer. It may be that from all these various cards we can arrange a card with the good features of all, which can be recommended to physicians interested.

SIGNIFICANCE OF THE STROKE ACROSS THE R AT THE HEAD OF A PRESCRIPTION

To the Editor:—Will you kindly tell a reader of The Journal the significance of the line across the tail of the ℞ on our prescription blanks? I think that the R means recipe, but what means the line? C. E. Ristine, M.D., Knoxville, Tenn.

Answer.—Bernard Fantus in his "Prescription Writing and Pharmacy" says that the upward stroke at the end of the ℞ standing for recipe is believed to have originated in the astronomic sign of the planet Jupiter, which was formerly put at the head of prescriptions to symbolize a prayer to the deity for divine blessing on the remedy ordered.

TECHNIC OF MANUFACTURE OF ACETYLSALICYLIC ACID

To the Editor:—Please give the technic of the manufacture of acetylsalicylic acid, or refer me to some book which will deal with this subject completely. Frank H. Bent, M.D., Wallace, Neb.

Answer.—The process for the manufacture of acetylsalicylic acid (aspirin) is described on page 41 of New and Nonofficial Remedies, 1913.

Society Proceedings

COMING MEETINGS

Medical Society of the Missouri Valley, Kansas City, March 20-21.
Mississippi State Medical Association, Vicksburg, April 8-10.
Tennessee State Medical Association, Nashville, April 8-10.

CONFERENCE OF THE AMERICAN MEDICAL ASSOCIATION ON MEDICAL EDUCATION AND MEDICAL LEGISLATION

Held in Chicago, Feb. 24-25, 1913

The Ninth Annual Conference of the Council on Medical Education of the American Medical Association was held at the Congress Hotel, Chicago, Monday, February 24, followed on Tuesday by the Conference on Medical Legislation.

The Monday session was presided over by Dr. Arthur Dean Bevan of Chicago, whose opening address (in abstract) was as follows:

Third Classification of Medical Colleges

The classification of medical colleges of the United States is the most complete classification that has so far been made. It is the result practically of eight years of work. In this classification the schools have been divided into Class A plus, Class A, Class B and Class C. The Class A plus schools are the well-organized medical schools giving acceptable courses. In addition, they have already placed themselves on higher preliminary requirements, requiring one year or more of university science. In that group there are twenty-four schools. The Class A group are also acceptable schools. The Council would like to submit to each school that desires it a specific statement of the reasons for its classification. The Class B group are schools which require a considerable general improvement in order to be made acceptable. The Class C schools are schools which the Council regards in a group which would require complete reorganization to make them acceptable.

There are altogether now a little over 100 medical schools in the United States. When this Conference began its work there were 166. A number of the schools on this list have by merger or otherwise ceased to exist within the last year or will discontinue before the opening of the next session, making in all about 100 schools. Twenty-eight of the state boards are now refusing recognition to between twenty-five and thirty of these 100 schools. It is fair to suppose that somewhere in the neighborhood of seventy of these schools will continue to exist and will develop and grow stronger year after year, and that the majority of the twenty or thirty schools on the list will by merger or otherwise discontinue.

Since 1905 such great improvements have been made by the medical colleges of the United States that about sixty of the schools that will probably continue to teach medicine and develop and grow strong have agreed to adopt a year of physics, chemistry and biology. We have evidence to show that a large number of the better schools have recognized the importance of the intern year in a hospital, and some recent statistics which we have collected show this rather interesting fact. We have written to these different schools, asking them to give us the number of graduates in the last class who obtained hospital positions. The reports are not all in, but the situation is most encouraging. Out of a total of 956 in last year's graduating class in the seventy better schools, about 70 per cent. have received hospital internships. We are in much the same position as the United States was a number of years ago when there was a discussion on the resumption of specie payment; so much has been accomplished that practically the only thing necessary is for the 75 per cent. of the better schools to resume, to place themselves on the plane of the premedical year of science and of the hospital internship. With the assistance of the Association of American Medical Colleges and the Federation of State Boards, it now seems necessary to do but one thing, and that is to cooperate in this movement with the Council, so that within a short time we may accomplish what we set out to in 1905.

In regard to the schools of the South, Dr. Colwell, Dr. Witherspoon and I visited Augusta, Ga., during this winter. The community there realized the importance of the development of a strong medical school. The medical school succeeded in convincing the people of Augusta and of the state of the importance of supporting a high-grade medical school. They succeeded in having the city turn the hospital over to the medical school, so that now a city hospital is being built on the grounds of the medical school. It has placed a dispensary under the control of the medical school; the city health department work is placed under the control of the medical school, and the governor of the state, the mayor of the city and the important people of the community were back of this movement to develop a strong medical school in that community. They have succeeded in securing two kinds of instructors for the first two years of instruction, and they have definitely agreed to accept this science requirement and the clinical intern year by 1914. The same thing is happening in South Carolina.

Improvement in Medical Schools

Dr. N. P. Colwell: In 1904 there were 166 medical schools, which was nearly one-half of the world's supply of medical colleges. The decrease since that time has been gradual. Since 1907, when the first classification of medical colleges was made, the decrease began rapidly through the disappearance of the commercial medical colleges. These have largely gone out of existence. The number of other schools has been decreased largely through the merger of several small schools in different localities into one stronger medical school, as, for instance, in Louisville, where five medical colleges were merged into one. The same thing has occurred in Indiana, Minnesota, Iowa and a number of other states. The decrease in the number of medical colleges has not been to the detriment of medical education, but has resulted in giving medical students better opportunities. It has brought about fewer but better medical schools.

In 1900 there was but one medical school requiring any education above a high-school course, and conditions remained about the same until 1904, since which time there has been an increase through agitation and indication of the need of these higher preliminary requirements, so that now there are in the neighborhood of sixty medical schools which are exacting a high preliminary requirement.

Six states have gone beyond the Council's minimum requirement of entrance and have gone to the second-year requirement rather than one. There are ten which have gone on to one or two years of college work for their requirement with the adoption of the five-year medical course, including the preliminary year in physics, chemistry and biology. North Carolina has adopted the standard of entrance requirements of the University of North Carolina. The prospects in the South are excellent and it is only a few years when the South will be equal to the North at the rate the South is now progressing.

The European Side of Medical Education

Mr. Abraham Flexner of the General Education Board, New York City, contributed a paper on this subject, which was read by Dr. George Dock, in the absence of the author.

Among other things, Mr. Flexner said: France and England enjoy certain highly important advantages over us. From them we can at least learn that a hospital is enormously strengthened by an intimate relationship with a medical school and that the free movement of well-trained medical students in its wards is an unmixed advantage to the patient, to the staff, to the student and to medical science itself. The clinical clerk who embodies this relationship is, however, now in a fair way to acceptance in this country. The clerkship was introduced into America by Dr. Osler at the opening of the Johns Hopkins Medical School, and it is being extended as rapidly as conditions permit. It is no exaggeration to say that Germany has no more important contribution to make to us than is represented by this idea, which we have taken from England and France. With this brief reference, the fuller exposition of which would require a separate paper, I shall now turn to my topic in its limited form, namely, the German side of medical education.

A few of the striking features of German medical education are generally understood and appreciated in America; notably the opportunities for research on the part of advanced students and the value of the assistantship in the laboratories and clinics. It is nevertheless surprising how inadequately many of those who have studied in Germany grasp the sources of German strength in the field of medical education, the actual details of its organization, and its failures and defects. Equal vagueness prevails as to the precise extent to which the German system is transferable to us or as to how far its transfer is desirable.

The going to Germany of American students will be construed by laymen to mean that they find something there which is not found with equal ease and in equal abundance in the medical schools of their own land. To what is this superiority, if such it be, due? I attribute it to the fact that a wise and powerful government has drawn a sharp line below which no medical school can live. The German medical faculties are not all equally strong, equally varied, equally resourceful. Their laboratories differ in size, in modernity, in productivity and in efficiency. The German clinics vary in the extent of differentiation, in the number of beds, and in the adequacy and efficiency of their laboratory attachments. In respect to educational standards reached by its students, in respect to the intelligence and capacity of its teachers, and in respect to laboratory and clinical facilities, every medical school in Germany far surpasses what any state in America lays down as the minimum requirements. No boy is permitted to begin the study of medicine in Germany until he has passed through a serious secondary school training covering nine years.

The medical curriculum in Germany practically falls into three unequal divisions. The first comprises physics, chemistry and biology, and is in my judgment treated in a stepmotherly way. The work occupies the first semesters in the university, during which adequate time and at times adequate equipment for sound teaching are lacking. The second division includes anatomy, physiology, pharmacology, pathology and legal medicine. The facilities for teaching and investigation in all these branches are excellent. The third division of the German curriculum is devoted to the clinical branches.

The German medical profession respects, as the American medical profession does not respect, the teacher of medicine. Very properly, the Germans hold that medical teaching is a profession not identical with medical practice. They therefore allow the universities to select their teachers of medicine and surgery where and as they please, and they do not dream of contesting or sharing hospital privileges with these men.

DISCUSSION

Dr. George Dock, St. Louis: Mr. Flexner has called our attention to the imperfect preparation of medical students. Every one realizes this. The question arises, have we as medical educators done enough to overcome this lax preparation in the secondary schools? I think we can do some more. It is a well-known fact that the ideal of study in the secondary schools and colleges is not exactly the one that scholars hold. I think it can be said, without any great risk of contradiction, that the chief idea of the American youth is to learn life, to learn men, and many of them when they go to college frankly admit they do not like to learn philosophy, logic, grammar, mathematics or biology, but to learn life, to learn manners, to learn how to get along, and how to manage other men. I dare say, the method of learning life in the fraternity and on the athletic field has had not a little to do with the great success of many Americans in the practical lines of life. Does it prepare for the profession of medicine? It does not do so, for the profession of medicine requires the most strenuous preparation. From what I have seen of German medical students I believe that everything Mr. Flexner has said is true. They have better-disciplined minds. What they have studied they know better than our men, and for that reason they can take advantage of the medical course better than our students can. Cannot we do more in medical schools in seeing that the preparation of medical students has been carried out in a more fitting way? The men that come from a great many of the colleges and preparatory schools are imperfectly trained in the science of study, in the ability to write and understand and reproduce anything they have read in their own language. We have in some schools and colleges and universities a list of those schools that are supposed to be in good standing, but we all know that many students come from these institutions that are not at all fitted to study medicine. Would it not be possible to blacklist these schools and refuse them recognition when we find that students coming from them are so badly unprepared? It seems to me that something of that kind might be possible.

As to the migration of students from one school to another, I take it that the German medical student does not migrate for the purpose of going to a school or place where there are good courses given, but for the purpose of working with certain men. Sometimes he migrates for social or climatic purposes, but as a rule he migrates to undertake particular kinds of work with particular men. In this country, where the whole course must be extended over nine months, one must give one's entire time to the different courses of study in order to receive any credit, and it is practically impossible to do anything of that kind. For instance, no one could attend a great course in pathology or any other branch in this country without being penalized. Along with our long courses we have another serious handicap as compared with the German students. In Germany they have incentives for work which we fail to have in this country, and so I strongly suspect a certain amount of routinism or bureaucratism is liable to creep in. In Germany students have to take courses they do not care for.

Dr. W. B. Cannon, Boston: I have been impressed by what Mr. Flexner has reported with reference to the spontaneous work which medical students do in Germany throughout the course. There are in the better schools in this country two factors which work against this exhibition of spontaneity on the part of students. In the first place, in schools which require a college degree for entrance, there is a long period of receptivity. The men have to go through four years of college work in which they receive little stimulus for independent work, and then they enter a medical school and have four years more of similar training. Another factor which is unfavorable to the development of this spontaneity is the fact that the medical curriculum is a rigid one. At Harvard University we have felt the need of introducing a certain amount of flexibility in the curriculum, and in order to do that we have instituted two general examinations as a means of passing through the schools. One general examination takes place at the end of the second year, after two years of laboratory work, the other at the end of the fourth year. The student during the first two years can take his own pace. If he does not care to go so fast as other students he can make up that work any time he cares to do so during the first two years. If he becomes interested in some particular subject, he can drop out and work on that particular subject and make up routine work during the remainder of the first two years. If he cares to utilize the summer for special work, which would lead either to the development of special work or to a better acquaintance with some phases of the medical sciences that he would like to follow, then he can do that. We hope by means of thus loosening the rigidity of the medical curriculum to introduce into American medical education some of the spontaneity, some of this expression of individual interest which the German system has so well developed.

Dr. Abraham Jacobi, New York: As far as students are concerned, I think they do quite well in this country, although there may not be so much freedom of action as has been stated, which, however, they are beginning to exercise at Harvard. I think Dr. Eliot made a grave mistake when he allowed young men to select whatever they wanted to study. We should not go too far in that direction. When a young man has lost sight of a subject which he ought to know in the future, he will never study it so easily and earnestly as if he had stuck to it from the beginning. We must take the honey from where it comes, and enjoy it, but we must never forget that we are Americans and not Europeans. We have American boys and not European boys to deal with, and they want different treatment very frequently.

(To be continued)

Medical Education and State Boards of Registration

COMING EXAMINATIONS

Connecticut: Regular, City Hall, New Haven, March 11. Sec., Dr. Charles A. Tuttle, 196 York St.; Homeopathic, New Haven, March 11. Sec., Dr. Edwin C. M. Hall, 82 Grand Ave.; Eclectic, New Haven, March 11. Sec., Dr. Thomas S. Hodge, 19 Main St., Torrington.

Iowa: Lincoln School Building, Des Moines, March 4-6. Sec., Dr. Guilford H. Sumner, State House.

Maine: City Hall, Portland, March 11-12. Sec., Dr. Frank W. Searle, 776 Congress Street.

Massachusetts: State House, Boston, March 11-13. Sec., Dr. Edwin B. Harvey, Room 159, State House.

Wyoming: State House, Cheyenne, March 5-7. Sec., Dr. A. B. Tonkin, Riverton.

Reorganization of the Medical Faculty of the University of Minnesota

Reorganized and condensed with the sole idea of obtaining a more dynamic system of teaching, the faculty of the medical school of the University of Minnesota will begin working on an entirely new basis next fall. The faculty list, compiled after a month of consultation and work by President George E. Vincent of the university, Dean F. F. Wesbrook of the medical school and a committee of faculty members and physicians, has been approved by the board of regents. The present faculty all voluntarily resigned in order to make the reorganization possible, but will continue until the close of the present school year.

Under the reorganization, it is stated, there will be eight departments in the medical school with one professor at the head of each. Under each department will be divisions with associate professors in charge. The reorganization consisted in:

1. Abolishing the title of clinical professor and instructor.
2. Reducing the number of men engaged in clinical work from 120 to 77.
3. Appointing several professors as emeritus professors.
4. Combining several departments under one head.
5. Abolishing the department of chemistry as a department of the medical school.
6. Creating the position of assistant to the dean and secretary to the administrative board.
7. Organizing an administrative board consisting of the dean, heads of departments and the superintendent of the university hospital.

Not all the heads of departments have been appointed yet, the positions being left open so that the dean and the president can work out the best possible teaching system. The heads of departments thus far chosen are: dean of the school, Dr. Frank F. Wesbrook; department of pathology, Dr. H. E. Robertson, associate professor, acting head in charge; department of public health and bacteriology, Dr. F. F. Wesbrook; department of medicine, Dr. Charles Lyman Greene; department of obstetrics, Dr. Jennings C. Litzenberg; department of surgery, Dr. James E. Moore.

Dr. Thomas G. Lee, who has been head of the department of anatomy, will be professor of embryology and of comparative surgery. Dr. Richard Olding Beard, former head of the department of physiology, is to be assistant to the dean.

Under the department of medicine will be the divisions of mental and nervous diseases, with Dr. Arthur S. Hamilton in charge, and the division of pediatrics, with Dr. J. P. Sedgwick in charge.

Under the department of surgery will be the eye, ear, nose and throat division, with Dr. Frank C. Todd in charge, and the division of orthopedia, with Dr. Arthur J. Gillette in charge. No chief of the division of dermatology and genitourinary diseases has yet been appointed.

This thorough reorganization of the medical faculty at the University of Minnesota is an example of what is needed in many other medical schools in this country. It is a step that could not have been taken a few years ago because then the dropping of certain members from a medical faculty would have meant the formation of another medical school. That it is possible now is a clear evidence of the public demand for better-trained physicians—a demand that will not tolerate the formation of new colleges, but asks for the further improvement of those now in existence.

Massachusetts November Report

Dr. Edwin B. Harvey, secretary of the Massachusetts Board of Registration in Medicine, reports the written, oral and practical examination held at the State House, Boston, Nov. 12-14, 1912. The number of subjects examined in was 13; total number of questions asked, 70; percentage required to pass, 75. The total number of candidates examined was 75, of whom 57 passed including 5 non-graduates and 4 osteopaths, and 18 failed including 4 non-graduates and 5 osteopaths. The following colleges were represented:

PASSED

College	Year Grad.	Per Cent.
Howard University, Washington, D. C.	(1912)	79.8
Kansas Medical College	(1903)	76.6
Hospital College of Medicine, Louisville	(1904)	81.1
Medical School of Maine	(1910) 75.5; (1911)	78.7
Johns Hopkins University	(1911)	84
Maryland Medical College	(1910) 75; (1912)	75
Baltimore Medical College	(1902)	77.9
Tufts College Medical School (1909) 77.3, 81.1; (1910) 77.9; (1911) 78, 79.5, 80.7, 83.1, 85; (1912) 75.8, 75.9, 76.6, 79.2, 79.8, 81.4, 81.8, 82.2, 83.		
Harvard Medical School (1882) 78.7; (1895) 90; (1910) 78.7; (1911) 78.5, 81.9, 82.1; (1912) 75.		
College of Physicians and Surgeons, Boston (1908) 75; (1910) 84.3; (1912) 75, 75.		
Dartmouth Medical School	(1911)	83.2
University and Bellevue Hospital Medical College	(1911)	80.4
University of Pennsylvania	(1912)	83.2
University of Vermont	(1909) 75; (1911)	76
Queen's University, Kingston, Ontario	(1910)	82.4
Laval University, Quebec	(1911)	75
McGill University, Montreal, Quebec	(1912)	80.5
University of Edinburgh, Scotland	(1909)	79.7
University of Würzburg, Germany	(1898)	75
University of Dorpat, Russia	(1887)	75
Non-graduates		75, 75.5, 78.7, 83.5, 85.7

FAILED

College	Year Grad.	Per Cent.
Howard University, Washington, D. C	(1904)	67.1
National Medical University, Chicago	(1909)	44.5
Medical School of Maine	(1891)	58.7
Maryland Medical College	(1912)	67.4
College of Physicians and Surgeons, Boston	(1910)	65.6
University of Vermont	(1912)	63.7
Laval University, Montreal, Quebec	(1912)	71
University of Athens, Greece	(1898)	9.5
University of Naples, Italy	(1907)	*
Non-graduates		62.1, 68.8, 71.4, 71.9

* Caught cheating.

New Hampshire December Report

Mr. H. C. Morrison, Regent of the New Hampshire State Board of Medical Examiners, reports the written examination held at Concord, Dec. 17-18, 1912. The number of subjects examined in was 7; total number of questions asked, 70; percentage required to pass, 75. The total number of candidates examined was 10, of whom 8 passed and 2 failed. Three candidates were licensed through reciprocity. The following colleges were represented:

PASSED

College	Year Grad.	Per Cent.
Kentucky School of Medicine	(1906)	78
Medical School of Maine	(1912)	80
Johns Hopkins University	(1911)	88
Tufts College Medical School	(1898) 82; (1908)	75
Boston University	(1912)	85
Dartmouth Medical School	(1911) 85; (1912)	79

FAILED

College	Year Grad.	Per Cent.
Maryland Medical College	(1912)	64
Dartmouth Medical School	(1910)	70

LICENSED THROUGH RECIPROCITY

College	Year Grad.	Reciprocity with.
Gross Medical College	(1902)	Vermont
Harvard Medical School	(1903)	N. Dakota
Jefferson Medical College	(1878)	N. Carolina

The Condition of the Mouth as a Cause of Disease.—In searching the body for a possible common source of infection the mouth cannot but arrest attention. In almost every human being it is germ-ridden, and it is capable of infecting the body, either locally, or *viâ* the intestinal tract.—C. Wynn Wirgman in *Clin. Jour.*

Book Notices

Pharmacology and Therapeutics for Students and Practitioners of Medicine. By Horatio C. Wood, Jr., M.D., Professor of Pharmacology and Therapeutics in the Medico Chirurgical College, Philadelphia. Cloth. Price, $4. Pp. 429, with illustrations. Philadelphia: J. B. Lippincott Company, 1912.

In preparing the new work on pharmacology and therapeutics, the author had in view the needs of the medical student, to whom the science of pharmacology is of value chiefly as affording a basis for practical therapeutics. For this reason the pharmacologic action is closely associated with the therapeutic uses of the various drugs, while the facts of materia medica are stated in separate sections, so that the book can be used in successive years as a text-book of materia medica and later as a text-book of pharmacology; if such a separation is deemed desirable. The arrangement is intended to follow as nearly as possible the classification based on therapeutic uses. This leads to some strange associations; for instance, we find the compounds of bismuth and cerium oxalate classified as counterirritants and set between cantharides and chromic acid. The critical judgment of the author as a student of pharmacology is shown in the practical rejection of a number of drugs, formerly in use, on the ground of lack of therapeutic effect. Among these may be mentioned lithium, cerium oxalate, triticum, senega and others.

An important feature of the work is the introduction of general articles describing such methods of treatment as treatment of acute bronchitis, practical anesthesia, treatment of chronic heart disease, etc. A brief mention is made of some of the well-established proprietaries such as the substitutes for cocain, the proprietary hypnotics, etc. The book is well adapted to the use of the student and teacher of pharmacology and therapeutics.

An Introduction to the Study of Infection and Immunity. Including Chapters on Serum Therapy, Vaccine Therapy, Chemotherapy and Serum Diagnosis for Students and Practitioners. By Charles E. Simon, B.A., M.D., Professor of Clinical Pathology at the College of Physicians and Surgeons, Baltimore. Cloth. Price, $3.25 net. Pp. 301, with illustrations. Philadelphia: Lea & Febiger, 1912.

The great importance of a knowledge of immunity to the practicing physician, and the multiplicity of the facts bearing on this subject derived from recent experimental and clinical work make a complete treatise on the new science opportune. That this work has found in Dr. Simon a competent author goes without saying. The subject has been systematically developed in such a way that the reader becomes gradually acquainted with the new conceptions and phenomena and their accompanying new terminology. The latter half of the volume is devoted to the practical consideration of immunity in various diseases. Good directions are given for the preparation and use of autogenous and other vaccines. The methods of diagnosis depending on immunity reactions are also discussed. The work thus possesses, in addition to the work of its theoretic explanations and discussions, an immediate practical value in that its possession makes it unnecessary for the practitioner to provide himself with a number of special technical laboratory manuals.

The Blood. A Guide to Its Examination and to the Diagnosis and Treatment of Its Diseases. By G. Lovell Gulland, M.A., B.Sc., M.D., Physician to the Royal Infirmary, Edinburgh, and Alexander Goodall, M.D., F.R.C.P.E., Lecturer on Physiology, Royal College of Physicians, Edinburgh. Cloth. Price, $5. Pp. 344, with 32 illustrations. New York: E. B. Treat & Co., 1912.

The present work endeavors to combine the results of laboratory work with that of clinical experience. It covers not only methods of diagnosis, but also pathology and treatment of the various diseases of the blood. In addition, the condition of the blood in other diseases receives a brief description. The authors have had much experience in teaching the subject, and the volume bids fair to be of great practical utility. The book is illustrated by a large number of colored plates showing with beautiful clearness the appearance of the blood in various conditions.

Forensic Medicine and Toxicology. By C. O. Hawthorne, M.D., Fellow of the Royal Faculty of Physicians and Surgeons of Glasgow. Cloth. Third Edition. Price, $1.70 net. Pp. 344. New York: Longmans, Green & Co., 1912.

This is a brief, concise statement covering the subjects of medical jurisprudence and toxicology together with a list of poisons and their antidotes and an outline of method of treatment of each. The book gives neither a bibliography nor a statement of cases illustrating the different points. It is merely a clear statement of what has been determined in the courts (particularly in the English courts) to be the law on the various medicolegal points that have heretofore arisen, and should prove convenient and satisfactory to the student, who will not be confused by a lengthy statement of more or less conflicting legal decisions on any question.

Mental Derangements in India. Their Symptoms and Treatment; Being a Handbook to the Theory and Practice of Mental Disease in India, Together with Notes Dealing with the Legal Aspect of Insanity and the Various Questions Likely to Arise Concerning It. By A. W. Overbeck-Wright, M.B., Ch.B., Med. Psych. Cert. Cloth. Price, 9 shillings net. Pp. 366. Calcutta: Thacker, Spink & Co., 1912.

From the title, one might expect to find this book peculiarly related to India. This, however, is not the case. Aside from some peculiarities in legal relations of insanity, it consists of a brief treatise on the theory and practical treatment of insanity.

Medicolegal

Practicing Medicine Without License Not a Continuing Offense

(State vs. Cotner (Kan.), 127 Pac. R. 1)

The Supreme Court of Kansas holds that the statute of that state providing that any person who shall practice medicine in the state without having received and recorded a certificate from the state board of registration and examination shall be deemed guilty of a misdemeanor, and on conviction thereof shall pay a fine of not less than $50 nor more than $200, does not create a continuing offense involving a general course of customary conduct, but penalizes each specific act of practice defined in the preceding section.

The court says that the act of that state, relating to medical registration and examination, is one of a series devoted to the conservation of the public health. Among them is the act creating boards of health, state and local, and conferring on them extensive powers and duties, the pure food law, acts relating to vital statistics, epidemics and quarantine, the analysis of food products, nuisances, water-supply and sewage, tuberculosis, and dangerous diseases, the pharmacy act, and some others. Several of these statutes make onerous requirements of the members of the medical profession in the interest, not of their patients for the time being, but of the public welfare; and it is a matter of general concern that the persons who are to be responsible for the discharge of these obligations should be known, and that their qualifications to render the public service demanded of them should be ascertained. Beyond this, the state is especially interested in the protection of sick people from empiricism and from charlatanry; from the quack who is ignorant of healing, and the faker who is an adept at swindling. Consequently the legislature has provided that any one proposing to practice medicine must apply to the state board of medical registration and examination for leave, prove his qualifications, obtain a certificate of authority, and register it in the county of his residence, before assuming the duties and exercising the privileges of a physician. Should he undertake to practice medicine without a certificate, he is guilty of a crime and liable to punishment.

The subject is of such moment and gravity, and the legislature has dealt with it so carefully and so seriously, that a plea that the taking out of a certificate had been inadvertently overlooked would be an affront. Unless he be of weak mind, whoever ignores the statute does so wilfully, and without any reason to expect acquiescence or toleration on the part of the authorities. Enforcement of the law is not left to private initiative or the prompting of mercenary motives. That duty is expressly enjoined on the secretary of the board of registration and examination, and all other law officers may be expected to cooperate, as in other cases of infractions of the criminal law. A prosecution is not a mere admonition to take out a certificate, or else desist from practice. Its purpose is punishment. Dilatoriness in the commencement of proceedings, to the extent that they may result in oppression, is not to be anticipated.

The statute has not remitted us to any general understanding of the meaning of the word "practice." By virtue of the legislative definition, to prescribe, for a fee, any drug for the relief of any disease of another person is to practice medicine. It is not necessary that this be done frequently, customarily, or habitually. One isolated instance is sufficient, and the penalty is affixed to each offense. The same is true of surgical operations and other specific acts denounced by the statute. Beside this, any fair consideration of the mischief which the legislature sought to remedy leads to the conclusion that the State Board of Medical Registration and Examination was not created for the simple purpose of attaching its badge to professional careers. The life, health and financial resources of individual men, women and children were to be protected from ignorance and imposture. Each act of unlicensed practice may be fraught with danger. Every repetition is a new peril, and, instead of applying to a continuous course of conduct, the statute specifies and condemns each impulse, to the very end that it may not unite with others in swelling a common stream of action. If the statute be drastic, because the offense may be committed against each patient practiced on, the fact may afford ground for amending the act.

When the defendant opened an office with a doctor's sign over the door, he established a place, the criminal consequence of which merely persisted. Any attempt to split up this persistence into distinct periods of time would be purely arbitrary. But there is nothing arbitrary in taking separate account of the separate cases of the different individuals treated by the defendant on a given date.

Current Medical Literature

AMERICAN

Titles marked with an asterisk (*) are abstracted below.

Albany (N. Y.) Medical Annals

February, XXXV, No. 2, pp. 63-124

1 *Exophthalmic Goiter and Perverted Thyroid Secretion; and Their Treatment with High-Frequency Electricity. W. G. Lewi, Albany.
2 Electricity in Uric-Acid Diathesis. E. A. Bartlett, Albany.
3 High-Frequency Current in Treatment of High Blood-Pressure. H. Van Rensselaer, Albany.
4 *General Treatment of High Blood-Pressure. S. L. Dawes, Albany.
5 *Clinical and Pathologic Report of a Case of Primary Malignant Disease of Pleura. H. S. Bernstein, Albany.

1. **Exophthalmic Goiter and Perverted Thyroid Secretion.**—In Lewi's opinion all cases of exophthalmic goiter and perverted thyroid secretion, excepting those due to definite tumors, degeneration or inflammation, are caused by a toxemia or irritation of the sympathetic nerve system. Treatment of such cases with high frequency electricity, he says, gives better and more permanent results than any other method of treatment, except where a resort to surgery is imperative. Such treatment has no effect on enlargement of the thyroid due to definite tumor or cyst, although the differentiation between enlargement due to a definite tumor, and colloidal enlargement is so difficult and uncertain in most cases that a resort to high frequency treatment, preliminary to operation, would be justifiable and conservative. In all cases of exophthalmic goiter and perverted thyroid secretion in which an operation is to be performed, Lewi says the patient should have, as a preliminary to operation, a course of high frequency treatment, to the end that the distressing symptoms, especially the tachycardia and nervousness, may be lessened if not altogether relieved and securing for the patient the best condition possible for surgical procedure.

4. Abstracted in The Journal, Aug. 3, 1912, p. 396.

5. **Malignant Disease of Pleura.**—Bernstein's case is that of a woman, aged 69. The family history was negative. Her past history was likewise negative, save for suspected "lung trouble" twelve years previously; from this condition, however, a good recovery had been made. The last illness dated back two months before she came under observation. The chief complaint was that of dyspnea on exertion, and neuralgic pains radiating from the left side of the chest. Walking up-hill or upstairs or walking too far was accompanied with palpitation of the heart and dyspnea. In addition, the patient had become irritable, and although she had kept her usual weight, there had been a marked loss in strength. Cough was absent. On Dec. 29, 1911, the first physical examination gave signs of fluid within the left chest. The temperature and pulse were normal. Thoracentesis yielded 12 ounces of a dark straw-colored fluid. A similar fluid was withdrawn on three subsequent occasions. There had been meanwhile no elevation of temperature and pulse.

Physical examination after the last tapping was as follows: Patient was emaciated, and of a sallow complexion. Respirations were rather rapid and superficial. The left chest was more prominent than the right and motionless. The right border of the heart extended one finger's breadth outside of the right sternal margin. The cardiac area was otherwise undeterminable. The apical sounds, however, were audible well within the mammary line. The left chest anteriorly was flat to the sixth rib. Breath and voice sounds were absent over this area. Posteriorly, dulness extended over the left chest. The respiratory sounds were transmitted, but faint; and the expiration was high-pitched and prolonged. Râles were absent. Over the lower half of the chest, whispered voice was to be heard and spoken voice possessed a nasal quality. Tactile fremitus was diminished. The respiratory sounds in the right chest were exaggerated and harsh. Other observations were negative.

Death came three and a half months after the onset of symptoms. The right pleural cavity had a few firm interlobar adhesions. Its surfaces were otherwise normally smooth, moist, and glistening. The left pleural cavity contained about two liters of a turbid straw-colored fluid with numerous flocculi. The surfaces were dull and lusterless. The parietal pleura was everywhere thickened, averaging 0.5 cm. on section. It was of a tough, leathery consistence and greyish in color, presenting a trabeculated appearance. Scattered about were discrete nodular thickenings, varying from 0.5 to 1 cm. in diameter. A few of these presented a cauliflower-like growth. They were more numerous on the diaphragmatic and on the anterior parietal pleura. One nodule, at the level of the second rib, anteriorly, extended to the visceral layer and into the lung, causing a marked puckering of the lung substance. The area of extension measured approximately 2 by 1.5 cm. The tumor on histologic examination was pronounced a lymph-endothelioma.

American Journal of Obstetrics and Diseases of Women and Children, York, Pa.

February, LXVII, No. 422, pp. 217-432

6 *When Is High Forceps Operation Justifiable? J. A. Harrar, New York.
7 *Application of Iodin to External and Internal Generative Organs of Women. J. W. Boveé, Washington, D. C.
8 Cesarean Section; Discussion of Twenty-One Cases. S. P. Warren, Portland, Maine.
9 Cesarean Section in Achondroplastic Dwarf. F. J. Taussig, St. Louis.
10 *Pulsations Observed in Primitive Cardiac Tube of Human Embryo in Second Week. W. F. Armann, Ritzville, Wash.
11 Infant Pulmotor: Apparatus for Artificial Respiration on Asphyxiated New-Born. J. C. Edgar, New York.
12 Diagnosis of Extra-Uterine Pregnancy. G. B. Miller, Washington, D. C.
13 Immediate Treatment of Depressed Fractures of Skull in New-Born. G. W. Kosmak, New York.
14 Gilliam Operation for Uterus Suspension. E. J. Ill, Newark, N. J.
15 *New Surgical Procedure for Retrodisplacements of Uterus. S. H. Buteau, Oakland, Cal.

16 Some Diagnostic Pitfalls in Abdominal Surgery. E. W. Hedges, Plainfield, N. J.
17 *How Does Laparotomy Cure Tuberculous Peritonitis? H. O. Pantzer, Indianapolis, Ind.
18 *Ureteral Injuries. H. E. Hayd, Buffalo.
19 *Metrorrhagia Due to Atheroma of Uterine Vessels. A. T. Jones, Providence, R. I.
20 *Indications and Technic in Gastric Resection and Gastro-Enterostomy. G. W. Crile, Cleveland.
21 Large Calcareous Fibroid with Absence of Ovaries and Uterine Ligaments. J. W. Poucher, Poughkeepsie, N. Y.
22 *Ileosigmoidostomy for Colonic Stasis. C. L. Bonifield, Cincinnati.
23 Uterus Septus with Hyperemesis Gravidarum, Interruption of Pregnancy at Three and One-Half Months, Followed by Peritonitis. W. Yates and P. F. Morse, Detroit, Mich.
24 *Stenosis of Pylorus in Infancy. J. W. Keefe, Providence, R. I.

6. **When is High Forceps Operation Justifiable?**—The high forceps operation is always considered a major operation by Harrar, one to be performed only by the trained obstetric operator. It is never to be selected before labor as the ultimate operation; in other words, it is not an elective operation. High forceps is preferable to version in the treatment of dystocia due to contracted pelvis. Before applying the forceps to the floating head, the operator must be assured that the head can be made to engage in the brim of the pelvis with suprapubic pressure properly directed. If in a contracted pelvis the head will not thus catch or bite in the brim, and if there is distinct overlapping, it is almost certain that it cannot safely be delivered with forceps, except with the aid of pubiotomy, and finally, situations do arise in which it is justifiable to apply forceps to the head above the brim: (1) In normal pelves, in delayed dry labor when interference becomes urgent on account of the condition of the mother or child; (2) in deformed pelves of medium degree, when it is possible, with one or two moderate pulls to draw the largest diameters of the head through the pelvic inlet.

7. Abstracted in THE JOURNAL, January 11, p. 151.

10. **Pulsations in Primitive Cardiac Tube.**—In a case of abortion occurring six weeks after the last menstruation an intact ovum as large as a hazelnut, of light gray color and with well-developed chorionic villi was secured by Armann. The sac was opened with a pair of scissors and he observed distinct pulsations in the primitive heart. The embryo was 2.5 mm. long and the yolk sac was distended and as large as a lentil. The well-marked rhythm of the heart was noteworthy and Armann was able to count ninety pulsations per minute. The cardiac tube was as large as the head of a pin and no auricle or ventricle could be determined. The contractile movement continued for at least fifteen minutes without interruption, but after this became less distinct, slower, more superficial and lasted only about five minutes longer before it disappeared entirely. The specimen was placed in alcohol and subsequently measured and compared with the plates in Kollman's embryology. It was found that the specimen corresponded in size to an embryo of about fourteen days, which agreed with the history given by the patient.

15. **Retrodisplacements of Uterus.**—Butean describes his operation as follows: After finishing all other work in the abdomen, pick up the round ligament with a small volsellum or forceps. Gentle traction will make the ligament taut and thus direct the finger to the internal abdominal ring. With the finger outlining the ring, the arched fibers of the transversalis muscle can readily be felt above. At this point, just above the tendon of the round ligament, a suture of whatever material determined on is introduced on a curved needle, from below upward, sufficiently deep to secure a good bite of the transversalis muscle. This suture is now anchored and will include peritoneum, transversalis fascia and muscle. External pressure over the internal ring will facilitate this step of the operation. The peritoneal coat of the distal end of the round ligament is now pierced and a continuous suture, subserous chiefly, is run parallel with the round ligament up to ¼ inch of its uterine attachment. The broad ligament is then pierced a short distance from the uterus beneath the ovarian ligament. This ligament may readily be included in the suture in such a way as to take up its slack, if prolapsus of the ovary is present. The needle is then made to enter the posterior wall of the uterus just beneath the serous coat, passing slightly downward and inward to the median line. This procedure is carried out in like manner on the opposite side. The two free ends of the suture are now tied with a single knot and sufficient tension is made to produce the degree of anteflexion required. The knot is now made secure.

17. **How Does Laparotomy Cure Tuberculous Peritonitis?**—It is suggested by Pantzer that the effects of a laparotomy for peritoneal tuberculosis must be associated with the active absorption, from the abdomen, of fluids engendered by the disease itself. He is inclined to regard such fluids found in the abdomen of these cases, as consisting of an autogenous tuberculin, associated or not, with antibodies.

18, 19, 20, 22 and 24. Abstracted in THE JOURNAL, Oct. 5, 1912, pp. 1316 and 1317.

American Journal of Public Health, New York

January, III, No. 1, pp. 1-100

25 Health Departments and Housing. C. B. Ball, Chicago.
26 Room Overcrowding and the Lodger Evil. L. Veiller, New York.
27 *Deaths from Tuberculosis in Fifth Ward (Philadelphia) During Period of Fort-Seven Years. F. A. Craig, Philadelphia.
28 The 37° Bacterial Count. G. C. Whipple, Washington, D. C.
29 Experiences with Stokes' Bile Media for Sending Cultures to Laboratories. J. P. Simonds, Galveston, Tex.
30 *Toxicity Studies with Coal-Tar Disinfectants. W. Hale, Washington, D. C.
31 Plague-Like Organism from Rat. J. F. Anderson and A. J. McLaughlin, Washington, D. C.
32 Limitations of Phenol Coefficient in Standardization of Disinfectants. E. B. Phelps, Boston.
33 Common House Roach as Carrier of Disease. R. C. Longfellow, Toledo, Ohio.
34 Bacteriologic Examination of Foods, with Special Reference to Gelatin. S. C. Prescott and C. A. Magoon.
35 Pathologic Dangers to Domestic Animals from Contaminated Streams. H. N. Parker, Champaign, Ill.
36 Methods Employed and Results Obtained in Improving Milk-Supply of Springfield, Mass. J. A. Gamble, Springfield, Mass.

27. **Deaths from Tuberculosis.**—Of the 2,248 deaths which Craig investigated, 353 or 15.7 per cent. of the total number, occurred within a period of four years following a previous death in the same house. This does not include the primary case, but only the subsequent cases. In other words, 15.7 per cent. of all the deaths in forty-seven years were possibly due to house infection. Of the 353 cases, 62 were apparently related. Of the 540 cases occurring in houses in which a previous death had occurred 65.3 per cent. of them came within the four-year period. During forty-seven years 14.4 per cent. of all the houses in the ward or 18.4 per cent. of all the houses in which a death from tuberculosis occurred contained 15.7 per cent. of all the deaths which could be possibly due to house infection or infection in the house. Of the 182 deaths in children, fifty-two or 28.6 per cent. occurred in a house in which a patient had died within a period of four years with tuberculosis. In twelve instances they appeared to be related to the previous case. In the children the highest percentage of deaths occurred in the same year, while in the adults in the following year. This Craig explains by the longer duration of disease in adults as compared to the children in which it runs a relatively rapid course. He concludes that a large percentage of the deaths from tuberculosis occurs in a relatively small percentage of the houses, and that in tuberculosis house infection must be considered as one of the most fruitful sources of infection, and should, therefore, be made the object point of any attack on the disease.

30. **Toxicity Studies with Coal Tar Disinfectants.**—Hale found that the coal tar disinfectants of the phenoloid group are considerably less toxic than either phenol or the cresols, but they are not harmless, non-poisonous substances and on an average have a toxicity equal to about 20 per cent. phenol. Manufacturers and retailers accordingly should be required to revise present labels and to designate such products as toxic by the use of suitable poison labels. Until this is done, Hale advises that physicians and health officials who recommend disinfection should warn the general public of the danger of such solutions and urge on it greater care in storage than is now common practice.

Archives of Pediatrics, New York

January, XXX, No. 1, pp. 1-80

37 *Inflammatory Affections of Nasal Accessory Sinuses in Children. S. Oppenheimer, New York.
38 Nervousness in Children: How to Prevent It. T. A. Williams, Washington, D. C.
39 Relation to and Influence on Respiration During Childhood of Normal and Abnormal Dental Arches. A. Zentler, New York.
40 Feeding in Relation to Teeth. G. C. Kusel, Philadelphia.
41 Dental Prophylaxis. P. B. McCullough, Philadelphia.
42 Relation Between Abnormal Breathing and Malocclusion. S. M. Weeks.

37. **Inflammatory Affections of Sinuses.**—It has been Oppenheimer's experience that in young children radical external operative procedures for the relief of purulent sinusitis are rarely indicated and are not as productive of satisfactory results as the more conservative intranasal procedures, and while the same may be said of older children, yet in such, when the sinuses approach the adult type, the same indications for treatment and the same operative procedures apply as in the adult.

Arizona Medical Journal, Phoenix

January, I, No. 3, pp. 1-77

43 Sanatorium Treatment of Tuberculosis. L. S. Peters and E. S. Bullock, Silver City, N. M.
44 Practical Significance of Diagnostic Tuberculin Reaction. W. C. Klotz, Douglas.
45 Tuberculosis: Disease of the Individual. W. W. Watkins, Phoenix.
46 Strabismus Question. H. H. Stark, El Paso, Tex.
47 Diagnosis and Treatment of Some Surgical Diseases of Stomach. C. P. Thomas, Los Angeles, Cal.
48 Physiologic Antidote to Phenol Poisoning. H. A. Reese, Bisbee.

Boston Medical and Surgical Journal

February 13, CLXVIII, No. 7, pp. 221-260

49 Diseases of Middle Ear and Mastoid Cells, Based on Study of 454 Autopsies and 2,232 Cases of Diphtheria, Scarlet Fever and Measles. C. B. C. Borden, Boston.
50 Diagnosis of Feeble-Mindedness Among Immigrants. J. G. Wilson, New York.
51 Persistent Mouth-Breathing Following Adenoidectomies. I. Sobotky, Boston.
52 Retrograde Catheterization in Ruptures of Urethra. C. G. Cumston, Boston.
53 Teeth and Their Relation to the Body. G. H. Wright, Boston.
54 Oral Prophylaxis. H. W. Adams, Boston.
55 Purpose of Forsyth Dental Infirmary. T. Leary, Boston.
56 Scientific, Economic and Social Program of Forsyth Dental Infirmary. H. D. Cross, Boston.
57 School Inspection and Dental Caries. W. J. Gallivan, Boston.

Bulletin of Johns Hopkins Hospital, Baltimore

February, XXIV, No. 264, pp. 33-68

58 *Spirochetosis. G. H. F. Nuttall, Baltimore.
59 *Hypophysis in Metabolism of Carbohydrates: Autonomic Control of Hypophysis Cerebri. L. H. Weed, H. Cushing and C. Jacobson, Boston.
60 *Induced Pneumothorax in Treatment of Pulmonary Disease. L. Hamman and M. F. Sloan, Baltimore.

58. **Spirochetosis.**—There are represented in the blood-inhabiting spirochetes of warm-blooded animals, says Nuttall, a group of microorganisms which, under natural conditions, are mainly conveyed by blood-sucking ectoparasites within which they undergo a process of development and in which they are hereditarily transmitted. Spirochetes are not specialized parasites. Infection may take place through the skin or mucous membrane to which the spirochetes gain access by being deposited thereon in the arthropod's dejecta or by the infested individual scratching or rubbing himself with hands which have become contaminated with the contents of the vermin which they have crushed. The lesions produced by the bites of the arthropods and the excoriations inflicted on the individual by himself greatly facilitate the entrance of the spirochetes.

59. **Hypophysis in Metabolism of Carbohydrates.**—From the results of the experiments cited by the authors it is fair to assume the existence of a nervous control on the part of the sympathetic system over one form at least of the secretory activities of the hypophysis. The particular function of the gland—and presumably of its posterior lobe—concerns the elaboration and discharge of a substance capable of evoking glycogenolysis. Provided there is a storage of glycogen available for discharge; a piqûre of the hypophysis in the rabbit is comparable, in its glycosuric response, to a piqûre of Bernard's so-called sugar center in the fourth ventricle. Stimulation of the superior cervical ganglion, by faradization or even by the manipulations necessary for its exposure, causes glycosuria in the rabbit, cat and dog. Stimulation of the superior cervical ganglion after separation of all synapses of the sympathetic system by administration of nicotin, causes glycosuria. Direct faradic stimulation of the hypophysis itself, after exposure by a transphenoidal operation, gives glycosuria even after preliminary transection of the spinal cord and cervical sympathetic trunks. If the posterior lobe of the hypophysis has previously been removed by operation the usual stimulation of the superior cervical ganglion fails to give glycosuria. Direct faradic stimulation of the hypophysis provokes glycosuria even after transection of the spinal cord above the splanchnics. A Bernard piqûre will likewise cause glycosuria even after transection of the spinal cord above the splanchnics. The authors conclude, therefore, that the hypophysis and more particularly its posterior lobe, plays a significant rôle in the metabolism of carbohydrates, and its action in this respect is under the control of fibers which reach the gland by way of the superior cervical sympathetic ganglion. Stimulation of this nervous pathway at the so-called sugar center in the fourth ventricle, at the superior cervical ganglion, and by excitation of the hypophysis itself, liberates a chemical substance which causes glycogenolysis and glycosuria, independent of any possible nervous impulse reaching the glycogen-holding cells of the muscles or abdominal viscera.

60. **Induced Pneumothorax in Pulmonary Disease.**—Induced pneumothorax is pronounced by the authors to be a harmless procedure and the operation, carefully performed, is without danger. In three out of twenty cases it was impossible to produce any pulmonary collapse owing to general pleural adhesions. Of sixteen cases in which pneumothorax was successfully produced, in but seven was the pneumothorax complete. Of nine cases with induced pneumothorax existing for four months or longer four have developed pleurisy with effusion. The pneumothorax has, in most instances, an immediate and striking influence on the cough and expectoration. Tubercle bacilli may disappear from the sputum. Constitutional symptoms abate more slowly. In most instances there is at first a loss in weight followed by a gradual rise. The total collapse of one lung causes surprisingly little inconvenience. Usually there is but slight dyspnea on exertion. Many of the patients with an induced pneumothorax assist actively in the work about the sanatorium. The procedure is of great value in the treatment of pulmonary hemorrhage. While they believe that induced pneumothorax will never become a routine method for the treatment of pulmonary tuberculosis, still in selected cases it offers a prospect of temporary and permanent relief when the usual methods of treatment have been unsuccessfully tried. Quiescent lesions in one lung with acute recrudescence in the other are the most favorable for the treatment. Its use need by no means be limited to strictly unilateral lesions, but when there is advanced disease of both lungs little benefit can be expected. It would seem advisable not to withhold the treatment until the patient is hopelessly advanced, but to apply it judiciously to suitable moderately advanced patients in whom the disease tends to progress in spite of appropriate treatment.

California State Journal of Medicine, San Francisco

February, XI, No. 2, pp. 39-96

61 Tonsils and Adenoids: Their Significance. G. H. Kress, Los Angeles.
62 Operative Treatment for Tic Douloureaux of Inferior Dental Nerve. C. G. Levison, San Francisco.
63 Some Factors in Habitual Constipation. R. Russ, San Francisco.
64 Feeding in Later Infancy. H. H. Yerington, San Francisco.
65 Dietetics from Modern Standpoint. A. W. Williams, Hayward.
66 Case of Lipectomy (Abdominal). H. E. Castle, San Francisco.
67 Case of Double Tubal Pregnancy. D. Hadden, Oakland.
68 Technic of Removal of Foreign Bodies and New Growths from Esophagus. W. P. Millspaugh, Los Angeles.

69 Prophylactic Measures for People Growing Blind in Later Life. S. Heller, Hohe Warte, Wien.
70 Gasserectomy. J. H. Barbat, San Francisco.

Canadian Medical Association Journal, Toronto

February, III, No. 2, pp. 87-166

71 *Diagnosis and Treatment of Subacute and Chronic Pancreatitis. E. Archibald and E. J. Mullally.
72 Nature of Surgical Shock and Its Treatment. W. Webster.
73 Medical Inspection of Schools. H. MacMurchy, Toronto.
74 Toxic Effects of Gasoline Fumes. J. G. Johnson, Montreal.

71. **Subacute and Chronic Pancreatitis.**—Many of the attacks of acute pain in the upper abdomen, which pass off in a few hours or a few days, are believed by the authors to be due to a subacute swelling of the pancreas, and are often set down vaguely as acute gastritis, or gastric fever, or gastric ulcer, or are allowed to go without diagnosis. They examined the records of thirty-two cases of pancreatitis, acute and chronic, all of which were proved by operation or by autopsy. Gall-stones were present in only thirteen; and in only four of these thirteen was the stone in the common duct. The analysis of the symptoms leads Archibald and Mullally to the conclusion that the diagnosis is frequently not especially difficult, not nearly so difficult, for instance, as in the very acute cases with hemorrhage and necrosis. Of eleven cases in Archibald's service it was possible in seven to establish a reasonably sure diagnosis before operation.

The feature of outstanding importance is usually pain in the upper abdomen, recurring at irregular intervals. The situation of the pain is nearly always in the mid-epigastrium. It was so in eighteen of the twenty-one cases, while in three it is set down as being in the right upper quadrant. The sufferer from a gall-stone attack, on the request to place his hand over the site of pain, usually indicates the region of the upper right rectus or further outwards; while the victim of pancreatic swelling will almost invariably put his hand directly in the mid-line, or sometimes a little to the left. This is true except during the extremely acute phase of hepatic colic, when the pain is so severe that it frequently occupies indiscriminately .the whole upper abdomen and cannot be referred to any one area in particular. But when the initial pain has somewhat subsided, the value of the localization indicated is considerable. Certain exceptions must be noted. Thus, the authors have been led into the error (chiefly by this sign) of diagnosing pancreatitis when the real lesion proved to be an acute interstitial cholecystitis, the gall-bladder occupying an unusual position close in toward the median line. The tenderness can frequently be elicited on the left side, as well as in the middle and a little to the right. It rarely extends more than 1 inch to the right, whereas in some cases, when the swelling affects the whole gland, the tenderness may be followed out nearly to the tail of the pancreas. The point of maximum tenderness is usually found to be exactly in the mid-line, from 1 to 2 inches above the umbilicus. Sometimes this maximum tenderness extends half an inch or an inch to the right, or an equal distance to the left. In the authors' opinion this is merely the result of the fact that the swelling of the pancreas occupies usually the head and isthmus of the gland, less often the tail, and also that in the mid-line the pancreas is nearest to the surface, and lies on the prominent bony bed of the vertebral bodies. While spontaneous pain referred to the epigastrium, being as it is of a subjective character, is notoriously of uncertain value in diagnosis, this sign of tenderness to pressure is of very much greater value, inasmuch as it is objective.

The radiation of pain has no regularity. The degree of pain is frequently characterized by its extraordinary severity. Its duration is very variable, being according to the severity of the attack. The recurrence of the attacks also varies widely. The incidence of pain in regard to the taking of food seems to be most uncertain. Like appendicitis, pancreatitis is typically relapsing. In five of these nineteen cases, the relapse ultimately took the form of the acute necrosing or hemorrhagic pancreatitis, ending in death. Chronic relapsing pancreatitis is therefore a dangerous disease, more dangerous certainly than appendicitis. The presence of palpable tumor is rare. The symptom of jaundice, in cases in which common duct stones are excluded, is of but moderate value in diagnosis. Vomiting is present as a rule; in three of the twenty-one cases it was absent. Rigidity is usually remarkable by its absence, or its slightness, except in the later stages of the more acute cases, when the peritoneum becomes involved. The treatment is surgical. A cholecystostomy is always indicated.

Cleveland Medical Journal

January, XII, No. 1, pp. 1-88

75 *Complement-Fixation Test in Gonorrhea. H. L. Rockwood, Cleveland.
76 *Present-Day Conceptions of Pathologic Physiology of Exophthalmic Goiter from Surgeon's Viewpoint. G. W. Crile, Cleveland.
77 Thyroid in Its Relation to Exophthalmic Goiter. D. Marine, Cleveland.
78 Vernal Conjunctivitis. R. B. Metz, Cleveland.
79 Actions of Caffein. P. J. Hanzlik, Cleveland.

75. **Complement Fixation in Gonorrhea.**—In a series of 193 tests a positive reaction for gonococcal antibodies was secured by Rockwood in no case in which the absence of a gonococcus infection was certain. Two cases in which a urethral infection had been present more than four weeks and in which the urethral discharge contained Gram-negative intracellular diplococci, at the time of test gave a negative reaction. In over 80 per cent. of cases in which the possibility of an active gonococcal infection was indicated, either by the bacteriologic findings or the history, the blood examination was positive. Of patients clinically cured over 80 per cent. gave a negative reaction, and in no case in which a negative reaction has been found has there been evidence of recurrence of the previous infection. In nearly all of the various clinical tests a certain amount of error is to be expected. The fixation test in gonorrhea is probably no exception. From the results obtained in this series of cases, however, it seems that this test has great value from a clinical standpoint.

76. **Surgical Aspects of Graves' Disease.**—Crile says that every case of Graves' disease should first be given rest, real psychic rest, diverting rest; and if not relieved then an early surgical operation will relieve or cure. If the operation is timely the result is almost certain; but, as in operations for cancer, if late, the result depends on the amount of preventable damage already done; surgery offers to forge one of the links, frequently an indispensable link, in the chain of cure.

Delaware State Medical Journal, Wilmington

January, IV, No. 2, pp. 1-26

80 Importance of Early Diagnosis and Prompt Action in Certain Conditions. G. I. McKelway, Dover.
81 Homeopathy: Past and Present. F. F. Pierson, Wilmington.

Illinois Medical Journal, Springfield

February, XXIII, No. 2, pp. 125-248

82 Goiter. C. H. Mayo, Rochester, Minn.
83 Plea for Improved Hygiene in Management of Surgical Tuberculosis. J. W. Pettit, Ottawa, Ill.
84 What Should Be Done with Tuberculous Puerperae and Their Children? C. S. Bacon, Chicago.
85 Examination of Employees for Tuberculosis. T. B. Sachs, Chicago.
86 Use of Tuberculin in Diagnosis and Treatment. W. H. Buhlig, Chicago.
87 *Inhalation Treatment: New Apparatus. .H. M. Thomas, Chicago.
88 Bronchial Asthma. J. M. Patton, Chicago.
89 Carcinoma of Uterus in Non-Pregnant and Pregnant. A. B. Keyes, Chicago.
90 *Treatment of Hemorrhoids. W. Van Hook, Chicago.
91 *Duodenal Ulcer. E. B. Cooley, Danville, Ill.
92 Epilepsy and Crime; the Cost. W. Healy, Chicago.

87. **Inhalation Treatment.**—The benefits which Thomas thinks are established as a reason for the general use of antiseptic nebulae in the treatment of the respiratory tract are: (1) The respiratory capacity is increased. (2) The catarrhal condition of the air-passages is diminished, thereby aiding a better introduction of air into the lungs. (3) The pulmonary passages are kept in an aseptic condition and the danger of new bacillary invasion minimized. (4) The marked relief of cough and dyspnea. (5) The alimentary tract is undisturbed by drugs, giving ample opportunity for the increase of

vital resistance by suitable diet and constitutional treatment. Thomas is convinced that the treatment by the inhalation of antiseptic nebulae is rational and practical, and therefore he has designed a new apparatus which safely combines steam, sterilized compressed air and definite drug medication for treatment of the respiratory passages.

90. **Treatment of Hemorrhoids.**—The simplest operative procedure for hemorrhoids in Van Hook's opinion consists in excising the masses by oval incisions, the axes of the incisions being parallel with the sphincter muscle. The muscle need not be injured. The incisions are carefully closed by many interrupted catgut sutures. A dressing of heavy zinc oxid ointment is applied.

91. Abstracted in The Journal, June 8, 1912, p. 1777.

Iowa State Medical Society Journal, Clinton

February, II, No. 8, pp. 519-624

93 Practical Applications of Labyrinthine Studies. E. R. Lewis, Dubuque.
94 Arteriosclerosis. J. F. Clarke, Fairfield.
95 Etiology and Pathology of Arteriosclerosis. B. L. Eiker, Leon.
96 *Use of Roentgen Ray in Diagnosis of Heart Disease. W. L. Bierring and T. A. Burcham, Des Moines.
97 Use and Comparison of Nasal Dressings. W. S. Windle, Oskaloosa.
98 Psychoneuroses and General Practitioner. F. G. Murphy, Sioux City.
99 *Subacute Combined Degeneration of Spinal Cord. C. Van Epps, Iowa City.
100 Office Business Methods. H. G. Langworthy, Dubuque.

96. **Roentgen Ray in Heart Disease.**—As a diagnostic aid, the authors have found that the Roentgen ray examination of the heart has a distinct value, but only as a supplement or adjunct to the other clinical methods of examination.

99. **Degeneration of Spinal Cord.**—Six cases have been studied by Van Epps. Two were women. The ages varied from 47 to 52 years. Only one had been an alcoholic and all gave no evidence of syphilis. In only one was there a family history of organic spinal cord trouble. Two of the patients were emaciated, three were fairly well nourished and one was well nourished. Diarrhea preceded or accompanied the nervous symptoms in four cases. The initial symptoms were numbness and tingling in the hands in two, in the feet in two cases and the others complained of persistent nausea, vomiting and gastric distress. The principal complaints were pain and weakness in the legs, staggering gait and bladder trouble. Of the three cases followed to death the duration was respectively 24, 26 and 36 months. Five were bed-ridden when first seen. Three developed in the latter half of the disease, marked mental symptoms, one being delirious at times, another became irritable with delusions and hallucinations and the third became confused, disobedient and untidy. The blood counts revealed a varied reduction in the reds ranging from 2,350,000 to 3,900,000, the whites from 4,400 to 9,200 and the hemoglobin from 37 to 56 per cent. by Sahli. In the two cases in which the morphology of the reds was noted moderate anisocytosis and poikilocytosis were found. The differential count of the whites revealed no marked variation. In four cases there was bladder trouble. In four cases the knee-jerks were increased and a Babinski was present in five. Sensory disturbances were present in five cases. Pallesthesia was most reduced, discrimination next, pain still less and tactile perception least of all. In two cases with complete loss of pallesthesia over the legs tactile perception was intact. Lumbar puncture in one case returned a normal cerebrospinal fluid. A post-mortem was obtained on the most typical case. Aside from the cord changes no definite pathology was found. The cord was removed up to the eighth cervical segment. The posterior lateral columns were involved throughout, most markedly in the mid-thoracic region. The principal change was a vacuolation due to destruction and absorption of the nerve fibers. This process was somewhat patchy and apparently began in the central portions of the columns referred to. A Marchi revealed a marked fat reaction showing the recent nature of the pathology. In the cervical cord the columns of Goll were involved in an ascending secondary degeneration. The blood-vessels were slightly distended. The meninges, anterior and posterior roots were normal. The cells of the anterior horns were normal but those of Clark's column were shrunken and indistinct. There was in no part evidence of an inflammatory reaction. The morbid anatomy suggests that the process is primarily a toxic destruction of the nerve fibers with secondary changes in related cells and tracts.

Journal of Cutaneous Diseases, New York

February, XXXI, No. 2, pp. 71-144

101 *Epithelioma of Lip. W. A. Pusey, Chicago.
102 Seborrhea of Lower Lip and Its Relationship to Epithelioma. D. W. Montgomery, San Francisco.
103 *Lingual and Oral Mucous Membrane Disturbances in Pernicious Anemia. F. Wise, New York.

101. **Epithelioma of Lip.**—Pusey is convinced, more than ever, that, used with attention to technic and with proper regard to their therapeutic indications the Roentgen ray is one of the most useful or the most useful single agent of treatment in the service of dermatology.

103. **Pernicious Anemia.**—Montgomery says that seborrheic lesions in their early stages almost always yield readily to treatment either with trichloracetic acid or with the Roentgen ray. Neglect of this seborrheic condition is deplorable, because attention to it may often prevent the occurrence of a cancer. And if a cancer has appeared, and has been removed by operation, attention to the seborrheic crusts may prevent a new one forming.

Kansas Medical Society Journal, Kansas City

February, XIII, No. 2, pp. 43-94

104 Tonsils and Adenoids. H. L. Scales, Hutchinson
105 Artificial Infant-Feeding. J. T. Scott, St. John.
106 Syphilis. M. K. Lindsey, Topeka.
107 Treatment of Lobar Pneumonia. N. Olsen, Clay Center.

Maine Medical Association Journal, Portland

February, III, No. 7, pp. 1175-1218

108 Present Status of Modern Obstetrics. E. Cragin, New York.
109 Obstetrics. P. W. Davis, Portland.
110 Use and Abuse of Digitalis. H. W. Sampson, Togus.

Medical Record, New York

February 15, LXXXIII, No. 7, pp. 277-322

111 *Centenarians and Nonagenarians. W. G. Thompson, New York.
112 Present Status and Future Scope of Thoracic Surgery. D. Stetten, New York.
113 Public Protection Against Mental Defectives in Paris. E. Castelli, New York.
114 Hodgkin's Disease. J. D. Morgan, Washington, D. C.
115 *Scarlet Fever; Is Desquamatory Stage Contagious? F. H. Mead, San Diego, Cal.
116 Associated Outpatients' Clinics of City of New York—A Social Force. E. H. Lewinski-Corwin, New York.
117 Indicanuria and Phosphates. J. C. Warbrick, Chicago.

111. **Centenarians and Nonagenarians.**—Reviewing this subject at great length, Thompson finds that there are many modern theories to explain extreme longevity on the basis of individual peculiarities, from the intestinal chronic toxemia idea of Metchnikoff to the functionless ductless gland idea of Lorand, particularly of thyroid failure, but no one theory appears applicable to a majority of cases. In many persons the attainment of nonagenarian age appears to be due chiefly to favorable environment, and freedom from harassing worries and poverty. They have not been buffeted by the world's cares and trials, and are blessed with serenity of mind and uniformity of function. On the other hand, longevity is about equally found among the struggling poor. A majority of nonagenarians give a history of long-lived ancestry, and there are many families remarkable for this characteristic, but it is not an essential one, by any means, for a line of such ancestry may be broken by intervention of infectious diseases or by the unhygienic or irrational habits of individuals.

All things considered, however, heredity appears to be a much stronger factor in producing nonagenarians than any special habits, as of diet or hygiene, for the latter are found to present the greatest variety in different cases—hence extreme longevity is largely a matter of natural selection. That the aged very often exhibit no predominating symptoms of any one disease to which their death is attributable, is a striking fact. They may become so universally sclerosed and atrophic that a general weakness is their only complaint, and although they may have marked arteriosclerosis, nephritis, or myocardial change, the more active symptoms which characterize such diseases early in life may be entirely wanting. They rarely show marked edema, for example, and the typical picture of the last stages of failing compensation of the heart, so familiar in early life, the orthopnea, cyanosis, and general anasarca, etc., is very rarely met with. They die suddenly and peacefully—it is as if the clock had run down. Hence in the mortality statistics "senility" is so often given as the cause of death and accepted by the health authorities without further question.

115. **Scarlet Fever.**—Summarizing his own opinion on the matter Mead points out that statistics show that in only a very small percentage of cases do secondary cases of scarlet fever arise from exposure to desquamation. Only a comparatively small number of persons thus exposed catch the disease. In the very few cases which have developed from desquamation it is probable that the desquamation was infected from discharges from the nose, throat or ears.

Michigan State Medical Society Journal, Battle Creek

February, XII, No. 2, pp. 67-148

118 Altruism in Medicine. W. H. Sawyer, Hillsdale.
119 Every-Day Surgery. M. D. Bird, Marinette, Wis.
120 Roentgen Diagnosis of Diseases of Stomach. P. M. Hickey, Detroit.
121 Some Embryologic, Anatomic, Histologic and Clinical Facts Concerning Thyroid, with Suggestions as to Practical Application. M. F. Porter, Ft. Wayne, Ind.
122 Disturbances of Motor Functions of Stomach. B. A. Shepard, Kalamazoo.
123 Diagnosis of Traumatic Hysteria. H. B. Knapp, Ionia.
124 Ionization in Treatment of Superficial Epitheliomas. J. Solis, Ann Arbor.
125 Diagnosis of Tuberculosis in Infancy and Childhood. C. H. Johnston, Grand Rapids.

New Jersey Medical Society Journal, Orange

February, IX, No. 9, pp. 437-490

126 Eugenics from Point of View of Ophthalmologist. C. P. Franklin, Philadelphia.
127 Syphilis of Nervous System. I. Surnamer, Paterson.
128 Treatment of Syphilis. G. Fischer, Paterson.
129 Acute Abdomen. W. Freile, Jersey City.
130 Sore Throat and Diphtheria. H. I. Goldstein, Camden.
131 Problem of Mental Deficiency in Its Relation to Medical Profession. L. M. Halsey, Williamstown.
132 Physical Defects in Their Relation to Penal Discipline. G. L. Orton, Rahway.

Oklahoma State Medical Association Journal, Muskogee

February, V, No. 9, pp. 391-440

133 Fatalities During and Immediately Following Labor. L. S. Willour, McAlester.
134 General Practitioner as Obstetrician and Gynecologist. J. B. Smith, Durant
135 Gastro Intestinal Disturbances Complicating Pregnancy. C. D. Blachly, Norman
136 Uterine Reflexes. L. B. Torrance, Okmulgee.
137 Experiences in Early-Day Obstetrics Among Indians. D. Long, Duncan.
138 Diagnosis of Fevers Without Manifest Physical Signs. C. J. Fishman, Oklahoma City.

FOREIGN

Titles marked with an asterisk (*) are abstracted below. Single case reports and trials of new drugs are usually omitted.

British Medical Journal, London

February 1, I, No. 2718, pp. 205-264

1 Exotic Flora of Uterus in Relation to Fibroids and Cancer. J. Bland-Sutton.
2 *Atypical Exophthalmic Goiter. H. L. McKisack.
3 Portals of Entry of Tubercle Bacillus, Especially in Childhood. E. Emrys-Roberts.
4 *Varieties of Tuberculin in Treatment of Tuberculosis. N. Raw.
5 *"Controlled" Therapeutic Use of New Tuberculin in Treatment of Pulmonary Tuberculosis. E. E. A. T. Rigg.
6 Organic Acid Ratio of Urine After Tuberculin. A. H. Gregson.
7 A Year's Experience of Dioradin in Surgical Tuberculosis. A. Stoney.
8 Gastric Hemorrhage and Other Complications in Case of Childbirth. W. D. Sturrock.
9 Case of Cardiac Asthma. C. Wilson.

2. **Atypical Exophthalmic Goiter.**—McKisack suggests that the name "exophthalmic goiter" be as far as possible discarded and that the condition be spoken and thought of as "hyperthyroidism." This term would include all degrees of the abnormal condition, while the more usual description, "exophthalmic goiter," merely suggests two of the chief, but by no means the most constant, symptoms.

4. **Tuberculin in Tuberculosis.** After treating over 600 patients with injections of tuberculin, Raw is convinced that it is a remedy of the greatest value, especially in early cases and when the deposit of tubercle is localized, as in one apex or in a lymph-node or single joint; but when the tuberculosis is disseminated and complicated by secondary infections the use of tuberculin cannot be expected to be of much avail. It ought, however, to be tried in every case with the hope of some relief or possible benefit, as we cannot allow the patient to suffer and die without making every effort to arrest the progress of the disease. Tuberculin is not going to revolutionize the treatment of tuberculosis. It is a valuable aid to the other methods of treatment, hence it must be used with care and discrimination and with a full knowledge of its dosage and therapeutic effects. The best treatment we can offer to-day to a person infected with tuberculosis is a prolonged open-air life, preferably in a well-conducted sanatorium, excess of nutritious food, gentle exercise followed by plenty of rest and a course of tuberculin by a careful physician.

5. **"Controlled" Therapeutic Use of Tuberculin in Lung Tuberculosis.**—Observations were made by Rigg on the comparison of afebrile cases of pulmonary tuberculosis treated for three months, half with tuberculin and half without the cases being compared at the beginning and end of this period. The net result of these observations is to show that the administration of new tuberculin by one of the more popular approved methods is not followed by greater improvement in the physical signs, nor by greater increase in weight, nor by more greatly increased capacity for physical work, nor by a greater improvement in the general condition, as compared with the results of ordinary hospital methods. The observations on the signs do not support the idea that tuberculin in any way lessens the activity of a local lesion. It is possible that the less favorable influence on weight, the less capacity for work and the falling off of the general condition are due to the disabilities imposed on the patient by being treated with tuberculin, as they so often were kept in bed to help restore the temperature to normal.

Indian Medical Gazette, Calcutta

January, XLVIII, No. 1, pp. 1-44

10 History of I. M. S. D. G. Crawford.
11 Recent Research on Cholera in India. E. D. W. Greig.

Lancet, London

February 1, I, No. 4666, pp. 297-364

12 *Malingering in Accident and Disease. J Collie.
13 *Treatment of Syphilis with Salvarsan: First 1,000 Patients Treated at Royal Naval Hospital at Plymouth. L. Kilroy.
14 Case of Suppurative Post-Typhoid Osteitis Thirteen Years After Attack of Enteric Fever. A. H Tubby and J. A B. Hicks.
15 Progeria and Ateleiosis. A. Keith.
16 New Growth and Inefficient Immunity. H. G. Grünbaum and A. S. F. Grünbaum.
17 Case of Infection in Man by Bacterium Prodigiosum. H. M. M. Woodward and K. B. Clarke.
18 Case of Old-Standing Dislocation of Hip-Joint Treated by Open Operation. A. Gibson.
19 Treatment of Recent Injury by Mobilization and Massage. J. B. Mennell.

12. **Malingering in Accident and Disease.**—The principal means by which Collie says malingering may be checked are: (1) A system of organized lay inspection; (2) repeated, periodical, independent medical supervision; (3) complete independence of the medical attendant; and (4) some system of registration which shall make apparent what is the full amount of sick-pay and other benefit, if any, that the patient is in receipt of.

13. **Salvarsan in Syphilis.**—At the Royal Naval Hospital, Plymouth, England, 2,147 injections were given to 1,000

patients with thirteen invalidings, no deaths and twenty-two clinical relapses readmitted to this hospital, two clinical relapses admitted to other naval hospitals and two occurring in ships, leaving out of consideration the salvarsan given after relapses. Of seventeen patients (five of whom had previously received salvarsan elsewhere) who received one dose of salvarsan there, no case has reached this hospital as a clinical relapse. Of 901 patients receiving two injections there, twenty-one have reached the hospital as relapses, two are known to have occurred in ships and two have been treated in other naval hospitals. Of sixty-eight patients receiving three injections, one case reached the hospital as a clinical relapse. One patient with relapse after two doses given elsewhere was treated by two further doses. Mercurial treatment is carried out in this hospital during the whole time the patient is an inmate. The only days on which mercury is not given are those on which the patients receive their injections of salvarsan. No salvarsan has been given to patients with (1) heart disease; (2) albuminuria; (3) diabetes; (4) advanced tabes; and (5) general paralysis of the insane. At least two doses are given to all patients unless some contra-indication presents itself. A third and more rarely a fourth dose is given to resistant cases. No deaths have occurred. So far about 50 per cent. of the patients who have been examined after having had salvarsan have given a negative Wassermann when examined three months later. The others are about equally divided into those whose Wassermann is not improving or getting worse. It is too early for precise details.

Practitioner, London

February, XC, No. 2, pp. 381-512

20 *Septic Infection of Joints. A. E. Barker.
21 Rheumatism in Childhood. F. J. Poynton.
22 *Significance of Some Common Symptoms in Childhood. C. V. Kebbell.
23 *Bow-Legs in Small Children. P. B. Roth.
24 Recent Literature on Children's Diseases. H. Thursfield.
25 Intestinal Stasis. A. C. Jordan.
26 Treatment of Gangrenous Hernia by Combined Anastomosis and Fistula Operation. E. Gillespie.
27 Recent Literature on Roentgen Rays and Radium. N. S. Finzi.
28 Literature on Nervous and Mental Diseases. H. C. Thomson.
29 Combined Treatment of Alcohol Inebriety. J. W. A. Cooper.
30 Two Curious Cases of Coin in Alimentary Canal. E. R. Wheeler.
31 Recent Literature on Clinical Pathology. W. D. Emery.

20. **Septic Infection of Joints.**—Among the many non-traumatic ways in which joints may be infected through the bloodstream, Barker says, less attention has been given to the possible entrance of bacteria from the gums than the subject deserves. Every one is familiar with synovitis following gonorrhea or other forms of septic catarrh of the urethra and vagina, and with the arthritis of pyemia, and of the acute fevers, such as scarlatina, measles, typhoid and influenza. Pneumococcal infections of joints are also recognized, but are not usually definitely traceable to an attack of pneumonia. But in many instances it may be difficult to trace the joint trouble to any of these latter and it is well to examine closely into the state of the teeth and gums in every attack of synovial inflammation of non-traumatic origin. And even when acute synovitis follows on blows, strains and other forms of non-penetrating injury, it is equally important to include in the examination, for possible portals of infection, the teeth, mouth and pharynx, for the injury may be only the factor determining where a previous infection shall manifest itself. Barker reports four cases. They illustrate the perfect type of so-called hemogenic infection. The organisms, introduced into the system through a very common septic lesion (pyorrhea alveolaris), are carried into the blood-stream and excite in the lining membrane of a joint-cavity an inflammation producing, in the first place, hypersecretion and, eventually, suppuration.

22. **Common Symptoms in Childhood.**—Kebbell emphasizes the importance of a thorough examination in all cases of illness in childhood, and the assistance to be gained from a careful inspection of the child, which, if not actually suggesting the disease, will often give warning of the severity of the case, or, at any rate, that the child is, in doubtful cases, really ill; thus leading the examiner to take a cautious view of the matter rather than merely dismissing it as some trivial complaint. It is surprising, says Kebbell, how frequently some disease, such as heart or lung affection, is discovered, which the parents have never suspected.

23. **Bow-Legs in Small Children.**—In the mild cases, Roth points out that all that is required is the application of suitable splints, which must be worn during the day while the child is walking about. The ordinary padded wooden hospital splint, 2 inches broad and 6, 8 or 10 inches long, is admirable. It should extend from the bottom of the shoe-heel to the line of the knee-joint and is applied to the inside of the leg and ankle over the sock and shoe, and bandaged on firmly. The bandage should come well down on the outside and obtain a purchase from below the external malleolus. The splint is applied in the morning and removed at night by the mother. The padding at the lower end of the splint will soon wear out; when it does, the mother must recover it. The mother is also given extra sets of bandages, to be applied when the others are dirty, and is impressed with the importance of never letting her child walk without the splints. The patient is seen every fortnight at first, and later every month. The splints are worn for from three to twelve months, being discarded as soon as the legs are quite straight. Roth has no experience of the condition recurring. During the whole period of treatment, an antirachitic diet is ordered, consisting chiefly of milk, eggs, bread and dripping, bacon-fat, gravy and potatoes, green vegetables and fruit; cod-liver oil and malt if the child can take it. The severe cases are treated by either osteotomy of the tibia and fracture of the fibula, or by the so-called "manual osteoclasis" of both bones. After a trial of both methods, Roth has entirely discarded the former in favor of the latter. In "manual osteoclasis" the affected limb is grasped by both hands, and broken by leverage over a suitable fulcrum.

Sei-I-Kwai Medical Journal, Tokyo

January 10, XXXII, No. 1, pp. 1-8

32 Vaccine Treatment of Erysipelas; Report of Sixteen Cases. Y. Takaki.

Bulletin de l'Académie de Médecine, Paris

January 14, LXXVII, No. 2, pp. 19-26

33 Thyroid Treatment Effectual in Five of Seven Cases of Retraction of the Palmar Aponeurosis. M. Gilbert.

January 21, No. 3, pp. 27-41

34 Frequency of Epigastric Hernia in Connection with Gastric Ulcer and Cancer. E. Kirmisson.
35 Dosage of Bromids in Water. (Nouvelle méthode pour le dosage rapide des bromures dans les eaux naturelles.) G. Denigès and L. Chelle.

Journal de Chirurgie, Paris

January, X, No. 1, pp. 1-128

36 Cicatricial Stricture of the Esophagus. (Traitement des rétrécissements cicatriciels de l'oesophage.) L. Sencert.

Journal de Médecine de Bordeaux

January 26, XLIII, No. 4, pp. 51-64

37 *Nerve Blocking for Painful Laryngitis. (Les interventions à distance sur les nerfs sensitifs du larynx dans les laryngites douloureuses.) G. Liébault.

37. **Treatment of Painful Laryngitis.**—Liébault discusses the anatomy of the nerves in the region and the best means of keeping the pain under control. At the Bordeaux clinic he frequently uses an anesthetic solution which has proved its superiority. It is a combination of 0.2 gm. of cocain; 0.05 gm. morphin; 5 gm. antipyrin; 0.5 gm. quinin sulphate; 0.1 gm. sodium chlorid, and 80 per cent. alcohol q. s. to 50 gm. On each side 0.01 gm. is injected. The injections can be repeated at need. When this fails the superior laryngeal nerve may be resected. This relieves the patients even with inoperable cancer or advanced laryngeal tuberculosis. The prospects are better naturally when the patients are still capable of repair by primary intention. In some cases even this will not remove the pain, probably from participation of other nerve

fibers, but Liébault warns that the recurrent nerve had better be left untouched on account of its motor branches and the danger of motor paralysis. He gives several illustrations to show the preferable technic for access to the superior laryngeal nerve.

Journal d'Urologie, Paris

January, III, No. 1, pp. 1-128

38 *Diffuse Suppuration Around the Bladder. (Phlegmon diffus péri-vésical d'origine prostatique.) F. Leguen.
39 *Hydronephrosis Not Diagnosed for Seventeen Years. (Hydronéphrose de 30 liters diagnostiquée tardivement par l'examen physico-chimique du liquide.) Mosny, Javal and Dumont.
40 Fissure of the Bladder. (Fissure vésicale inférieure. Inversion vésicale; etranglement.) G. Houzel.
41 *Enuresis of Digestive Origin. (Incontinence nocturne d'urine d'origine gastro-hépatique.) A. Collin.
42 Fatal Gas Embolism from Injection of Air into the Bladder. Nicolich.
43 Fatal Gas Embolism During Prostatectomy. G. Marion.
44 Hemorrhage in a Movable Kidney. Caspari.
45 Catheterization of the Ureters Under Direct Visual Inspection. (Du cathétérisme urétéral par cystoscope à vision directe.) J. Ferron.

38. **Diffuse Suppuration Around the Bladder.**—Leguen reports a case which seemed to be merely ordinary gangrenous periurethritis but necropsy revealed a stricture in the urethra, suppuration in the prostate which had destroyed nearly all of it except around the urethra, and a diffuse perivesical phlegmon, the entire bladder being invaded with a zone of serous or seropurulent infiltration in the subperitoneal cellular tissue. It is the first case he has encountered although he has long been on the lookout for something of the kind. After the operation on the periurethritis the local process started to heal but the general condition grew worse, suggesting trouble above. If the condition had been differentiated in time, Leguen would have attacked the prostatic lesion, draining it both through the perineum and above the pubis, although the prospects for a cure, he remarks, are not very bright with these phlegmons which fasten gangrene on everything they touch.

39. **Hydronephrosis.**—The kidney contained 30 liters of fluid at necropsy. The patient was a woman of 25 and the first signs of trouble had been noted at the age of 8. For years it was ascribed to tuberculous peritonitis and the hydronephrosis assumed to be ascites until finally chemical examination of the puncture fluid excluded ascites as there was only 2.2 gm. of albumin; experience has shown that with ascitic fluid the proportion of albumin is never below 3 gm. per liter. The finding of only 5.3 gm. of chlorids excluded an ovarian cyst; 8 gm. is the usual figure here. There was also 3.87 gm. of urea, and this finally cleared up the diagnosis in connection with catheterization of the ureters. The urine voided was apparently normal in composition and amount but it came exclusively from the sound kidney.

41. **Incontinence of Urine of Digestive Origin.**—In cases of this kind there is always a period of physiologic conditions before the onset of the enuresis, after the child has grown out of infancy. The enuresis is also intermittent and irregular, alternating with normal periods. Another characteristic is the unusually sound sleep, and there is generally some mild inherited nervous taint. The children are unusually large eaters; the mother prides herself on the child's fine appetite but there are always slight digestive disturbances. Treatment is of the simplest, merely reduction of the amount of food, and not letting the children have any liquor or any foods that ferment readily. Mild laxatives are useful and also, possibly, light massage of the abdomen and hot-water compresses. The cure is soon complete in children in institutions but the petted children of the rich are hard to break of the enuresis habit when it is of this stomach-liver type.

Lyon Médical, Lyons

December 29, XLIV, No. 52, pp. 1117-1184

46 *Thomsen's Disease. (Le syndrome électrique myotonique.) J. Cluzet, J. Froment and Mazet.

January 5, XLV, No. 1, pp. 1-48

47 *Modes of Transmission of Typhoid Fever. H. Rondet.

January 12, No. 2, pp. 49-88

48 *Treatment of Diphtheria with Hot Air. (Des inhalations d'air chaud dans le traitement de la diphtérie.) R. Rendu.

46. **Thomsen's Disease.**—The case of myotonia congenita here described, in addition to the classical symptoms, presented some unusual features. There was no family history though it is generally a hereditary disease. The muscles were not hypertrophied. The persistent tonic muscular contraction was obtained by stimulating the nerve trunks as well as by direct stimulation of the muscle. Moreover the patient, a girl of 18, had goiter of long standing which suggested intoxication from hyperthyroidism as a possible cause for the myotonic symptoms.

47. **Modes of Transmission of Typhoid Fever.**—Rondet thinks that the principal part in the transmission of typhoid is played by human bacillus-carriers infected from their own excretions, and that therefore one of the most efficient prophylactic measures is instruction of the public, particularly school children, in the importance of absolute personal cleanliness.

48. **Treatment of Diphtheria with Hot Air.**—Rendu treated a series of sixty-six diphtheria patients, half of them with antitoxin, the others with hot air passed directly into the mouth through a tube connected with an ordinary electric dryer, such as is used by hairdressers. He got practically the same results in the two series of cases, the same percentage of deaths and paralysis, and no cardiac complications in either. The temperature curves were about the same and the false membrane disappeared in about the same time. The hot air was used alone merely to test its efficacy as compared with diphtheria antitoxin. Ordinarily they should be used in conjunction. The effect of the hot air is bactericidal. (His earlier report on the subject was summarized with editorial comment in The Journal, Aug. 3, 1912, p. 376.)

Presse Médicale, Paris

January 18, XXI, No. 6, pp. 49-60

49 *Treatment of Fracture of Upper Third of the Ulna. J. Abadie.
50 Relations Between Sero-Anaphylaxis and Special Forms of Tuberculosis. (Rapports entre les accidents séro-anaphylactiques et les formes de la tuberculose—Fibro-tuberculose, rhumatisme noueux.) P. Courmont.

January 22, No. 7, pp. 61-68

51 Subcutaneous Suture of Fracture of the Patella and Olecranon. M. Chaput.
52 Retention of Water, Salt or Nitrogen in Nephritis. (Hydrémie, Azotémie, Chlorurémie dans les néphrites.) A. Martinet.

49. **Fracture of Upper Third of the Ulna.**—Abadie refers in particular to the cases of fracture with dislocation of the head of the radius, and describes his successful treatment of two patients by reducing and suturing the ulna, holding the stumps in apposition with broad prongs, and cutting into the tissues to permit and control exact reduction of the head of the radius. The whole is done at one time and at the earliest possible moment. He has not been able to find any records of a similar technic in the literature, but his success in the cases reported shows the advantages of this procedure. It often happens that the stumps have jagged edges, which interfere with reduction, but reduction must be done before attempting to reduce the head of the radius. It should be opened up to be sure that all is in good order and no intervening scraps of tissue are left to compromise normal healing. The arm must be immobilized afterward, flexed at an acute angle, and *x*-ray pictures taken from the front and side. If the ulna has healed in a defective position, osteotomy may be necessary. Only when all else fails is it proper to resect the head of the radius.

Revue de Chirurgie, Paris

January, XXXIII, No. 1, pp. 1-136

53 *Formaldehyd Fumes in Sterilization of Surgical Materials. (La stérilisation par les vapeurs de formol dans la pratique chirurgicale.) G. Gross and M. Barthélemy.
54 Phlebitis During Course of Uterine Fibroma. J. Duvergey
55 Anatomic and Experimental Study of Improved Method for Correction of Exstrophy of the Bladder. (Sur la typhlo-urétérostomie après exclusion du caecum et appendicostomie dans le traitement de l'exstrophie vésicale.) D. Taddei
56 *Primary Melanotic Tumors of the Rectum. A. Chalier and P. Bonnet. To be continued.

55. **Improved Technic for Formaldehyd Sterilization.**—Gross and Barthélemy call attention to the technic which they have been using with eminent satisfaction for some years and which seems to be free from the drawbacks of other methods. Instead of using a solution, they use the white powder which forms when the ordinary commercial solutions of formaldehyd are evaporated and become polymerized. It is known as trioxymethylene or paraformaldehyd. Exposed to the air the powder becomes depolymerized, giving off little by little the fumes of formaldehyd. A tray containing a solution of formaldehyd will give off formaldehyd fumes while it evaporates, that is, during two or three days. A tray containing an equal volume of the powder will keep giving off formaldehyd fumes for six weeks. The fumes will also be dry; this is a great advantage for sterilization of instruments, gloves, etc. Their experience has been extremely favorable with the powder. They spread it on trays alternating with trays containing the articles to be sterilized and close the receptacle air-tight. They have three sets of articles and three receptacles in use. They leave them shut up for forty-eight hours, and thus have one always ready to use. Everything is thoroughly sterilized in twenty-four hours, but the additional day confers added security. When the instruments have to be used every day, the sterilization can be hastened by heating the receptacle. The method is particularly fine for rubber gloves; they can be mended like a bicycle tire and the dry sterilization does not weaken the patch. The gloves being dry, any tear in them is recognized at once by the feeling of moisture on the hand. By wiping off any drops of blood that get on the gloves they keep dry throughout the operation and thus keep impregnated with the formaldehyd. The same method is superior also for sterilization of drains, ligatures, dressings, etc. They have performed six hundred operations with this technic for sterilization of the surgical materials, and two thousand laparotomies or herniotomies with gloves sterilized by this technic demonstrate conclusively, they say, the excellence of this simple method.

56. **Melanoma of the Rectum.**—Chalier and Bonnet discuss in this monograph the origin, evolution, prognosis and treatment of primary pigmented tumors in the rectum, with a detailed description of a case personally observed and summaries of sixty-four cases from the literature in this second instalment of the article. They state that this affection in horses was described toward the close of the eighteenth century, the black tumors being hereditary in these animals.

Semaine Médicale, Paris

January 22, XXXIII, No. 4, pp. 37-48

57 *Disturbances in the Circulation from Sudden Contraction of the Vagus. (Troubles circulatoires aigus par hypertonie brusque du nerf vague.) J. Schwartzmann.

January 29, No. 5, pp. 49-60

58 *Protracted Fevers of Obscure Origin. L. Cheinisse.

57. **Acute Disturbances from Sudden Hypertonicity of the Vagus Nerve.**—Schwartzmann reports four cases in which sudden acute weakness, almost syncopal, was accompanied by pallor, sweating, drop in the blood-pressure and slowing of the heart beat from 78 to 54; 90 to 48; 96 to 50, and 80 to 60, but there was no dissociation between auricle and ventricle. The attack lasted only a few instants and everything indicated that the cause was a sudden hypertonicity of the vagus. The attack in two cases followed injection of salvarsan or neosalvarsan. The other patients were having the cuff applied to measure the blood-pressure, and they complained of sudden intense pain. The bradycardia in these cases may have been a reflex phenomenon. Schwartzmann defines the trouble as a vagotonic disturbance of the circulation in persons entirely free before and since of any tendency to bradycardia. The two first patients were reclining at the time, the others seated.

58. **Long Continued Fevers of Obscure Origin.**—Cheinisse thinks that these fevers can generally be traced to their source by excluding in turn the usual factors. He warns that the higher temperature in the rectum after exertion is by no means always a sign of tuberculosis, especially in children. It is liable to be a purely local rise in temperature in the muscles from the exercise of the legs. Avellis found that the axilla temperature never paralleled the fluctuations in the rectum temperature in these cases. The instability of the temperature in children adds another element to the problem. In adults the long continued fever may be due to unsuspected malaria or liver abscess; it is important therefore to inquire as to a stay in malarial and tropical countries. In a case described at length, the patient had been treated for months on the basis of tuberculosis, but was soon cured under quinin. This error is particularly liable to occur in regions long free from malaria. Another source of error is the negative finding of tests for typhoid. In one such case there was no agglutination until the thirty-seventh day of a mild typhoid. In other cases the tests may be positive in an old bacillus carrier, and the typhoid infection may have nothing to do with the long continued fever years later. When the fever is of gastro-intestinal origin it may be the result of intolerance for some special article of food, usually carbohydrates. The dragging fevers of digestive origin generally have a more erratic curve and the weight fluctuates more than in tuberculosis. In the latter also there is a tendency to permanent tachycardia, which is not a characteristic of the digestive fevers. Chronic inflammation of the tonsils or adenoids or of deep lymph-nodes is another source of long continued fever. It may also follow an acute infection in an adult. In one such post-infectious case, after a relatively mild attack of influenza, the man had subfebrile temperature every evening for many weeks although otherwise well. Syphilis may also be responsible; Osler has reported a case of intermittent fever twenty-nine years after infection with syphilis. It kept up for months but subsided at once under specific treatment. The urine should be examined with the microscope and bacteriologically in obscure cases; one patient's urine was found a pure emulsion of streptococci and another's swarming with colon bacilli, although in neither case had there been any symptoms to call attention to the urinary apparatus.

Archiv für klinische Chirurgie, Berlin

C, No. 2, pp. 293-596. Last indexed February 8, p. 482

59 Echinococcus Disease. (214 Echinokokkenoperationen. Beitrag zur Pathologie und Therapie der Echinokokkenkrankheit.) G. Magnusson (Iceland).

60 Inflammation Back of the Peritoneum. (Klinische Beiträge zu den diffusen entzündlichen Erkrankungen des Retroperitoneums und ihre Stellung zur Peritonitis.) O. Sprengel.

61 Fracture of Navicular Bone in Children. (Das Alb. Köhler'sche Knochenbild des Os naviculare pedis bei Kindern—eine Fractur.) E. O. P. Schultze.

62 *Schlatter's Disease of the Tibia. (Zur Schlatter'schen Krankheit. Symptom einer Systemerkrankung.) E. O. P. Schultze.

63 Pathogenesis of Congenital Atresia of Intestines and Esophagus. H. Forssner and E.-W. Kreuter.

64 *Technic for Effectual and Harmless Blocking of the Nerves in the Leg. (Die Anästhesirung der unteren Extremität mittels Injection auf die grossen Nervenstämme.) W. Keppler.

65 Experimental Research on the Importance of the Veins with Arteriovenous Aneurysm. E. Ney.

66 Embryonal Predisposition to Tumor in the Parotid Gland. (Ein embryonaler Seitengang des Ductus parotideus und seine Beziehungen zu einigen Tumoren der Parotis.) E. Weishaupt.

67 Angioma of Peripheral Nervous System. S. Sato.

68 Advantages of Button in Gastro-Enterostomy. (Zur Anwendung des Murphyknopfes bei der Gastroenterostomia retrocolica posterior; 81 Fälle.) F. Fesenmeyer.

62. **Schlatter's Disease.**—The avulsion of the tongue-shaped projection of the tubercle of the tibia, to which Schlatter first called attention, is being encountered with greater frequency as the Roentgen rays are coming into more common use. Schultze reports from the university clinic at Berlin, in charge of Bier, eight typical cases all in boys between 13 and 14, and in six of the cases the affection was bilateral. The little patients were all growing rapidly and none seemed to be very robust; three had enlargement of lymph-nodes at various points and nearly all had had rachitis or scrofula in early childhood. There was no difference in size between the tibia on each side and no signs of atrophy or of inherited syphilis; the Wassermann was constantly negative in all. There was no history of trauma in any case and only suspicion of it in two, except that two first noticed while they were running

that there was something wrong in the leg. It did not prevent their continuing playing; one boy noticed that his leg was swollen a little at the point of the lesion, but there was no sign of a bruise then or later. Schultze thinks that all the evidence is in favor of the assumption that the bone is diseased, and that the trouble is a spontaneous fracture occurring in a predisposed bone. In only three cases could by any possibility the force have been strong enough to tear off a sound tubercle. The mechanism seems to be about the same as for the development of coxa vara. Another argument in favor of this view is the protracted healing. An ordinary fracture in sound bone heals in three weeks in a healthy boy, but in this Schlatter affection four months may be required before healing is complete, or even longer. The trouble therefore is essentially constitutional rather than local. Treatment therefore should aim to build up the general health. Phosphorus and arsenic internally seemed to hasten healing in his cases, and painting the region with tincture of iodin seemed to stimulate repair. Immobilizing appliances are not necessary; the same results can be realized with an ordinary bandage.

64. **Blocking the Nerves in the Leg.**—Keppler reports from the same clinic the excellent results obtained with injection of an anesthetic to block each of the principal nerves in the thigh or the two in the leg below the knee. His illustrations show the exact technic. The method has proved its usefulness for major operations, and it has been found absolutely reliable when the technic was minutely carried out. The amount of the anesthetic required is comparatively small. It abolishes the pain during the application of the constricting bandage to expel the blood, while the anesthesia induced is of long duration, persisting for hours after the operation is completed. Another advantage, especially for orthopedic operations, is the transient motor paralysis which it induces. Twenty cases are reported in detail to show the different types of operations performed with this technic and the excellent outcome. In no instance was the operator surprised by the slightest by-effect or after-effect.

Berliner klinische Wochenschrift

January 20, L, No. 3, pp. 97-144

69 *Fifty Years of Electrotherapy. (Fortschritte in der Elektrotherapie.) H. L. Jones.
70 Technic for Resection of Goiter. (Beidseitige Resektion oder einseitige Exstirpation des Kropfes?) A. Tietze.
71 *Restoration of Nose by Pedunculated Flap of Skin from Over the Sternum. (Ein dritter Weg zur totalen Rhinoplastik.) E. Holländer.
72 Plastic Operations on the Breast. (Ueber Mammaplastik. M. Weichert.
73 *Operative Treatment of Cavity in Lung. (Zur Cavernenchirurgie.) G. Baer.
74 *The Blood-Findings in Tuberculosis. (Blutbefunde bei Tuberkulose.) L. Rabinowitsch.
75 Nystagmus in Febrile Diseases. E. v. Czyhlarz.
76 Presence of Cholesterin, Cholesterin Esters and Lecithin in the Blood-Serum. (Zur Lipoidchemie des Blutes.) M. Bürger and Beumer.
77 *Prophylaxis with Attenuated Tubercle Bacilli. (Schutzimpfung mit abgeschwächten Tuberkelbacillen.) M. Rabinowitsch.

69. **Electrotherapy.**—Jones states that the recent fuller appreciation of the chemical action of the electric current, the *ion* theory, and the appreciation of the heating properties of the current have opened the door to great advances in electrotherapy in the immediate future. The knowledge that the ammonium *ions* are less irritating than sodium *ions* has rendered it possible to apply stronger currents and for a longer time. Bergonié even goes so far as to apply a 25 milliampere current along the paralyzed limb after poliomyelitis for an hour twice a day; the child feels so little disturbance from it that it plays and sleeps during the sitting, and never shows signs of fatigue, while the ultimate outcome is extremely good. Jones uses an electrode covered with two or three layers of thick felt and can send through this without irritating the skin a current of 50 milliamperes for twelve or twenty minutes a sitting. The high frequency current has such short waves that the action of *ions* is practically eliminated; consequently very powerful currents can be used. In diagnosis it is now possible to distinguish a great number of transitional stages between the normal reaction of the muscle and the reaction of degeneration.

71. **Plastic Operation on the Nose.**—Holländer takes the pedunculated flap from the chest over the sternum but otherwise follows the technic of the Italian method, immobilizing the head bent forward but without the immobilization of the arm. The skin of the chest is better fitted for restoration of the nose than that of the arm, he says, and there is less danger of necrosis as the flap is not twisted. He gives four illustrations to show the application of the method and the results in one clinical case.

73. **Operative Treatment of Cavity in the Lung.**—Baer describes a method which he says may lead to the healing of even large cavities without any danger for the patient, without a mutilating operation, and in a comparatively brief time. He aims to separate the pleura and lung from the wall of the chest mobilizing and causing the collapse of the cavity. The space left can be filled with nitrogen or paraffin. Tuffier utilized scraps of lipoma for the purpose, and Baemeister has injected paraffin into the pleura, instead of nitrogen, in experiments with artificial pneumothorax on dogs. Baer reports the successful application of the method to a man of 23 with a large cavity in one lung rebellious to the usual measures and to the Wilms' operation (operative reduction of the size of the chest wall on that side). As a last resort the second rib was resected for 6 cm., under local anesthesia; the costal pleura was readily detached and the recess thus formed was tamponed with gauze. The cavity itself was not opened. A week later the tampon was removed, adhesions had formed and a point on the anterior wall of the cavity tore. Consequently the cavity was then opened up and evacuated and it gradually healed. The thorax wall sank in, aided by the preceding Wilms' operation. The patient recuperated amazingly and tubercle bacilli could no longer be found in the sputum. It is now proposed to pack the cavity and the outer hole at longer and longer intervals, supplemented by heliotherapy and radiotherapy of the cavity. When it is quite healed Baer proposes to fill the cavity with the plastic material. The detaching of the cavity brought about a profound change in it as was evidenced by the disappearance of the bacilli from the sputum. The collapsing inward of the walls of the cavity modifies conditions and starts the process to healing even if it is not evacuated. Even partial mobilization of the anterior wall of the cavity may answer the purpose, possibly supplemented later by evacuation of the cavity or extrapleural compression by introducing scraps of paraffin, solid at room temperature but which soften up at body temperature and become fluid at 42 C. There can be no danger of embolism with these solid scraps of paraffin; by the time the paraffin has softened, the blood vessels in the region are no longer open. By this means the entire procedure can be completed at one sitting and the wound definitely sutured. If the space is not all filled up, nitrogen or more paraffin might be injected later.

74. **Tubercle Bacilli in the Blood.**—Rabinowitsch reports research which apparently confirms the assumptions of Virchow and Orth, published twenty-two years ago, to the effect that an injection of tuberculin is liable to rout out the tubercle bacilli from their nests and drive them into the blood. In the numerous accounts that have been published in the last few months of the finding of the bacilli in the blood, it is not stated whether the patients had been taking tuberculin or not. Baemeister has also recently stated that inoculation of animals with the blood from fifteen tuberculous patients gave constantly negative results, but after four of the patients had been given a diagnostic injection of tuberculin, with a distinct local reaction, then the inoculation of animals all gave positive results. He added that there can be no doubt that virulent bacilli had been driven out of the diseased organ into the circulating blood by the injection of tuberculin, and remarks that this is a pretty serious thing.

77. **Prophylactic Inoculation Against Tuberculosis with Attenuated Tubercle Bacilli.**—Rabinowitsch announced in 1906 that he had succeeded in cultivating strains of tubercle bacilli which were avirulent, and that animals inoculated with these avirulent strains proved resistant to virulent bacilli with which they were inoculated two months later. He lacked the

means to carry on his research and consequently dropped it after this announcement. He here describes the means with which he was able to enhance or reduce the virulence of the bacilli at will, and affirms anew that the virulence of tubercle bacilli is by no means a constant property but can be varied at will. He used for this formaldehyd, adding a minute quantity to the culture or letting the fumes act on the culture. After thus being exposed to formaldehyd, the cultures were transferred to fresh serum media. One strain derived from the blood of a consumptive and highly virulent for both rabbits and guinea-pigs became completely avirulent under this treatment. Two guinea-pigs inoculated subcutaneously with 0.002 gm. of the culture showed no signs of infection when killed six weeks later, while others inoculated in the same way and then, after two months, inoculated with the same amount of a highly virulent culture, human and bovine, showed no signs of infection when killed six weeks later. The controls developed tuberculosis in a very severe form.

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CIX, Nos. 3-4, pp. 209-416. Last indexed February 15

78 Elimination of Nitrogenous Waste in Nephritis, and Intravenous Administration of Diuretics. (Ausscheidung der stickstoffhaltigen Stoffwechselprodukte bei Nephritis und intravenöse Anwendung der Diuretica.) P. Erdelyi.

79 Estimation of Acidosis in Diabetes. (Acidosebestimmungen bei Diabetes mellitus. Klinische Untersuchungen über die Kohlensäurespannung der Alveolarluft.) H. Straub.

80 *Alcohol Content of the Blood. (Der Alkoholgehalt des Blutes unter verschiedenen Bedingungen.) W. Schweisheimer.

81 Metastatic Abscess in Brain After Suppuration of Bronchial Lymph-Node. (Zur Lehre der Hirnabscesse.) O. Hirschberg.

82 Elimination of Purin Bases in Health and Disease. (Ueber Purinbasenausscheidung bei Gesunden und Kranken.) J. Hefter.

83 Tryptophan-Splitting Ferment in Pathologic Effusions. (Vorkommen von peptolytischen Fermenten in Exsudaten und dessen diagnostische Bedeutung.) R. Lenk and L. Pollak.

84 Technic for Blood-Count. (Ueber Anwendung getrennter Pipetten und Mischgefässe bei der klinischen Blutzählung.) V. Ellermann.

85 The Circulation in the Lungs as Influenced by Differential Pressure. (Zur Blutzirkulation in der Lunge bei geschlossenem und offenem Thorax und deren Beeinflussung durch Ueber- und Unterdruck.) F. v. Rohden.

86 Anemia from Hemorrhage. (Ueber Blutungsanämie.) L. S. Milne (New York)

80. **The Alcohol Content of the Blood.**—Schweisheimer carried out a series of experiments on total abstainers, moderate drinkers and drunkards. He found an extremely small percentage of alcohol in normal blood, .029 to .036 per cent. Alcohol passes directly into the blood as such, and in the blood of a drunken man may reach as high as 2.26 per cent. On taking a given amount, a higher percentage is found in the blood of a non-drinker than of a drinker. In the non-drinker the highest alcohol content is reached after one and a half to two hours; it remains at this level for a considerable time (five hours, as contrasted with two hours in drinkers) and falls slowly. In drinkers it rises and falls quickly, the entire time required for elimination being about half as long as in non-drinkers. The psychic signs of drunkenness run parallel with the concentration of the alcohol in the blood. The hypersensitiveness of epileptics to alcohol is probably due to the fact that they are unable to oxidize the alcohol and thus an abnormally high percentage of it passes into the blood. This determination of the alcohol content of the blood may be used clinically to differentiate between unconsciousness from alcohol and other causes, such as uremia, opium, trauma, etc. Tables and curves are given showing in detail the results of the experiments.

Deutsche medizinische Wochenschrift, Berlin

January 23, XXXIX, No. 4, pp. 145-200

87 Treatment of Mycoses. (Behandlung der Dermatomykosen.) V. Klingmüller.

88 Unfavorable Outcome of Tests of Tebesapin. (Experimentelle Untersuchungen mit dem Zeunerschen Tuberkulosepräparat "Tebesapin.") B. Möllers and G. Wolff.

89 Therapeutic Worthlessness of Mesbé in Tuberculosis. (Erfahrungen mit Mesbé bei Lungen- und Kehlkopftuberkulose.) O. Roepke.

90 Congenital Familial Jaundice. E. Maliwa.

91 *Brachial-Plexus Neuritis and Polyneuritis Following Pneumonia. (Metapneumonische Brachialplexusneuritis und -polyneuritis.) Biermann.

92 Causes of Putrid Sputum. T. Sasaki and I. Otsuka.

93 *Extra Danger from Operative Hemorrhage with Narrow Aorta System. E. Melchior.

94 Improved Technic for Estimating the Pupil Reactions in Differential Diagnosis. (Ueber den Schwellenwert der Pupillenreaktion und die Ausdehnung des pupillomotorische Bezirkes der Retina. Untersuchungen auf Grund einer neuen Methodik.) E. Schlesinger.

95 Signs of Intoxication After Injectious of Mercurial Proprietary. (Toxische Ercheinungen nach wiederholten subkutanen Embarininjektionen.) R. Fried.

96 Surgery of the Heart. (Zur Herzchirurgie.) H. Lucas.

91. **Neuritis Following Pneumonia.**—Biermann states that brachial neuritis following pneumonia has been reported only comparatively recently, while large numbers of cases have been published consecutive to typhoid, small-pox, scarlet fever, measles, acute polyarthritis, tuberculosis, erysipelas, mumps, epidemic meningitis, malaria and influenza. He has found only six on record in which the neuritis followed pneumonia, but adds three typical cases of this metapneumonic brachial plexus neuritis, all encountered in the last three years. In the first a previously healthy young woman, ten days after typical pneumonia, had pains in both arms and she was unable to use them; for three weeks she had to be fed. Five months after the onset of the neuritis there was still paresis and atrophy from the trouble in the brachial plexus but by the end of two years all traces of the disturbance had disappeared, confirming its neuritic character. The second patient was a farmer of 22 with a third attack of pneumonia in ten years. About two weeks after the last attack he had sudden violent pains in both arms with extensive paralysis of the arms the next day, involving also part of the shoulder muscles. The paralysis did not grow any worse but the muscle groups became more or less atrophied; they gradually recuperated under electric and bath treatment. In all three cases there was a slight difference in the size of the pupils, with normal light and accommodation reactions, suggesting possibly involvement of the cervical roots in the neuritic process. In both cases the brachial plexus was affected alone. In one case there were vasomotor and trophic disturbances, patches of redness and desquamation of the palms, such as have been observed by others with polyneuritis. In the third case the paralysis developed very gradually after recovery from the pneumonia, and it was restricted to the legs, sensory disturbances predominating.

93. **Danger from Operative Loss of Blood with Hypoplasia of the Aorta System.**—Melchior reports two cases of death under signs of the patients' having bled to death although less than three-fourths of a liter of blood had been lost. Necropsy revealed an abnormally narrow aorta system. Virchow called attention years ago to the frequent coincidence of endocarditis and hypoplasia of the aorta. The trouble is a misproportion between the capacity of the arterial system and the size of the rest of the body, entailing low resisting power. The symptoms were increasing pallor, motor restlessness with relatively good pulse, but no signs of postoperative shock. It is probable, Melchior thinks, that cases of "thymus death" may come under this heading. It is certainly a striking coincidence that in so many instances of the latter on record there had been just preceding hemorrhage. A misproportion between the amount of blood lost and the severity of the effect should suggest this constitutional oligemia from an unduly narrow aorta system. The hemorrhage in his cases was purely parenchymatous. Discovery of a morbidly narrow aortic system should warn against any operation except as a last resort. There do not seem to be any means to determine the presence of the anomaly, but it should be suspected when a physically well-developed young person has rebellious anemia and gets easily exhausted after slight effort. It might be possible to detect it by palpation of peripheral arteries.

Deutsche Zeitschrift für Chirurgie, Leipsic

December, CXX, Nos. 1-2, pp. 1-186

97 Fracture of the Odontoid Process of the Axis. (Frakturen des Zahnfortsatzes des Epistropheus.) E. Fritzsche.

98 Pedunculated Skin Flaps from the Chest to Cover Defects in the Fingers. (Uebertragung gestielter Hautlappen aus der Haut des vorderen Brustkorbs auf Fingerdefekte.) R. Sievers.

99 Hemorrhages in Stasis Cyanosis. (Stauungsblutungen infolge traumatischer Rumpfkompression.) E. Lange.
100 Outcome of Double Fracture of the Ankle. (Endresultat bei doppelten Knöchelbrüchen.) G. Molineus.

January, Nos. 3-4, pp. 187-394

101 Orchitis Ascribed to Strain. (Die angebliche Orchitis par effort vor der Pathologie, der Klinik und dem Unfallgesetz.) A. de Cortes.
102 Tissues Living Outside the Organism. (Ueber Gewebskulturen in vitro unter bes. Berücksichtigung der Gewebe erwachsener Tiere.) A. Dilger.
103 *Intravenous Anesthesia. W. Keppler and F. Breslauer.
104 Ischemic Paralysis and Contracture. (Beiträge zur Anatomie und Pathologie der quergestreiften Muskelfaser. Experimentelle Studien zur Lehre von der ischämischen Muskellähmung und Muskelkontraktur.) F. Kroh
105 *Tubercle Bacilli in the Circulating Blood in Surgical Tuberculosis. M. Krabbel.
106 Twelfth Case on Record of Pure Dislocation of the Articulation of Astragalus with the Scaphoid Bone. (Luxation im Talonaviculare Gelenke.) W. Nobe.

103. **Intravenous Anesthesia.**—This communication from the university clinic in charge of Bier reviews the history of attempts to induce general anesthesia by the intravenous route, and then reports extensive experimental experiences. The results with the ordinary anesthetics were highly discouraging; better results were obtained with alkaloids of the opium group.

105. **Tubercle Bacilli in the Blood with Surgical Tuberculosis.**—Krabbel examined eighteen patients with certain surgical tuberculosis and found tubercle bacilli in 66.6 per cent.; also in 20 per cent. of five with tuberculous lymph-nodes and in 25 per cent. of four with mucosa, skin or tendon-sheath tuberculous processes. The finding of the tubercle bacilli is of great differential importance in dubious cases of surgical tuberculosis, when there are no clinically apparent tuberculous lesions in the lungs which might explain the presence of the tubercle bacilli in the blood.

Jahrbuch für Kinderheilkunde, Berlin

January, LXXVII, No. 1, pp. 1-124

107 *Chronic Nephrosis in Children. O. Heubner.
108 Dependence of Calcium Balance on Intake of Alkali. (Abhängigkeit der Kalkbilanz von der Alkalizufuhr.) M Dubois and K. Stolte
109 The Metabolism of Minerals in Rachitis. C. Meyer.
110 The Blood-Picture in Articular Rheumatism, Chorea, Endocarditis and Pseudochorea. (Zur Kenntnis des Verhaltens des Blutes bei den Rheumatosen.) J Takeno.
111 Antitoxin in Nervous Phenomena of Diphtheria. (Zur Frage der Wirksamkeit des Diphtherieserums bei Beteiligung des Nervensystems an der Erkrankung.) W. Beyer and H. Kleinschmidt.

107. **Chronic Nephrosis in Children.**—Heubner uses the term nephrosis because he finds that the kidney affections of childhood cannot be classified according to the terminology usually used in describing kidney disease in adults. In a series of 17,000 cases extending over a period of seventeen years he found only seventy-three children with chronic kidney disease. These he divides into six classes: 1. Chronic hemorrhagic nephrosis. Thirty, or almost half of all the cases, were characterized by bloody urine, persisting continuously for years. There was albuminuria of from 3 to 9 per cent. or even higher, with leukocytes and casts of all kinds. Dropsy of greater or less degree was always present. The histological picture was a combination of parenchymatous and interstitial characteristics. A large percentage of these children have the lymphatic constitution, and in cases with otitis, tonsillitis or swollen glands he recommends removal of the tonsils and careful attention to the nose, throat and ear. Specific infections do not seem to be particularly important in this group. The prognosis is difficult. The duration is often for years but the tendency is to grow worse.

2. The second group is very similar to the first except that there is no hemorrhage. Clinically the type is more severe and the course shorter. Dropsy is generally the first symptom that calls attention to the kidneys. Except that there is no blood, the urine shows the same characteristics as in the preceding group. Death generally occurs after several months. The pathologic picture is that of the large white kidney. 3. A true contracted kidney was observed in only one case, that of a patient with hereditary syphilis. 4. There were only six cases in this group, characterized by pyelitis. The process was evidently a septic infection extending upward. Bacteriologically they were all colon bacillus except one case which was streptococcus. The symptoms were fever, pain and swelling in the kidney region, large quantities of albumin and pus and all kinds of casts. 5. This group includes the mild nephroses following acute infections diseases, chiefly scarlet fever. There were thirteen cases. No dropsy was observed. Frequently there are no symptoms pointing directly to the kidney but when the urine is examined it is found to contain a slight amount of albumin and sometimes hyalin and granular casts. It may last for years without affecting the general health seriously, but if the child is attacked again by an infectious disease it may pass over into one of the more serious forms. 6. This group is practically the same as the preceding, clinically and etiologically, except that it is milder. The albuminuria is intermittent and frequently recovery is complete. The treatment recommended is practically the same as that commonly given for nephritis in adults.

Medizinische Klinik, Berlin

January 19, IX, No. 3, pp. 83-122

112 Epileptoid States in Alcohol Intoxication. E. Meyer.
113 Hernias in General. H. Schloffer.
114 *Ulcerative Colitis. (Colitis ulcerosa und ihre Behandlung.) K. Wegele.
115 The Heart and Competitive Athletics. (Herz, rechte Herzkammer und Sportleistung.) J. A. Grober.
116 *The Question of Diuresis. M. Klotz.
117 Recurring Diphtheria of the Vulva. (Rezidivierende menstruelle Vulvadiphtherie.) M. Penkert.
118 Tentative Research on Treatment of Peritonitis. E. Schepelmann.

114. **Ulcerative Colitis.**—Wegele remarks that the results of operative treatment of ulcerative colitis have not been very encouraging to date. Mummery reported twenty-one patients cured in twenty-seven operative cases and seven patients cured under medical measures alone. Zweig had four die in seven operative cases and two patients were left with a permanent fistula. Wegele cites additional experiences to sustain his assertions that systematic local and internal treatment is liable to cure although not guaranteeing against recurrence. Even surgery has not accomplished this to date The course of ulcerative colitis is extremely chronic and protracted, with a special tendency to recurrence. In the acute stage Rosenheim advises (with Plehn) twelve doses daily, for three days, each 0.03 gm. calomel (0.02 for children), following this with bismuth salicylate. In the chronic stage the intestine must be systematically rinsed out and then a medicated enema injected. It requires great perseverance on the part of the patient but the trouble is well repaid. Application of a powder under rectoscopy should be restricted to the ampulla. He does not regard rectoscopy as so harmless as many do; the medical press last year published five cases of perforation from this cause.

116. **Diuresis.**—Klotz refers to Brodzki's experimental research which demonstrated that milk-sugar has a marked influence in promoting diuresis. The mild diuretic action of lactose was already known to pediatrists. If a child is put on full milk, the majority of the fluid thus ingested will find its way out again in the urine while the stools will become hard. Klotz has found a vegetable diet useful in treatment of enuresis as so much of the fluid ingested is diverted to the intestines away from the kidneys. Certain fruits have a diuretic action, but vegetables reduce the output of urine, according to his clinical experience. Diabetics on a vegetable diet find their thirst relieved and the polyuria diminished. He reiterates that in nephritis a vegetable diet will aid materially when it is advisable to reduce the water intake; by its alkaline elements it aids further in reducing the acidity of the urine.

Monatsschrift für Geburtshülfe und Gynäkologie, Berlin

January, XXXVII, No. 1, pp. 1-168

119 *Eclampsia. (Behandlung der Eklampsie. Eine übersichtliche Besprechung.) P. Zweifel
120 Retention of Ovum. (Ueber Breus'sche Molen und retinierte Eier im allgemeinen.) E. Waldstein.
121 *Primary Tuberculous Elephantiasis. (Die elephantiatische Tuberkulose der Vulva.) C. Daniel.

122 Severe Traumatic Injury of the Uterus. (Ursachen, Therapie und die forensische Bedeutung der violenten Gebärmutterverletzungen.) R. Bretschneider.
123 Wassermann Reaction During Pregnancy and the Puerperium. F. Sarateanu and C. Velican.
124 *Interrelations Between Internal Secretions of Mamma and Ovary. F. Cohn.
125 Defects in Scalp of the Newly Born. (Zur Kenntnis der Weichteildefekte am Kopfe Neugeborener.) E. Vogt.
126 *Extradural Anesthesia for Surgical and Gynecologic Operations. T. Bleek.

119. **Treatment of Eclampsia.**—Zweifel reviews the history of the treatment of eclampsia and discusses the different methods in vogue at different periods. He does not believe in operative interference in the majority of cases, and has had far better results with expectant treatment, venesection and the administration of hypnotics according to Stroganoff's method, which was outlined in The Journal, Dec. 21, 1912, p. 2293.

121. **Tuberculous Elephantiasis of the Vulva.**—Daniel reports in detail with histological findings a case of tuberculous elephantiasis and cites seven cases from the literature. The diagnosis from syphilitic or filarial elephantiasis is made by the ophthalmic and Wassermann reactions, microscopic examination of a piece of tissue cut from the growth, and the presence of other symptoms of tuberculosis, fever, loss of weight, enlargement of inguinal glands, tuberculous foci in the lungs, etc. The treatment is complete excision of the growth, but in the majority of the cases there has been recurrence and finally death from tuberculosis of the lungs or intestines

124. **Effect of Ovarian Secretion on Mammary Gland.**—Cohn concludes from animal experimentation and a number of human cases described that the internal secretion of the ovary exercises a stimulating effect on the growth of the mammary gland but that, on the contrary, it has an inhibitory influence on milk secretion.

126. **Extradural Anesthesia in Surgical and Gynecological Operations.**—Bleek recommends extradural anesthesia with novocain as the method of choice in operations in the region of the sacral nerve and all rectal and vaginal operations, and, with the addition of slight general anesthesia, in Alexander's operation and operations for hernia and on the bladder. He gives as a rule 20 c.c. of a 2 per cent. solution, injected slowly so that the injection requires two or three minutes, due care being exercised to avoid getting inside of the dura. He describes his own results in a series of fifty cases. In sixteen it was necessary to give a general anesthetic during a part of the operation.

Münchener medizinische Wochenschrift

January 21, LX, No. 3, pp. 113-168

127 *Asthma. (Zur Kenntnis und zur Therapie des Asthma.) C. Stäubli.
128 *Blood in the Spinal Fluid. W. Geissler.
129 Botulismus Poisoning; Six Cases. (Gruppe von 6 klassischen Botulismuserkrankungen in der Eifel und der Nachweis ihres Erregers, des Bacillus botulinus.) E. Schumacher.
130 *The Hypophysis and Diabetes Insipidus. M. Simmonds.
131 *Efficiency of Oleum Chenopodii in Ankylostomiasis. (Das Oleum chenopodii gegen Ankylostomiasis und eine neue Methode der Wertbestimmung von Wurmmitteln.) W. Schüffner and H. Vervoort.
132 Graduated Percussion Hammer. (Das Perkussionsquantimeter.) G. Baer.
133 The Cutaneous Tuberculin Reaction in Prophylaxis of Tuberculosis. (Kutanreaktion im Dienste der Schwindsuchtsprophylaxe.) Buttner-Wobst.
134 Psychiatry and Gynecology Bossi.
135 Cerebral Abscess Originating in Ear. (Zur Pathologie und Klinik der otogenen Grosshirnabszesse.) L. Haymann.
136 *Marion Sims. A. Allemann.
137 *Medical Impressions of America. (Allgemeine Eindrücke von Amerika.) Galli.

127. **Asthma.**—Stäubli defines asthma as the result of a spasm of the bronchi plus a vasomotor secretory narrowing and obstructing of the lumen of the finer bronchi. One or the other factor may predominate, and there is generally an inherited predisposition. The musculature of the bronchi and the nerve centers innervating the mucosa and having control of respiration respond with undue readiness to various reflex irritations from the respiratory or gastro-intestinal tract, the genital apparatus or the skin, or to climatic factors, dread and other emotions—the result being a spastic and secretory contraction and obstruction of the finer bronchi, thus interfering with the escape of the air from the alveoli. The air left in the lung (the residual air) and the reserve air, that is, the amount of air which can be expelled by a maximal expiration, are present in such amounts that the actual amount of air that can be utilized is reduced, while the complementary air, that is, the amount which can be drawn in at a breath above the ordinary amount inspired, is reduced to the minimum. Stäubli shows by diagrams the serious condition which may thus result when the lungs are crowded with residual and reserve air, leaving no room for the tidal air. Treatment should aim to reduce this hyperexcitability of the nerve centers involved and of the nerve terminals in the air passages. For general hygiene in these cases he commends a trip to the mountains and horseback riding. Congenial occupation for the mind is a powerful aid, but there is nothing that proves so effectual as a mountain climate. A few months among the mountains frequently banishes permanently the disposition to asthma. Epinephrin is proving the most powerful local measure, with or without a little atropin and cocain. Unless the spray is of the finest, the fluid condenses in the throat and does not reach the alveoli, so Stäubli has invented a little atomizer which works with a very small amount of fluid and can be carried conveniently in the pocket. The tube from the bulb branches, one branch causing the spray which is driven into a funnel inside the atomizer. As the spray emerges from the funnel it is atomized anew by the second air jet from the bulb. The spray by this double manipulation is so fine that it can be driven through a tube a foot long with a lumen of only 6 mm., the tube wound once and a half on itself. A small amount of the ordinary 1 per thousand solution of epinephrin in this pocket atomizer gives the patient confidence that he will be able to abort an impending attack at any time, so he feels free to attend theaters, etc., which in turn has a favorable influence on his general nervous condition. Stäubli has never witnessed any by-effects from this epinephrin spray, and the effect seems to be more lasting than with subcutaneous injections of larger amounts. The attacks grow lighter and the intervals longer. It proved particularly useful for patients who had been recuperating in the mountains. With the epinephrin spray they warded off further attacks after their return.

128. **Blood in the Spinal Fluid.**—Geissler gives two tables to show the special differential points that can be learned from the examination of the spinal fluid.

130. **The Hypophysis and Diabetes Insipidus.**—In Simmonds' case a woman of 37 developed obstinate and intense polyuria two months after removal of a cancer in the breast. The amount of urine varied from 10 to 19 liters a day. Necropsy three months after the operation on the breast showed that the entire posterior portion of the hypophysis had been entirely destroyed by a metastatic cancerous process. Consequently, the polyuria could not have been induced by the secretion from this portion of the hypophysis. Schäfer's research has established that the anterior portion of the hypophysis can have nothing to do with the secretion of the urine. The intermediate portion, although intact, yet must have been irritated to hyperfunctioning by the adjacent destructive process in the posterior portion. The conclusion follows that this pars intermedia is responsible for diabetes insipidus.

131. **Oil of Chenopodium in Hookworm Disease.**—Schuffner and Vervoort state that in their practice at Deli in the last fifteen years they have found uncinariasis extraordinarily prevalent. In the last eight months they have been giving oil of chenopodium a thorough trial in 1,457 cases, comparing the efficacy with that of thymol, naphthol and other vermifuges. Compared with eucalyptus oil with a coefficient of 38, naphthol with 68 and thymol with 83, oil of chenopodium surpassed them all with 91. Another great advantage is that it expels ascarides with the hookworms, thus impressing the minds of the patients much more than when the insignificant hookworms alone are expelled. It is also comparatively pleasant to take.

136. **Marion Sims.**—The *Wochenschrift* pays graceful tribute to American science with a fine protrait of Sims and biograph-

ical sketch, stating that "America takes a place of honor in the history of operative gynecology. The names of McDowell, Nott, Battey, Emmet, Bozemann, Edebohls and Kelly will be known for all time, but none shines with such luster as the name of Marion Sims."

137. **Medical Impressions of America.** Professor Galli was a member of the medical study trip to this country last fall, and his impressions seem to have been very favorable in regard to medical conditions in America and the American character in general. The American, he says, is unwilling to give up the time for internal treatment and consequently has his organs removed to save time. Passing through the operative wards, the expression of the patients is not sad nor despairing but only impatient that they cannot get up right away. Galli adds that the operations are done more leisurely and with greater precision, possibly, and take more time than is the rule in Europe. He says of the propaganda for reform in the advertising of proprietaries that it has been carried on in true American style on an immense scale and with corresponding success by the American Medical Association, "a powerful organization of physicians which has its headquarters in Chicago, where it owns an imposing seven-story building, in which, besides the extensive chemical laboratory, the official organ of the association is published. This journal has a leading place in American medical literature; it is well managed and appears in the huge weekly edition of 55,000 copies." (*Sie ist vorzüglich geleitet und erscheint in der gewaltigen Auflage von 55,000 Exemplare.*)

St. Petersburger medizinische Zeitschrift

January 14, XXXVIII, No. 1, pp. 1-14

138 Rôle of Albumin in Anaphylaxis. O. Hartoch.
139 Organotherapy to Date. (Bedeutung der innersekretorischen Organe als Heilmittel.) L. v. Lingen.

Wiener klinische Wochenschrift, Vienna

January 23, XXVI, No. 4, pp. 125-160

140 Digestion and Absorption in Light of Serology. (Einige Fragen aus der Physiologie und Pathologie der Verdauung und der Resorption im Lichte moderner serologischer Lehren.) W. Buettner.
141 Final Report on Salvarsan. (Schlussbericht über unsere Erfahrungen mit Salvarsan.) O. Kren.
142 *Recovery of Hearing After Nearly a Year's Deafness of the Barany Type. R. Barany.
143 *Hereditary Familial Atrophy of Optic Nerve. (Sehnervenatrophie.) E. Guzmann.
144 The Phenolphthalein Spectrum. B. Bardach.
145 *Benzol in Treatment of Leukemia. A. v. Koranyi and F. Tedesko.

142. **Complete Restoration of Hearing after a Year of Deafness.**—Barany has encountered to date thirty-five cases of the syndrome he described two years ago in which deafness, headache, vertigo and tinnitus suggested accumulation and retention of fluid in the cerebello-pontine angle. This circumscribed abnormally high pressure may be due to intense local secretion or to obstruction of the outlet. In either case as soon as the fluid finds its way out, the disturbances cease and the hearing may become normal once more. Lumbar puncture may open a passage or anything increasing the pressure to such an extent as to force a passage. He gave atropin for the latter purpose in several cases and the results were good in one instance. A brief excess in liquor drinking answered the purpose in one case, the patient stating that he felt as if something had torn loose in his head and this was followed by the subsidence of the headache, tinnitus and vertigo which had tormented him for weeks. There has been no recurrence during the year or more since. Two of his cases suggest that the syndrome may occur in a rudimentary form comparatively often but escapes recognition. In the first a man of 40 applied for relief from annoying noises in the left ear, stating that his hearing was perfect. The Weber and Rinne tests, however, showed disturbance in the internal ear. There was a remote history of syphilis. He also said he had a curious feeling as if a fluid moved around in his head when he shook it. About 5 c.c. of fluid were released by lumbar puncture and the noises in the ears disappeared at once and tests of hearing showed normal conditions thereafter. The other rudimentary case was in a woman of 35 who complained only of severe tinnitus in one ear. Barany scarcely ventured to diagnose his syndrome but the woman returned two weeks later with all the symptoms of the syndrome in a pronounced form, vertigo, vestibular nystagmus, defective hearing of the internal-ear type, pains in the back of the head and tenderness behind the mastoid process. This patient is still under treatment. Such rudimentary cases teach that Babinski's success in treating tinnitus, vertigo and deafness with lumbar puncture may have been due to the cases of this category included in his material. In the case reported in detail, Barany was obliged to supplement the lumbar puncture with incision of the dura; this improved conditions for months but the affection returned later on the other side and compelled the same extensive operative treatment. The lumbar puncture merely aggravated the symptoms. At date of writing all symptoms had subsided and hearing was normal once more after over a year of deafness.

143. **Familial Atrophy of the Optic Nerve.** Guzmann states that only about 12 per cent. of the total 300 cases of this kind on record were in women, but in the six cases in one family which he reports one was in a woman and the atrophy of the optic nerve did not develop until she was over 50. In 180 cases on record in which details are given he could find no mention of the unilateral development of the trouble as in one of his cases. This patient threw off the trouble later. Recovery is exceptional.

145. **Benzol in Treatment of Leukemia.** Koranyi reiterates here that his experience in six of eight cases of leukemia has been excellent; another patient did not tolerate the benzol and in the eighth case no benefit was derived from either the Roentgen rays, thorium or benzol. In the six favorable cases the whites dropped from 200,000 or 300,000 to 4,000 up to 12,000. The relative number of the pathologic forms materially declined, the patients were able to return to business, and one woman, received in a miserable condition, is now at the sixth month of a pregnancy and seems to be entirely well. Six other clinicians have reported nearly as favorable results. In all the cases the spleen subsided in size, with the swollen lymph-nodes, and the patients increased in weight. In one case the whites increased again to 24,800 by the end of the third month, but on resumption of the benzol they dropped again to 6,000. Pappenheim published an article in the *Wochenschrift* two weeks before in which he criticized the dosage given, theorizing that it was inadequate and reporting experiences with healthy rabbits injected with 0.03 c.c. benzol which showed severe injury of the kidneys and liver. But Koranyi comments that the conditions in healthy rabbits cannot be compared with those in leukemia in man, while Pappenheim's dosage was so very large that it readily explains the injury observed. Koranyi starts with this dose in a clinical case. Tedesko adds that he never witnessed any injury of the kidney or impairment of the general health at the maximal dose of 3 gm. per day in the clinic, but he appreciates Pappenheim's warning that danger is liable to result when too large doses are given. (See Billings' article in The Journal, Feb. 15, 1913, p. 495.)

Zentralblatt für Chirurgie, Leipsic

January 25, XL, No. 4, pp. 121-152

146 *Roentgenotherapy of Actinomycosis. R. Levy.
147 Transplanted Peritoneum Flap. (Zur Frage der freien Transplantation des Peritoneum.) A. Hofmann.
148 Technic for Suture of Large Hernias. (Zur Naht von grösseren Nabelbrüchen und ähnlichen Hernien.) Bertelsmann.
149 Contusion of the Pancreas. (Subkutane Pankreasquetschungen.) Hagedorn.

146. **Radiotherapy of Actinomycosis.** Levy remarks that the kinship between the tubercle bacillus and the actinomyces and the frequent clinical similarity between the affections they induce suggest that the effects of exposure to the Roentgen rays or direct sunlight might prove as beneficial with the latter as with the former. He consequently applied the Roentgen rays in a case of recurring actinomycosis in a man of 41. There was profuse secretion from the lesion but this was arrested at once by the first exposure and the fistula healed up

within a few days. As the main focus had been excised in this case and large doses of iodid given, it was a question whether the benefit was due exclusively to the radiotherapy. In a second case a man of 35 was given no other treatment than the exposures when he returned with several fistulas a year after extensive resection of the cheek and upper jaw for actinomycosis. Under the Roentgen exposures, given with the same technic as for tuberculous lymph-nodes, the infiltration subsided and the fistulas soon healed. There has been no sign of recurrence in either case during the more than six months to date.

Zentralblatt für Gynäkologie, Leipsic

January 25, XXXVII, No. 4, pp. 121-152

150 Herpes Zoster in the Puerperium. H. Kunz.
151 "Hands Off the Uterus." ("Hand von der Gebärmutter.") J. Reich.
152 *Signs of Maturity of Fetus at Ninth Month. (Die Reifezeichen der Frühgeburt im 9 Monat.) R. Lutz.
153 Vacuum Capsules for Applying Heat in Chronic Pelvic Disease. (Zur Behandlung chronischer Beckenerkrankungen.) Hasse.

152. **Signs of Maturity of the Fetus.**—Lutz tabulates under twenty-seven headings various details in regard to the physical findings and the behavior of twenty-four infants born at the ninth month. He makes a distinction between "ripe" and "carried to term." Of the twenty-four prematurely born children only three were under 50 cm. in length and nearly every one had all the typical signs of maturity. His practical conclusion is that it is extremely difficult to determine the age of a newly born child from its physical appearance, and great caution is necessary in forensic cases. The length and weight show very little change during the ninth and tenth months. In the ninth month the corporeal development of the fetus is practically completed, the tenth month serves for the further development of the internal structures. His average in a thousand infants was for the eighth month, weight. 2,050 gm.; length, 48 cm., and circumference of the head 34; ninth month, 2,880, 52, 35; tenth month, 3,310, 54 and 37.

Zentralblatt für innere Medizin, Leipsic

January 25, XXXIV, No. 4, pp. 81-112

154 Electric Registration of the Movements of the Vessel Walls with the Pulse; the Electroangiogram. A. Bittorf.

Gazzetta degli Ospedali e delle Cliniche, Milan

January 9, XXXIV, No. 4, pp. 33-40

155 General Principles for Treating Extra Large Hernias: Seven Cases. (Cura radicale dell'ernia ombelicale e dell'ernia della parete addominale.) N. Trazzi.

January 16, No. 7, pp. 65-72

156 *Carbon Dioxid and Malaria. (Ossido di carbonio e malaria.) G. Cajozzo.

January 19, No. 8, pp. 73-88

157 Differential Diagnosis of Ovarian Cysts. (Cistomi ovarici voluminosi.) F. Marinelli.

January 21, No. 9, pp. 89-96

158 Anatomic Predisposition to Paralysis of the Sixth Nerve as Complication of Spinal Anesthesia. (Paralisi del sesto paio come complicanza della rachianestesia stovainica.) O. Tenani.

156. **Accessory Factors in Malaria.**—Cajozzo presents evidence to prove that a predisposition is necessary for the malarial plasmodium to settle in the blood-corpuscles. When the blood-corpuscles are healthy the plasmodium does not get a hold. Everything, therefore, that injures the blood-corpuscles favors malarial infection. Chief among the factors reducing the vitality of the corpuscle is carbon dioxid, whether derived from decaying vegetation or in crowded or defectively heated and ventilated rooms.

Semana Medica, Buenos Aires

December 19, XIX, No. 51, pp. 1281-1340

159 *Curable Forms of Acute Tuberculosis. (La tifo-bacilosis.) G. A. Alfaro.
160 Research on Plasmogenesis. (Nuevas conquistas de la plasmogenia. Los movimientos brownianos se deben a microorganismos.) A. L. Herrera.
161 Comparative Physiology of the Circulation. V. Delfino.
162 Experimental Tuberculosis at High Altitudes in the Andes. N. M. Villazon.

159. **Acute Curable Tuberculosis.**—Alfaro remarks that serofibrinous pleurisy in most cases is merely an acute tuberculous affection of the pleura, and the same may be said of many cases of pneumonia, peritonitis, arthritis, septicemia with endocarditis and even meningitis—each may be of bacteriologically confirmed tuberculous origin and yet the patients recover. The acute form to which he refers in particular has an onset suggesting typhoid to such an extent that Landouzy calls it typhobacillosis. Fever and moderate enlargement of the spleen persist but the temperature curve differs decidedly from that of typhoid. Outside of the hours of high fever the patient's general health does not seem much impaired and he eats with appetite. After six weeks, two months or more, the fever gradually subsides and the recovery becomes progressively clinically complete. Frequently, however, after a few months or even weeks, some tuberculous process in bones or abdomen, pleura, lungs or meninges becomes evident. Some typical cases are described, as for example, the case of a child of 3 or 4 who passed through the first phase suggesting typhoid fever without any local manifestation of the tuberculosis, then followed a period of convalescence and then cough and symptoms of asthma finally traced to a tuberculous lymph-node in the mediastinum entailing tuberculous pleurisy with slight fever for several months but finally terminating in apparently complete recovery with no signs of further trouble during the year since. In another case a pulmonary process developed before the fever of the first phase had entirely subsided, but in both cases the patient seems to have entirely conquered his tuberculosis. In other cases the children escape any secondary phase; one little girl of 4 had for over three months an irregular high fever with a spasmodic cough suggesting whooping-cough, foci of congestion in the lungs, emaciation and tachycardia; her two sisters had had a similar affection terminating in tuberculous meningitis, but the little patient in this case seems now to have entirely recovered, although there is no telling what the future may bring forth, as the cutaneous reaction to tuberculin is still pronounced. Landouzy has had only ten deaths among his more than 200 cases of this kind. In treatment the main point is not to make the mistake of putting the patients on the typhoid diet and keeping them confined in the house. Alfaro sends such patients to the country if possible, keeping them on a light nourishing diet with arsenic and iodids, persisting in the fresh-air course long after all the symptoms have subsided, hoping thus to ward off secondary trouble, and his experience has been very gratifying with this class of patients. He quotes in conclusion the saying of Claisse that nowadays we have to guard against undue pessimism while in the future the trouble will be to guard against undue optimism.

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163 *Permeability of the Pylorus After Gastro-Enterostomy. (Passage gennem Pylorus efter Gastroenterostomi og operativ Pylorusforsnævring.) A. Blad.

163. **Permeability of the Pylorus After Gastro-Enterostomy.**—Blad discusses the various methods in vogue for closing up the pylorus in doing a gastro-enterostomy and reports a case in which he folded in the duodenum and pylorus along the lengthwise axis with silk sutures, forming a roll about 6 cm. long, the size of one's little finger. The patient was a woman of 27 with an old chronic duodenal ulcer close to the pylorus, refractory to medical measures. On account of the danger of hemorrhage he considered it wise to close the pylorus entirely. Reexamination seven months later showed that the stomach contents were expelled mostly through the new opening, but that at the same time part passed out through the pylorus. The patient had been freed from all disturbances by the operation, and Blad has become convinced that this technic is the best under the circumstances, that is, a technic which closes up the pylorus for a time and thus permits the lesion to heal while allowing the pylorus to become permeable once more after all danger of irritation of the ulcer by passage of food over it is past. No technic in vogue seems to ensure permanent closure of the pylorus, and this may be an advantage.

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SOME FEATURES OF THE THEORY AND PRACTICE OF MEDICINE DURING THE SEVENTEENTH CENTURY

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It must not be forgotten that in medicine as in all progressive, and especially in all intellectually progressive, pursuits any distinct period of time is the offspring of the previous and the parent of the succeeding period. Ideas have come over into it from its predecessors and have been transmitted with a variable increment of development to its successors. In this way the seventeenth century is the child of the sixteenth and the parent of the eighteenth century.

In searching for a vital point about which the achievements of this period may group themselves; in seeking the one great fact that distinguishes the seventeenth century from those that preceded it and those that followed it, there can be little hesitation in acknowledging the theory of the circulation of the blood to be the most important contribution to medical science during this period.

Prior to the discovery of Harvey, there had been little advance on the view taken by Praxagoras of Cos in the third century B. C. He is believed to have discovered a distinction between the arteries and the veins, according to which the veins carried blood, while the arteries distributed the vital spirits through the body. The greater thickness of the arterial walls was rendered necessary by the volatile character of their contents. The vital spirits were not fluid nor were they visible. They did not bubble in water as air would do. According to this theory, the blood that passed from the cut end of an artery when a limb was severed had suddenly been absorbed from the adjacent injured parts, the vital spirits forcing this blood violently through the severed artery.

Galen, four centuries after Praxagoras, in trying to explain the entrance of the vital spirits into the arteries, became convinced that it was the air that entered the left ventricle from the lungs. I shall have occasion further on to explain his teaching in detail.

It would seem as if the discovery of the valves in the veins should have opened up the way so plainly that the remaining step might follow immediately as a consequence; but it is easy to be wise after the fact. Harvey was long perplexed. "I found the subject so full of difficulties," he says in the "Exercitatio," "that I was ready to believe with Fracastorius (*motum cordis soli Deo cognitum fuisse*), that the action of the heart could be comprehended by God alone." He pursued the matter for years before the whole truth was opened to him. At length, however, he was able to give a full account of his great discovery in his work entitled "Exercitatio Anatomica de Motu Cordis et Sanguinis in Animalibus," but there was no bookseller in London who would publish it. So he went over with his manuscript to Frankfort, where in 1628 it was finally printed and issued.

EARLY SEVENTEENTH-CENTURY SCIENCE AND MEDICAL THEORY

It was a strange world on which burst this sudden gleam of unaccustomed light. The belief in the transmutation of metals, the search for the elixir of life, judicial astrology, magic and witchcraft lay like a fivefold incubus on the minds of men. Let us take a passing glance at the attainments of the scientific mind in the beginning of the seventeenth century.

The belief in the transmutability of the baser metals into gold was as firm in the seventeenth century as in the twelfth. It was not perhaps as prevalent, but it was as sincere, and as eagerly prosecuted. It was stimulated, moreover, by plausible successes in the past. Raymond Lully was said to have changed fifty thousand pounds of some other metal into gold for Edward I of England, and many instances of similar success still held out vast promises of wealth and the power that comes from wealth to the eager hopes of the contemporaries of Milton and Sir Thomas Browne. The word "element" was current at the time in a sense so near to that which it now bears as to obscure the essential difference between the two actual meanings. Everything was thought to consist of one or more of the four elements then recognized—earth, water, fire and air—but these so-called elements themselves were not thought of as simple homogeneous indivisible bodies which is our present conception of an element. So the metals were regarded as compounds, and mercury and sulphur were thought to be their constituents. The only necessity, then, for the production of gold was a rule that would give the requisite directions as to the amount of the mercury and of the sulphur required, the degree of purity that was requisite in each, and the temperature to which the mixture was to be exposed, as well as the period of exposure. It was stated[1] as an ascertained and familiar fact that gold was composed of a most pure red sulphur and of the purest quicksilver.

> This metal is only perfect; all other is corruptible. It is concocted with sufficient heat and mixture of sulphur, whereas all other metals, either are not so well concocted, or else they have not the due quantity of brimstone; and because Nature in all her works seeketh the best end, she intendeth of all metals to make gold; but being hindered either for want of good mixture or good concoction, she bringeth forth other metals. Silver is the most pure metal next unto gold. It hath an indifferent good concoction, but it wanteth sufficient

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[1] Swan, Charles: Speculum Mundi.

heat in the mixture and therefore it looketh pale. It is a metal composed of pure white mercury and of clear white brimstone or sulphur.

This book was published in the year 1635, the year before Harvard College was founded. Sir Thomas Browne was then 30 years old; Milton had already achieved fame as a lyric poet, and Charles I had occupied the throne ten years. As an indication of the tenacity of this belief, I may add that about the beginning of the nineteenth century, Dr. Girianger of Göttingen made the confident prediction that before the nineteenth century had closed "the transmutation of metals will be generally known and practiced. Every chemist will be able to make gold."

If the transmutation of the metals was an appeal to men's thirst for power through the acquisition of wealth, judicial astrology was an attempt to gratify their desire to know what the future would bring to them as individuals. It is believed that alchemy gave birth to chemistry, and astrology to astronomy; but this is only partly true, for in each the method has been altered, the purpose has changed and the result altogether differs. But in the seventeenth century everybody believed in astrology. It was recognized by Parliament and accepted by Oxford and Cambridge. The author of the "Anatomy of Melancholy," Robert Burton, an English clergyman and a resident fellow at Cambridge, cast his own horoscope, and his life ended at the moment he had predicted.

Bacon, in his "Essay on Prophecies," says:

> When I was in France I heard from one Dr. Pena that the queen-mother, who was given to curious arts, caused the king her husband's nativity to be calculated under a false name; and the astrologer gave a judgment that he should be killed in a duel; at which the queen laughed, knowing her husband to be above challenges and duels.

But he was slain in a tournament, running against a knight named Montgomery, whose lance was split, and a splinter ran in at the king's beaver and killed him. Bacon died in 1626, two years before Harvey's book appeared.

In the year 1647 the astrologer William Lilly was consulted by King Charles I as to some expedient that would ensure the royal safety. The king's horoscope was cast and a way pointed out by which danger might be averted; but among the crowd of royal counselors, he neglected to follow the advice of the astrologer, and lost his kingdom and his life. In 1651 Lilly published a book called "Monarchy or No Monarchy," containing two hieroglyphic figures, copies of which are in my possession, which seem to foretell the plague of 1665 and the great fire that destroyed the city of London in 1666, fifteen years after the prophecy was published. He also predicted the exact duration of the interregnum and foretold the date of the Restoration.

In 1665 Lilly settled at Horsham and in 1670 he was licensed to practice medicine. Lilly's "Grammar of Astrology" was so much in vogue at Cambridge that he dedicated a second edition to that university. John Kepler, who died in 1630, and who discovered that the planetary orbits are elliptic and not circular, was not only an astronomer, but he also advanced astrology by developing some of its theories. He even added five aspects to the five that were in use before his time. There was, to be sure, a strain of mysticism in Kepler's nature which brought him into sympathy with occult forces.

As the production of gold promised power, and as astrology foretold the future, so the elixir of life held out a certain hope of the renewal of youth. The quest of the elixir was becoming less general and less confident of success, but it had not entirely died out at the middle of the following century, for Casanova duped Mme. D'Urfey into a belief in his ability to rejuvenate her, and he tells the story himself. Sir Thomas Browne, a physician of well-merited fame, acknowledged that the desire for length of days is not an unlawful one, but he perceived the fallacy of the attempt to procure it. He said:

> Were there any hopes to outlive vice, or a point to be superannuated from sin, it were worthy our knees to implore the days of Methuselah. But age doth not rectify but incurvate our natures, turning bad dispositions into worser habits and, like diseases, brings on incurable vices; for every day as we grow weaker in age, we grow stronger in sin, and the number of our days doth but make our sins innumerable.[2]

On March 14, 1618, Margaret and Phillis Flower were executed for the crime of bewitching Henry, the eldest son of the Earl of Rutland, and causing his death, and "for preventing by diabolical arts the said earl and his countess from having any more children." They were tried before Sir Henry Hobart, the Chief Justice of the Common Pleas, and condemned to death. It was proved that to destroy the son, they had taken a glove belonging to him and had buried it in the ground; and that "as that glove did rot and waste, so did the liver of the said Henry rot and waste." They were burned at the stake.

The witch statutes of the English penal code were enacted in the thirty-third year of Henry VIII, in 1542, and were not repealed until 1736. During the whole of the seventeenth century, then, they were enforced by the authority of the Crown, of Parliament and of the King's Bench. In that century, too, every one believed in witchcraft. Sir Thomas Browne concurred without hesitation in the justice and propriety of the laws punishing witchcraft with death. Perhaps no abler judge has ever sat on the bench than Sir Matthew Hale, the famous chief justice during the reign of Charles II. His vigorous intelligence, his rectitude of judgment, his gentle disposition and his clear mind combined with his remarkable learning to make him a great judge. At Bury St. Edmunds, at the spring assizes, two widows named Rose Cullender and Amy Duny were tried as witches in his court. They were accused of having bewitched several children, among whom were Elizabeth and Deborah, aged 11 and 9 years, children of a merchant named Samuel Pacy. The father testified that his younger daughter, being lame and unable to use her legs, had been carried out to a bank overlooking the sea, and while she sat there, Amy Duny, who had the repute of being a witch, came to the house for food and was refused. She went away grumbling and at the moment when she passed by the bank where Deborah Pacy was sitting, the child was seized with a violent fit. The child's father at once lodged a complaint before the local magistrate, and Amy Duny was ordered to be set in the stocks. While she was there two women asked her what she had done to Deborah Pacy. She replied:

"Mr. Pacy keeps a great stir about his child, but let him wait until he has done as much by his children as I have done by mine." Being asked what she meant, she said that "she had been fain to open her child's mouth with a tap to give it victuals." This remark was passed from mouth to mouth, and a few days later the elder daughter of Mr. Pacy was also taken with a fit and could not be made to open her mouth until a tap had been forced into it. The fits continued with the two children, who would say, while in convulsions, "There comes Amy Duny," or "There is Rose Cullender," and when the fits were over they would say that they had seen the two witches shaking their fists and threatening them. When any one uttered the name of Jesus in their presence they would fall into renewed convulsions. This name they themselves refused to pronounce and when asked for the reason they replied, "Amy Duny says I must not say that name."

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[2] This passage may be found in the Religio Medici, which was published in 1642.

Sir Thomas Browne was present at this trial. His book on "Inquiries into Modern Errors" had been published eighteen years before. He "was clearly of the opinion that the children were bewitched," and that these fits were "heightened to a great excess by the subtlety of the devil, cooperating with the malice of those witches at whose instance he doth these villanies." The accused women were confronted with the children over whom they seemed to possess such a diabolic influence, and the children screamed at their touch. Sir Matthew Hale then caused the children to be blindfolded, but in this condition they screamed aloud when any one touched them, without being able to distinguish the touch of their tormentors. This somewhat perplexed the judge, until it was suggested that they "might be deceived by a suspicion that the witch touched them when she did not"; which might indeed prove that the children's terrors were sincere, but should also have instructed them that this whole series of phenomena was the result of an abnormal process in the minds of the children. The women were condemned as witches on this evidence, however, and were burned to death without making any confession, March 17, 1664.

"Now the inference to be drawn from this trial," says the writer from whom I have taken the details of this case, "is not by any means that Hale was a credulous enthusiast. The whole history of his life disproves it. But the belief in witchcraft was in the very atmosphere which Hale breathed." Witchcraft was a thing taken for granted; it was a postulate of the English mind in the seventeenth century.

It was during the reign of James I that Agnes Sampson was accused of being one of two hundred witches who sailed in sieves from Leith to North Berwick to a devil's sabbath that was held there. The king himself examined her while she was being tortured, and satisfied himself of her guilt.

In Mackay's "Memoirs of Extraordinary Popular Delusions," quoted in Mallet's "Northern Antiquities," the estimate is made that in England during the seventeenth century no less than forty thousand persons were condemned and burned at the stake for the imaginary crime of witchcraft.

During this period the censorship of books was strictly enforced, and the reason that Harvey's book could not be published in England throws a significant light on the period in question. The fact is that a London publisher would have risked his life in printing it, for the press censorship was at that time firmly established in England, and was vigorously flourishing its weapons in the cause of ignorance, prejudice and bigotry.

The "Index Expurgatorius" and the "Index Librorum Prohibitorum" were joined together under the control of the Congregation of the Index, and formed one of the most effective weapons with which the Roman Church armed itself to oppose the progress of the Reformation.

In 1539, the emperor, Charles V, obtained a papal bull authorizing him to procure from the University of Louvain in Flanders, where the Lutheran controversy would naturally be better understood than in Spain, a list of books dangerous to be introduced into his dominions. It was printed in 1546, and was confirmed and promulgated anew in 1550. In 1558 Philip II ordained the punishment of death against any person who should sell, buy or own any book so prohibited. In 1564 Pope Pius IV issued the first list of prohibited books that was authorized by the Council of Trent, and handed over to the Inquisition the enforcement of his decree. The Index became so powerful an instrument in the suppression of heresy that it was adopted by the reformers themselves. Servetus was burned at the stake in Geneva for writing his "Christianismi Restitutio," the very work in which he recorded his observations on the circulation of the blood. In 1564 Queen Elizabeth ordered an examination of the cargoes of all vessels entering the Thames, in order that any heretical book might be seized and destroyed. She also decreed that any person should be deemed guilty of high treason and liable to a sentence of death, if found possessed of any book in which the doctrine of papal supremacy was taught. Under Charles I, in 1637, the Star Chamber published an act for the regulation of literature in which the penalty of selling any books opposed to the authority of the Church of England was decreed to be a fine, imprisonment and public whipping. The next year, in 1638, a clergyman named Leighton, who had published a book declaring the institution of bishops to be antichristian, was sentenced by the Star Chamber to a fine of $50,000, to degradation from the ministry, to be publicly whipped, to stand in the pillory, to have one ear cut off and one of his nostrils slit and to be branded on the cheek. That was ten years after Harvey's book was published.

It was six years later, in 1644, that Milton addressed both houses of Parliament on the subject of the "Freedom of the Press," but his splendid persuasion "was thrown away on the dull ears of his Puritan associates." The Star Chamber had already, before the death of the Earl of Strafford (in 1641) been abolished, but it was not until after many years that the censorship of the press was discontinued. Indeed, the fact is recorded that in 1686 a printer named Trogan, who had in some way come under the peril of the law, was executed, and that in 1698 a young Scotchman named Aikenhead was hanged because he had referred to Christianity as a delusion. George Haven Putnam, in his work entitled "The Censorship of the Church of Rome," says that the censorial laws remained on the statute-book until 1695. Indeed, while the censorship of the press became less generally active and less customarily enforced, it was not until 1775 that the last book was ordered by the Parliament to be burnt. The title of this work, on which England exercised its belated resentment, is not without interest to us. It was "The Present Crisis in Regard to America Considered." This was the year in which Dr. Johnson's tract entitled "Taxation No Tyranny" appeared. All this is perhaps more nearly related to the history of literature than to that of medicine, but it is not quite irrelevant, if it be true that the London publishers were deterred from printing Dr. Harvey's essay by the fear of being subjected to the rigorous reprisals of the government for bringing out a work that might receive official censure. The publishers of such a work could expect nothing short of ruin.

That such might easily have resulted was proved by the keen opposition that Harvey's discovery encountered throughout the whole of Christendom. The laws against unlicensed printing were at this time enforced in all their rigor; and no adequate argument had yet, in 1628, exposed their iniquity. Moreover, while in England there was less virulent antagonism to Harvey's theory than on the Continent, yet this was so essentially revolutionary that the authority of the Star Chamber must have been invoked for its suppression and for the punishment of the printers, if these had been within the jurisdiction of the English courts of law.

In the seventeenth century the works on natural history contained descriptions of the unicorn, the dragon, the basilisk and other fabulous monsters, which had constituted the folk-fauna of medieval romance. Ambrose Paré did not doubt the existence of the basilisk. He even gives a drawing of the monster with his description of it. These works stated seriously that at the approach of winter the humming-birds clung to the branches of the trees by the bill and there died; that the sun and the spring rains revived them and they detached themselves and flew "about their business." The swallows spent the winter in the mud at the bottom of rivers and lakes, whence they were sometimes dragged to the surface in fishermen's nets. In the year 1663 the Thames was frozen over, and booths were erected and games played on the ice. Pepys records that large holes were dug and nets of great length spread under the ice, wherein at a draught from 130 to 170 barrels of fish were taken. "Swallows are often brought up in the nets out of the mudd from under water, hanging together to some twigg or other, dead in ropes, and brought to the fire will come to life."

Burton, writing in 1625, speculated whether the peak of Teneriffe was 70 miles high or only 50. Its actual height is 12,192 feet. Vicente Espinel,[3] who died in 1634, believed that the water in Spain was lighter and more easily digested than that in Italy, "because the latter contained more moisture." So in "Purchas His Pilgrimes," published in 1625, we read, "Some of our merchants have weighed the water at Aleppo and ours in England, when they have come home, and do find their water lighter than ours by 4 ounces in the pound; and the lighter the water is, the more pleasant it is to drink, and goeth down more delectably as if it were milk rather than water."

They declared that since the heat of the sun in England could draw the water out of a saucer, doubtless in torrid countries its more vehement heat could also draw up wheat and other grains, and even draw the milk out of a cow; that sorcerers could sell winds to sailors by the help and favor of the devil, who is called in scripture the Prince of the Air (Ephes., ii, 2), and that rock crystal was nothing but snow that had been long frozen. They argued that the land floated on the surface of the sea like an island; and that there was more land than sea they proved from the passage in the book of Esdras, in which it is said that God gathered the waters into the seventh part of the earth and dried up the other six parts. They similarly believed that only the superficies of the earth was land, and that the waters bore up the earth, for the reason that the psalmist says (Ps. xxiv, 2), "He hath founded it upon the seas and established it upon the floods." Thus rivers have their origin from the sea, "which is the fountain-head from which all fountains have their springs." [1] The argument was final that drew its proof from the Scriptures.

It is almost as difficult to realize what was the condition of medicine without chemistry and without physiology as it would be to realize what our civilization would be without Christianity; and yet until the seventeenth century, the few and uncertain steps that these sciences had made is a matter of keen surprise. In chemistry they had learned to obtain by distillation alcohol from wine, acetic acid from vinegar, sulphuric acid from alum, and nitric acid from potassium nitrate (saltpeter) and ferrous sulphate (green vitriol). They had discovered how to convert metals into their oxids by heat and how to purify sulphur. They were acquainted with silver nitrate and mercuric chlorid (corrosive sublimate).

There seem to have been two different kinds of elements recognized, one of a physical and physiologic and the other of a chemical character, if these terms may thus prematurely be employed. The physiologic elements were earth, air, fire and water, of which in varying proportions all bodies were composed. These were modified by the four temperaments, hot, cold, moist and dry. There is something physiologic about them, since they altered and in turn were altered by the changing conditions of the body, and their fluctuations had a varying effect on the vital processes. The chemical elements were sulphur and mercury, regarded as simple substances, to which salt was afterward added as a third element. It has been affirmed that these substances were not at all what we have in mind to-day when we speak of them; that sulphur was that property of matter that was destroyed in combustion, that mercury was the property that was volatilized and could be recovered, and that salt was the ash or residue; but there can be no doubt that when the alchemists of the seventeenth century experimented with sulphur and mercury, they did not expect that the result would be a new grouping of attributes or a complication of symbols, but a real and tangible compound of sulphur and mercury, to wit, gold.

The comparative importance of the four physiologic elements was a fertile field for philosophic and polemic discussion throughout Christendom for many centuries. To narrate it would be to narrate the search for the chimera. In the early years of the seventeenth century, however, Van Helmont determined to submit the question to an exact test. He planted a willow weighing 5 pounds in a tub of earth, and for five years added nothing but water to the tub. At the end of five years the willow weighed 169 pounds and the earth in the tub had lost 2 ounces. He concluded therefore that at least 164 pounds of the tree must be water. As a result of his experiment, he announced his belief that there were only two elements, air and water. His test was a good one and showed the scientific spirit that was abroad. Of course he could not know anything of carbon dioxid and of chlorophyl. He died in 1644.

There were thought to be three spirits which inhabit the body, the natural spirit whose seat was the liver, the vital spirit whose home was the left ventricle and the animal spirit which dwelt in the brain. The natural spirit pervaded the venous blood, the vital spirit was carried by the arteries, and the animal spirit coursed through the nerves, which were tubular in life though closed after death.

The liver was considered to be the seat of anger, the spleen that of envy, and the heart that of love and courage. The four humors which Hippocrates had discovered and named still ruled the body. These humors were blood, phlegm, black bile and yellow bile. The spleen was the seat of the black bile and melancholy was a disease of the spleen; the liver was the seat of the yellow bile. The nasal mucus was still regarded as the condensation in the brain of the vapors which mounted from the body. Digestion was still thought to be produced by the innate heat of the stomach. It was a kind of cooking, and was in fact called coction.

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[3] In his "Marcos de Obregon."

As for the physiology of the brain, it was comprised in a few words: "The three principal faculties of the mind, the understanding, the imagination and the memory, reside in the different ventricles of the brain, the imagination having its seat in the forepart, the memory in the hinderpart and the judgment or understanding in the middle." This is of course a philosophic and not a scientific conjecture.

The distinction between philosophic medicine as inculcated by the followers of Galen, and scientific medicine as introduced by the use of experiment and observation, finds a curious comment in a story that is told of a question propounded by Charles II for the consideration of his courtiers, "whether a vessel of water would gain in weight by putting a fish into it." Long and hot the discussion lasted, and the conclusion was finally reached that a live fish would not increase the weight of the vessel, but that a dead fish would. This was philosophy. Long afterward it occurred to some skeptic to test the conclusion by actually weighing the vessel under these different conditions. This was science.

Dr. Willis, as late as 1659, maintained that all natural changes in organic bodies depended on fermentation in their constituent principles, which were spirit, sulphur, salt, water and earth. Sir George Ent, the president of the Royal College of Physicians, taught that the purpose of the blood was not to nourish the body, but to keep it warm, and that "the urine is not conveyed to the kidneys by the arteries but by the nerves."

Indeed, it is not an easy task to discover among the various physiologic beliefs that were current before Harvey, any that still hold a place in modern science. The microscope, in its early form and considered mainly as an interesting toy, dates from the beginning of the seventeenth century. It consisted merely of a double convex lens in a frame, with an eyepiece holding a single convex lens. With this simple apparatus the circulation in the capillaries was observed, the red and the white corpuscles of the blood were discovered, and the spermatozoa and the ovum were detected. The discovery[4] of the spermatozoa in 1677 was the occasion of the passage of a law which held its place among English statutes for many years. As soon as they were discovered they were regarded as the true germ or microcosm of man, while the ovum of the female was considered as consisting merely of food for the sustenance and growth of the new being. The female was looked on then merely as affording a home for the growth of the fetus, and Parliament, accepting this hypothesis, decided that the mother, having contributed nothing to its being, was not of kin to the child.[5]

Bacon's treatise on the "Advancement of Learning" appeared in 1605. In this essay he not only summarizes the spirit of the intellectual development of the past, but also ventures to indicate the present defects and to point out the path of progress to the future. His scope is so wide as to leave no intellectual interest unconsidered and no intellectual activity unnoted, and among them all, he pays due regard to the theory of medicine. Among other defects he notes the lack of careful intimate study of the body. He says:

> As the sense afar off is full of mistaking, but is exact at hand, so it is of the understanding; the remedy whereof is not to quicken or strengthen the organ, but to go nearer to the object. Medicine is a science which hath been more professed than labored, and yet more labored than advanced; the labor having been in my judgment rather in circle than in progression. For I find much iteration, but small addition. . . . The deficiencies which I think good to note . . . I will enumerate.
>
> The first is the discontinuance of the ancient and serious diligence of Hippocrates, which used to set down a narrative of the special cases of his patients, and how they proceeded and how they were judged by recovery or death. This continuance of medical history I find deficient, which I understand to be neither so infinite as to extend to every common case, nor so reserved as to admit none but wonders. For many things are new in the manner which are not new in the kind; and if men will intend to observe, they shall find much worthy to observe.
>
> As for the footsteps of disease, they ought to have been exactly observed by a multitude of anatomies, and the contributions of men's several experiences, and carefully set down, both historically, according to the appearances, and artificially, with a reference to the diseases and symptoms which resulted from them, in case where the anatomy is of a defunct patient; whereas now, on opening of bodies, they are passed over slightly and in silence.

In these few words is a recognition of the benefit to be derived from a careful and painstaking record of cases and from post-mortem examination, which the physicians of this generation now readily acknowledge, but which was almost entirely neglected during the earlier part of the century which at present occupies us. We certainly know to-day that only thus do we reap the full advantage of our own experience, for memory is treacherous and impressions fleeting. Before the seventeenth century closed, this reproach was to be removed from the record of medicine.

Vivisection of animals could scarcely seem to promise much valuable instruction while the theories of the humors underlay, or rather overwhelmed, all the conceptions of physiology; but Bacon's insight into the needs of medicine in his time is nowhere more keenly indicated than in his recognition of the value of vivisection; for Bacon himself accepted the so-called humoral pathology that was destined to dominate medicine until its reluctant sway was broken by Pasteur and Virchow. Here are Bacon's words:

> In the inquiry which is made by anatomy, I find much deficience; for they inquire of the parts and their substances, figures and collocations; but they inquire not of the diversities of the parts, the secrecies of the passages and the seats or nestlings of the humors, nor much of the footsteps and impressions of diseases; the reason of which omission I suppose to be because the first inquiry may be satisfied in the view of one or a few anatomies; but the latter, being comparative and casual, must arise from the view of many. And as to the diversity of parts, there is no doubt but the framing of the inward parts is as full of difference as the outward, and in that is the cause continent of many diseases, which not being observed, physicians quarrel many times with the humors, which are not in fault, the fault being in the very frame and mechanic of the part, which cannot be removed by medicine alterative, but must be palliated by diets and medicines familiar. And for the passages and pores, it is true what was anciently noted, that the more subtile of them appear not in anatomies, because they are shut and latent in dead bodies, though they be open and manifest in life; which being suffered, though the inhumanity of *anatomia vivorum* was by Celsus justly approved; yet in regard of the great use of this obser-

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[4] By Von Hammen, of Leyden.

[5] "Mater non numeratur inter consanguineos." Swinburn, "On Testaments," Part VII, Section 8.

vation, the inquiry needed not by him so slightly to have been relinquished altogether, or referred to the casual practice of surgery, but might have been well diverted on dissection of beasts alive, which, notwithstanding the dissimilitude of their parts, may sufficiently satisfy the inquiry.

It is true that Bacon was not himself a physician, in the sense of diagnosing disease and prescribing remedies, but perhaps no one ever predicted so well as he the exact path of development that the profession of medicine must take to regain its true position in the intellectual world. Pliny, likewise, was not a physician, though his "Therapeutics" was a wonderful maze of half-knowledge miraculously misapplied, and yet his "Natural History," such as it was, maintained its authority as a text-book for sixteen centuries; so, too, Celsus was not a physician, yet between Asclepiades and Galen, no one did so much as he to improve the science of medicine. And we must not forget that for many centuries medicine was considered to be merely a department of philosophy; and while philosophy seems to be able to thrive without medicine, it will some day come to be realized that medicine cannot fulfil its high mission without the assistance that philosophy alone can furnish. Bacon's suggestion of animal experimentation was timely and fruitful. It had been used irregularly before his time, but it is only within recent years that it has entirely vindicated its right to a high place in the researches of medicine.

(To be continued)

WHEN IS OPERATIVE TREATMENT INDICATED IN CHRONIC DYSPEPSIA?

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The stomach has been unjustly accused of more pathologic sins, and has received more unnecessary treatment than any other organ of equal size and importance. Nearly all of these transgressions are included under the general term "dyspepsia," about which much has been written and but little known until recently, when the pathology of the organs in the abdominal cavity has been correctly studied by direct inspection in the work of the abdominal surgeon.

We find in our best text-books on medicine beautifully written chapters on the classification, etiology, symptomatology, diagnosis and treatment of chronic dyspepsia, some of which have been copied and handed down for generations. These descriptions are full of errors as we now know from the study of the pathology of the living. The diagnosis was based mainly on theory and fancy, and was seldom correct; hence the treatment was empiric, and in the newer light of to-day is seen to have been often harmful. Unfortunately some of our best men who confine their work to the medical treatment of diseases of the stomach and intestines have not availed themselves of all the wisdom to be gained in the surgical arena by direct inspection of the diseased organs in the abdominal and pelvic cavities. The text-books on medicine tell us about acid gastritis, acid dyspepsia, hyperchlorhydria, flatulent dyspepsia and nervous dyspepsia as entities, when in truth most of these conditions are caused by gall-stones, appendicitis, peritoneal adhesions, pelvic infection, ileocolitis, intestinal tumors, etc., and the stomach is trying to tell us about a pathologic condition somewhere else that is giving it trouble.

The term "functional dyspepsia" should be eliminated from medical nomenclature, for if this disease ever exists it is so infrequent as to be practically negligible, and hyperchlorhydria is only a symptom, an increase in the secretion of hydrochloric acid, usually with no structural lesion of the stomach. Like the digestive enzymes, the secretion of hydrochloric acid may be increased or diminished by a change in diet and in other ways, as shown by Starling and Pawlow.

The effort to construct a pathology on chemical analyses of the stomach secretions has been a total failure, for practically the same chemical findings may obtain in several distinctly different diseases that cause the stomach trouble. The test-meal alone is of little value as an aid to diagnosis in either ulcer or cancer, and if we delay in the latter to confirm the diagnosis by this means, the disease will then have progressed so far that surgery can offer no relief. The presence of lactic acid, food remnants, blood, low acidity, and the Boas-Oppler bacillus, and the absence of free hydrochloric acid may be found in some cases of latent callonsed ulcer and reflex pylorospasm, and are in no sense pathognomonic of cancer. In cancer there may be a normal or even a high acidity, and this is especially true when the pyloric end of the stomach is not involved. In such cases cancer may stimulate the pyloric glands to a more active secretion of acid.

While I do not deny that there is value in stomach analysis, it must always be subordinate to the clinical history and the physical examination. It is only an additional aid in diagnosis. Stomach analysis in chronic gastric and duodenal ulcer is of far less value in diagnosis than is stomach motility, which can be more correctly observed and more intelligently interpreted. The *x*-ray has been of much value in this particular in showing the motility in impaired stomach drainage.

Let me make a more definite classification of the causes of chronic dyspepsia, that we may have a more intelligent conception of the treatment best adapted to the cure of the trouble in the stomach, or to the removal or modification of the condition in some other part of the body to which the stomach is trying to direct our attention in a language of its own, much of which may now be correctly interpreted:

1. In 90 per cent. of cases of chronic dyspepsia there is no pathologic lesion in the stomach, and the conditions requiring operation in the entire gastro-intestinal tract, and all structures in the abdominal and pelvic cavities do not exceed 30 per cent.

2. In about 30 per cent. the stomach trouble is caused by cardiac and kidney insufficiency, tuberculosis, arteriosclerosis, tabes dorsalis, etc.

3. Another 30 per cent. is caused by congenital or acquired defects in the viscera of the abdominal and pelvic cavities, plus gastro-intestinal neuroses—gastroptosis, enteroptosis, atonic dilatation of the stomach, etc.

Stomach complaint is the most common manifestation in neurasthenia, especially inborn neurasthenia. It has been said that the abdominal surgeon has invaded the territory of the physician and has encroached on his field, but this is not true. The same was said when the surgeon began curing appendicitis by removing the appendix, but no one will make that contention now, and those who are best able to judge know that medicine does not cure appendicitis, and that purgation in every case of acute appendicitis is positively contra-indicated. It quickly increases peristalsis of the lower ileum, appendix and cecum, fills this part of the bowel with liquid, with a great increase in the number and virulence of the bacteria, all of which is positively harmful, and is often the cause of perforation or gangrene of an appendix which might have caused no immediate harm had it been left at rest.

I do not remember to have operated for several years in a single case of perforated or gangrenous appendix until after the patient had been given a purgative. There can be no conflict between the well-trained and honest physician and surgeon, as both are striving to accomplish the same end—to cure the patient. The duties of one do not always cease where the duties of the other begin, but there is necessarily often an interlacing to give the patient the full benefit of the knowledge of both. Far better would it be for all concerned if the physician would follow his abdominal cases into the operating-room and study with the surgeon the pathology of the living. He and the surgeon might then have a more intelligent agreement about the diagnosis and treatment of the case.

It is probably true that some of the best-known men in internal medicine, men who contribute much to medical literature, have seldom or never seen an abdominal operation in a living person. This necessity for studying by direct inspection the pathologic condition in the abdominal cavity that causes the stomach to complain is no less necessary in the study of all diseases in the abdominal cavity that have no stomach manifestations. Since this has been done the traditional fads and fancies in the diagnosis of these diseases are passing away like the snow when the warm rays of the sun shine on it. Pelvic cellulitis is now suppurative salpingitis; pelvic intraligamentary hematocele is now ruptured extra-uterine pregnancy; idiopathic peritonitis in the right middle quadrant and perityphlitis are now appendicitis.

We were told that tuberculosis of the bladder was always primary and that tuberculosis of the kidney was usually an ascending infection, and secondary to the bladder involvement. We now know that practically 100 per cent. of bladder tuberculosis in women is secondary to kidney involvement; the same is true of 85 per cent. in men, the other 15 per cent. being secondary to tuberculous involvement of the epididymis, vas deferens, seminal vesicles and the prostate.

We were told that chronic ulcer in the stomach was usually multiple and ten times more frequent than chronic ulcer in the duodenum. We now know that chronic ulcer in the stomach is multiple in about 6 per cent. of cases and that we have one ulcer in the stomach to three in the duodenum.

We were told that the ingestion of food in chronic ulcer of the stomach and duodenum caused pain and symptoms in the stomach immediately or soon after eating. We now know that it seldom or never does so except in old cases in which there is obstructed stomach drainage. In stomach ulcer food relieves pain for from one-half to one and a half hours, and in duodenal ulcer it relieves pain from one to three hours. This is so conspicuously true that a patient with ulcer in the stomach or duodenum will put bread in his pocket when he leaves his home or goes to his bedroom at night, to eat when pain returns. We were told that gastric and duodenal ulcers were more frequent in women. We now know that about 75 per cent. of these ulcers are in men and about 25 per cent. in women.

We were told that in 90 per cent. of the cases gallstones cause no symptoms, and that the gall-stones are innocent. We now know that there are symptoms in nearly every case of gall-stones and that gall-stones may at any time cause serious infections and secondary complications.

It will thus be seen that the surgeon who has built a new pathology based on direct inspection of the pathology of the living was often compelled to "tear down and reconstruct; he used the sledge-hammer and the crowbar as well as the trowel and the plumb-line." While the bladder could be directly inspected through the cystoscope and the ureters and the secretion of the kidneys by the ureteral catheter, and stone in the kidneys and bladder by the *x*-ray, no such record could be achieved by the gastroscope, and the *x*-ray had not been of much value except in inspecting stomach motility. It was therefore necessary to inspect the stomach and other abdominal viscera through an abdominal incision.

It was the gynecologist who made possible these great achievements by demonstrating in the surgery of the uterus and its adnexa that the peritoneum is tolerant to much manipulation when treated with reasonable respect, and by avoiding rough handling and the introduction of septic matter. The surgeon then began his invasions of the middle and upper regions of the abdomen, and must be given full credit for what he has done. In the investigative work of the abdominal and pelvic surgeon he has made the peritoneal cavity a research laboratory, and has given us the pathology of the living at a time when life may be saved by timely surgical intervention.

We must also give due credit to the excellence of the work done in the research laboratories in physiology, physiologic chemistry, bacteriology, etc., from the study of which so much has been learned of incalculable value to the surgeon and the physician in their treatment of all gastro-intestinal diseases, and all diseases of the intra-abdominal viscera. Cannon, Pawlow, Starling, Metchnikoff, Cushing, Herter and many other research workers in the physiology of digestion and the motility and bacteriology of the gastro-intestinal tract have given us a practical conception of much that is necessary to a correct understanding of the pathology and the treatment of the diseases of the stomach and the intestines. The names of these men will live in history when the work of the surgeon will have been forgotten.

Before post-mortem investigation the practice of medicine was empiric and the diagnosis and the treatment of all internal and hidden diseases in the abdomen was based on fads and fancy. While the study of pathology in the dead was the beginning of the scientific study of disease, it led to pessimism, for it dealt only with end-results and showed conditions that did not exist at a time when the disease could have been cured. "But few people with chronic disease die of the disease with which they suffered during life"; most die of terminal infections or secondary complications.

The cellular pathology of Virchow was another scientific advance, but as it mainly dealt with end-results it was for the time being of but little practical use in curing disease.

It may thus be easily understood that in diseases of structures in the abdominal cavity we can build up no correct pathology at a time when the patient may be cured, unless it be based on direct inspection, through an abdominal incision, of pathologic conditions in the living.

The 30 per cent. of dyspepsia caused by general diseases is never surgical, nor is the dyspepsia cured by the application of treatment direct to the stomach. The treatment must be given to cure the disease that is causing the stomach to complain. The 30 per cent caused by neurasthenia, atonic dilatation of the stomach, gastroptosis, enteroptosis, nephroptosis and gastro-intestinal neuroses will not be cured by treatment applied to the stomach. We must treat the condition that causes the stomach symptoms. The treatment of these cases is medical except in some cases of dyspepsia caused by ptosis of the right kidney and hepatic flexure of the colon, and midline ptosis of the stomach and transverse colon when the colon has remained fixed at the hepatic and splenic flexures.

In the first, the kidney and the colon may be elevated and fixed through a posterior incision, and in the latter we may sometimes obtain good results by shortening the falciform, the gastrohepatic and the gastrocolic ligaments, one or all as may be indicated by the condition, this to be supplemented by stitching the great omentum across the anterior abdominal wall 2 inches above the umbilicus, to serve as an apron for the stomach. Coffey has done good work of this kind, as have others by similar operations; but in cases of general enteroptosis with continued dyspepsia, operative treatment has done but little good. Most of these patients have inborn neurasthenia, and to treat them successfully we must begin with their great-great-grandparents, an undertaking beyond the limit of medicine or surgery. These patients and others with inveterate stomach trouble with acquired neurasthenia, gastro-intestinal neuroses and the gastric crises of tabes dorsalis have been persistently treated by the physician and the quack, and the surgeon has left his mark on the abdomen following a laparotomy for gastrojejunostomy. They have been treated by electricity, by Christian Science and osteopathy, have had their stomachs daily lavaged, and have taken all the vile nostrums of the advertising "patent-medicine" fraud, with about the same result. They continue to complain of stomach trouble and are only too willing to try something else.

Fortunately the surgeon in his treatment of these patients in the last few years has learned much that is of value in guiding him against doing unnecessary or harmful stomach drainage operations. The impaired drainage in these cases is the result of atonic dilatation and impaired stomach motility, and not of obstruction. In such cases gastrojejunostomy does not drain, can do no good, but has done much harm. No surgeon who should be recognized as capable of treating the diseased viscera in the abdominal cavity would now try to drain the stomach in these patients. Acute ulcer of the stomach or duodenum is toxemic, caused by septic foci in other parts of the body, and is never surgical unless it be for perforation. These patients either die promptly or recover in a few weeks. Hematemesis, with no characteristic symptoms of long standing, is not surgical for it may be profuse or fatal when no ulcer can be seen, and it requires a magnifying glass to see the general erosion or fissure from which the blood is oozing. Vomiting of much blood is not an unusual symptom in cirrhosis of the liver and enlargement of the spleen, and it may be caused by acute or chronic appendicitis. That appendicitis has a causal relation to the etiology of gastric erosion or acute and chronic ulcer is evidenced by the frequent association of these conditions, and the appendicitis often appears to antedate the stomach trouble. In Hutchinson's report of twenty-four deaths caused by postoperative hematemesis, twenty-one followed operations for septic appendicitis. Every abdominal surgeon of broad experience has observed the frequent association of a chronic appendicitis with dyspepsia, and has noted the fact that in these cases, if the stomach has no organic lesion, the dyspepsia is cured when the appendix is removed.

Dyspepsia in some degree is nearly always associated with gall-stones, the removal of which cures the stomach trouble. The same is true when the dyspepsia is caused by intestinal or peritoneal adhesions or pelvic infections. When the exciting cause is removed the dyspepsia disappears. This, however, presupposes that there is no lesion in the stomach or elsewhere that may cause the dyspepsia. It is not infrequent to find in these cases an association of chronic appendicitis and gall-stones, and we may also find stomach or duodenal ulcer, to which peritoneal adhesions, pancreatitis and pelvic infection may sometimes be added. Just here lies the necessity for the surgeon to make an examination of all the structures in the abdominal and pelvic cavities through a wide incision, where there is no contra-indication. The failure to do this has often given an excuse for criticizing the surgeon because the patients were not cured; he was accused of doing unnecessary surgery, when he should have been censured for not doing enough surgery.

In my operative work in the abdomen I never fail to make the most thorough examination of all the viscera of the abdominal and pelvic cavities except in septic cases, and in cases in which the condition of the patient is such that any continuance of the operation would endanger the immediate result. Were I to report in detail the many cases of chronic dyspepsia of long standing, with no stomach or duodenal lesion, which have come under my observation and been cured by the removal of all the pathologic conditions in other abdominal structures, the report would be too long for any one to read.

There is but one treatment that can cure the inveterate dyspepsia caused by calloused gastric or duodenal ulcer, and that is surgery, and always surgery. The symptoms may subside under other treatment, by diet, rest and the observance of correct hygienic and sanitary laws, but the disease is not cured; the symptoms have disappeared to return at another time. This is conspicuously true in duodenal ulcer. Some of these patients have been cured many times, but the symptoms always return, and in the cases of permanent cure there was an error in diagnosis; the patients never had calloused ulcer. They are always made worse in cold, damp weather, and they improve or may be entirely cured of symptoms in warm, dry weather. They are made worse by worry and overwork, but if the worry is removed and the work lessened they improve. A change from a damp, cold climate to a warm, dry climate will be followed by much improvement, or even by cure of the symptoms. These seasonal changes are so manifest that patients who can afford to do so will change their residence with the change in season. The above is true in a lesser degree in chronic calloused gastric ulcer. The anamnesis in these cases, particularly in ulcer of the duodenum, is of greater value in diagnosis than are all other symptoms combined.

While the treatment of chronic gastric and duodenal ulcers is operative, we must always be able when the stomach or duodenum is exposed to demonstrate by sight or touch, or by both sight and touch, the presence of an ulcer. This can be done, for the ulcer has invaded all the layers of the wall. If no ulcer can be seen or felt, the abdomen should be closed at once, unless a pathologic condition that the stomach has been trying to tell us about can be found somewhere else.

In all cases of duodenal ulcer and in nearly all cases of gastric ulcer a gastrojejunostomy is indicated. In duodenal ulcer the ulcer should be infolded by several linen or silk sutures introduced from side to side and deep enough to include the vessels going direct to the ulcer. Excision is seldom indicated because the patients are cured as well without it, and cancer seldom, if ever, develops in a duodenal ulcer. As nearly 75 per cent. of cancer in the stomach develops in a chronic ulcer, then in addition to the gastrojejunostomy the ulcer should usually also be excised. In many of these excised ulcers McCarty and some other pathologists have found well-developed carcinoma.

In conclusion I wish to note that 90 per cent. of ulcers in the stomach are in the lesser curvature, and that 90 per cent of ulcers in the duodenum are in the first inch of the bowel; that 25 per cent. of calloused ulcers are in the stomach and 75 per cent. in the duodenum, and that gastric ulcer is multiple in about 6 per cent.; and that 75 per cent. of gall-stones are in women and 25 per cent. in men. In every case of duodenal ulcer there is an excess of free hydrochloric acid at some more active phase of the disease, and this is practically true in stomach ulcer, but to find the excess frequent examinations must be made at different stages of the trouble. In every case of duodenal ulcer, and in all or nearly all cases of stomach ulcer, free or occult blood will be vomited, or found in the feces if the examinations are repeatedly and correctly made. Dr. Craven Moore of Manchester, one of the most painstaking pathologists in England, reports that in a long series of cases in which operation was performed for duodenal ulcer he found in every case an excess of acid, and occult blood in the feces. While ulcer in the pyloric canal of Jonnesco is relatively infrequent, I recently found in two cases in which I operated open perforation just proximal to the pyloric vein.

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RESULTS WITH TUBERCULIN (DIXON'S) IN ADVANCED CHRONIC AMBULATORY TUBERCULOSIS *

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It is unnecessary in connection with the following report to discuss even by way of introduction the broad question of the use of tuberculin in any of its many relations, as for instance its availability in dispensary practice, which is, we believe, fully established. Our purpose is to report briefly the results in a series of ambulatory cases, principally because in these cases there was a peculiarly favorable opportunity to eliminate other causes of improvement, and so to estimate the effect of the tuberculin *per se*.

All those in the series were patients at the State Tuberculosis Dispensary in Philadelphia (No. 21) and had been under observation continuously for a period of several years before being brought together in a special tuberculin class.[1] They had all had a prolonged course of treatment at the State Sanatorium at Mont Alto (there were two previously treated at White Haven), and had returned to their homes on an average of from four to six months before the injections were started, during which time they had all been members of a tuberculosis class meeting every two weeks, in which their progress was carefully followed. They were selected from a group of several hundred patients on account of their physical condition and the nature of their lesions and because the entire course of their disease was known and they were all of sufficient intelligence and persistency of purpose to have been carrying out the most systematic treatment in their homes (which offered suitable facilities for this), and had proved themselves capable by their home-record charts of giving an intelligent account of their symptoms and condition under tuberculin. The number of cases, eleven, was purposely limited in order that they could be studied in greater detail and with the greatest care.

But the cardinal reasons for their selection were that the cases all belonged to the chronic fibroid type, either moderately or far advanced, with little or no fever, and that the patients had already developed a fair resistance to the disease, yet in them there was observable a very gradual deterioration in weight and strength in spite of everything which could be done for them. This was observable by comparison of their condition at considerable intervals of time and was further indicated by the fact that they had all returned to work and been compelled by gradually failing health to give it up.

They had had the advantage of home and sanatorium treatment and a liberal diet, had lived under favorable hygienic conditions consistent with their station in life, and had been under constant supervision of physicians and nurses trained in tuberculosis work. The women were able to attend to their household duties, and the men had resumed their occupation on returning from the sanatorium, but had been compelled to abandon their work on account of physical incapacity which manifested itself sooner or later after resumption of their former occupations. They represented a class of fairly well-nourished individuals, most of them having measurably regained their average weight, and had felt themselves largely restored in health on leaving the sanatorium.

In other words, these patients under a most systematic and adequate regimen (which was in no way altered during the course of tuberculin) had remained either stationary in condition and weight for a long time, but considerably below par in general health, or in some instances they were slowly losing, each month or so showing a reduction in general efficiency and a gradual loss of weight.

It was therefore with a view of estimating the effect of the use of tuberculin on the general health or functional betterment that the injections were undertaken: first, as evidenced by increase in strength as measured by their ability to do more, that is, to return and remain at work; second, as evidenced by increased appetite and assimilation as indicated by increase in weight and the retention of this increase.

The patients kept a daily record of their temperature, which was recorded on a home chart provided for the purpose. Any untoward symptom, as increase in cough, expectoration, insomnia, nervousness, nausea, chills, fever, headache or malaise, was also noted by the patient. Their observations were made twice daily.

The injections were given as a rule once a week. The weight of the patient, the dose of the injection, the pulse, temperature and respiration were recorded immediately before the injection. Analysis of the patient's home chart as to any untoward symptoms resulting from the previous injection was during a succeeding period of five days carefully considered and then recorded on a special chart which was the permanent record of the progress of each case. These charts were kept at the dispensary. Each month the patient was reexamined, recharted and closely questioned as to his physical well-being, and the results were recorded on this permanent record in the patient's own statements. These observations were elicited without any undue suggestion of the examiner. The sputum of each patient when obtainable was examined every month.

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* Read before the College of Physicians of Philadelphia, Dec. 4, 1912.

[1] The practical work on these cases, namely, the giving of the tuberculin injections and the keeping of most complete and laborious records, was carried out by Dr. Hartz.

PREPARATION OF TUBERCULIN [2]

In the *Medical News*, Oct. 19, 1889, attention was called to a morphologic condition of the tubercle bacillus which had never previously been observed. This change consisted in modifications of the organisms which suggested possible involution forms. These forms represented a difference in the degree of virulence which led to the subcutaneous injection of these somewhat devitalized organisms into tuberculous animals with a result of producing different degrees of immunity. Tubercle bacilli were cultivated in a number of tubes to a stage at which few or no ordinary rod-form bacilli could be microscopically found in the cultures, and inoculation into guinea-pigs and rabbits of these atypical and avirulent forms resulted in a short febrile stage with an enlargement of the lymphatic nodes located in the neighborhood of the point of injection. This condition, however, soon passed away and the animal recovered, and afterward exhibited a high degree of resistance against the effects of virulent tubercle bacilli. On further experimentation it was shown that by treating a mass of tubercle bacilli with ether and abstracting with a salt solution, a product was obtained that, when injected into the animal economy, changed the condition of the tissue cells and thereby prevented the growth of the tubercle bacilli. The result of the work was first published in the *Medical News* of Jan. 17, 1891, page 87. This work was continued by Dr. Samuel G. Dixon until two methods of preparation had been published from time to time, as improved technic had been adopted resulting in the method hereinafter outlined.

Tubercle Bacilli Extract.—This product is prepared from living organisms. The tubercle bacilli are grown on 4 per cent. glycerin veal broth for a period of from six to eight weeks at a temperature of 37.5 C. They are removed from the incubator and collected on hard filter paper. The filtrate of glycerin broth on which they are grown is discarded. An equal quantity, by weight, of tubercle bacilli of the bovine and human type is used. The mass of organisms is partially dried of the excess of moisture by placing between two sterile filter papers and afterward placed in a dish in the incubator for from twenty-four to forty-eight hours. The dried organisms are then washed in an excess of ether, which is allowed to act until it has removed all of the water and glycerin. The organisms are then subjected to an excess of fresh ether and washed in this for six hours to soften the wax of the bacilli. This fat separates so that it collects at the bottom of the vessel and is removed by a Pasteur pipet. After removal of the second addition of ether, the mass is allowed to dry until no ether odor is perceptible. After the mass of tubercle bacilli have been thoroughly dried, it is ground in a mortar and suspended in physiologic salt solution in the proportion of 1 part of the ground mass to 5 parts of an 8 per cent. salt solution. This suspension is carried in a shaking machine for from eight to ten hours and then allowed to stand for several days at room temperature. It is finally passed through impervious bacteria filters several times, and the filtrate is examined microscopically, bacteriologically and physiologically. Culture tests are made to determine its freedom from contaminating organisms, and guinea-pigs are inoculated to ascertain that it contains no living tubercle bacilli. One c.c. of this extract represents 0.5 gm. of the organisms, and is known as the stock solution from which serial dilutions are made. This solution is sterile, though a preservative of 0.5 per cent. of phenol (carbolic acid) is added to prevent any subsequent contamination.

The tubercle bacilli extract is supplied in syringes in the series of dilutions given in Table 1, so that the doses may be increased as deemed advisable.

TABLE 1.—TUBERCLE BACILLI EXTRACT

Dilution No.	Amount of Extract of Tubercle Bacilli Contained (gm.)	Dilution No.	Amount of Extract of Tubercle Bacilli Contained (gm.)
1	0.001	11	0.1
2	0.01	12	0.11
3	0.02	13	0.12
4	0.03	14	0.13
5	0.04	15	0.14
6	0.05	16	0.15
7	0.06	17	0.16
8	0.07	18	0.17
9	0.08	19	0.18
10	0.09	20	0.19

It is suggested that in ordinary cases, the injection of each dilution be repeated at least five times before changing to the next number, or next stronger dilution.

The physician should bear in mind the general condition of the patient during the administration of this treatment, and the same suggestions as are later outlined for the administration of the suspension of dead tubercle bacilli are applicable to this product. It is to be remembered, however, that the tubercle bacilli extract is toxic and must be used with caution. Small repeated doses injected into normal guinea-pigs cause no effect on their temperature, weight or condition.

TECHNIC

The tuberculin used was the tubercle bacilli extract prepared after the method of S. G. Dixon.[2]

Each injection was in a separate aseptic syringe ready for use and put up not unlike diphtheria antitoxin. Ten different dilutions, representing different strengths of tuberculin, were used. As many injections of one number (strength) as were consistent with the progress of the patient were given, usually three, sometimes as high as six, depending on the reaction induced. Every care was taken to avoid even slight reactions, and in this event the usual course was followed of omitting the next injection and repeating the same dose.

The weakest injection represented 0.001 mg. of tuberculin, the strongest 0.09 mg. The injections were given in the interscapular tissues of the back. The part was washed with ether, and as the syringe was in an aseptic state no other preparation was necessary. At no time was there any severe local reaction or any evidence of infection noted at the site of injection.

The dose should be small at the beginning, particularly so with the first six or eight injections until tolerance is established, for if the increase be too rapid, reactions become more frequent and treatment must be discontinued until susceptibility wanes.

The time element is of great importance in the full course of treatment and should never be less than four months, and may with benefit be extended to a year or even longer. Reactions and the progress of the case under treatment must be considered in regard to length of treatment.

When the extract is given in suitable cases at regular intervals varying from periods of five to seven days and in appropriate doses, no harmful effects were noted.

Should a moderate or a severe reaction occur, instead of decreasing the dosage it is better to omit the following one or two injections until the patient's tolerance is raised, and then repeat the same dose.

SUMMARY OF CASE HISTORIES

CASE 1.—W. O., carpenter, aged 46, married, American. Diagnosis on admission, May 9, 1908, pulmonary tuberculosis, far advanced; prognosis unfavorable. Consolidation upper and middle lobes right side, with large cavity and heart displaced to right; consolidation left upper lobe. Active symptoms began three years previously with cough, loss of weight and strength. Average weight in health, 150 pounds. Height, 5 feet, 8 inches. Weight on admission to dispensary, 112 pounds. Weight on return from Mont Alto, Dec. 15, 1909, after three months' sojourn, 158 pounds. Patient on return began to cough and spit more and slowly lost weight and strength. He also began to have a little increase of temperature and, though up and about, was unable to work. Took the cure systematically, but did not improve. Weight dropped to 138 pounds.

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[2] Pennsylvania Health Bull., October, 1911.

Treatment and Results.—Patient was under treatment seven months, following return from Mont Alto, before tuberculin injections were begun, July 12, 1910, (weight 138 pounds) and continued for eight months, during which time he received twenty-seven injections. At the end of three months he had gained 10 pounds, and his condition had improved so much that he was permitted to return to work on half time, and two months later to his regular work, eight hours a day. At the conclusion of his course of tuberculin he showed evidence locally of good arrest. He was practically without cough or other symptoms and working steadily.

Nov. 27, 1912: Local condition very fibroid and inactive; few metallic, sticky râles; general condition splendid; patient working at his regular employment right along (hours 7 a. m. to 5:30 p. m.) and during past June, July and August from 7 a. m. to 8 p. m.). Some cough still and little expectoration on rising. Strength good. Weight 146½ pounds, 8½ pounds gain over weight at commencement of tuberculin, twenty-eight months ago.

CASE 2.—G. W., pearl-worker, aged 48, married, American. Diagnosis on admission, Sept. 18, 1909, pulmonary tuberculosis, far advanced; prognosis unfavorable. Consolidation both upper lobes; cavity on left side. Active symptoms began nine years previously with hemoptysis and loss of weight and strength. Average weight in health, 130 pounds. Height, 5 feet, 4¾ inches. Weight on admission to dispensary, 116 pounds. Weight on leaving sanatorium (White Haven), where he had spent fourteen months in 1902, 135 pounds. Patient returned to work for a short while on leaving sanatorium, but has practically done nothing for ten years. He was coughing and spitting a great deal (2 ounces) on admission, was dyspneic, weak and very thin, and was afebrile. Tubercle bacilli present. Weight, 116 pounds.

Treatment and Results.—Tuberculin was begun Oct. 2, 1909, and patient received in all thirty-five injections during a period of twelve months. Two months after first injection he had gained 6 pounds, felt much better, cough and expectoration were greatly decreased in frequency and severity, there was little sputum, and appetite and digestion were much improved. At the end of six months patient weighed 127 pounds, a gain of 11 pounds under tuberculin, and felt so much better that he decided to go to work and spent two months out of the city, during which time he worked regularly and supported himself. He returned, September 15, having gone down to 122 pounds but without the return of any serious symptoms; decided to continue his tuberculin treatment, about which he was enthusiastic. By February, 1911, at the close of tuberculin treatment, he had gained his former weight, 127½ pounds, and one year later, during which time he had been steadily at work, weighed 130 pounds.

Nov. 15, 1912: Patient has been working right along and feeling fine. For past fifteen weeks he has been working at Atlantic City as machine demonstrator (orange juice on Boardwalk) from 9 a. m. to 11:30 p. m. He did not miss a day. Weight is 123½ pounds, 7½ pounds more than at beginning of tuberculin treatment, thirty-seven months ago.

CASE 3.—G. M., foreman, aged 50, married, American. Diagnosis on admission, Oct. 27, 1909, pulmonary tuberculosis, moderately advanced; prognosis doubtful. Infiltration both upper lobes. Active symptoms began three years previously with pneumonia. Average weight in health, 160 pounds. Height, 5 feet, 8¼ inches. Weight on admission to dispensary, 133 pounds. Weight on return from Mont Alto, April, 1909, where he spent six months, 155 pounds. Patient still showed active lesions on both sides on return from Mont Alto and began slowly to deteriorate; was afebrile, but unable to work.

Treatment and Results.—Tuberculin begun July 5, 1910, over a year after return from Mont Alto; weight, 143 pounds. Patient received in all twenty-nine injections in a period of eight months. Three months after first injection patient stated that he felt much better; was stronger, had more endurance and ambition, and had taken a position of watchman, which was the first work he had done for past two years. On completion of injections, patient had returned to his regular work (foreman) and was working steadily and said that he felt better than he had at any time since illness began. Tubercle bacilli were present before and after tuberculin treatment. Physical signs those of an arrested lesion with evidence of chronic plastic pleuritis.

Dec. 5, 1912: Patient is 53 years old and has felt very well, but is out of work and unable to get anything to do. He says he feels better when he is working. He has a very slight cough and expectoration just after getting out of bed in the morning. There are a few small low-pitched crackling râles on left (pleuritic); both upper lobes are fibroid. Weight is 140½ pounds, 2½ pounds less than at beginning of tuberculin thirty months ago.

CASE 4.—A. W. (sister of S. W.), book-binder, aged 21, single, American. Diagnosis on admission, Feb. 1, 1910, pulmonary tuberculosis, moderately advanced. Prognosis doubtful. Infiltration right upper lobe and left apex. Active symptoms began two years previously with hemoptysis. Patient was under treatment at dispensary two months before being sent to Mont Alto, slowly losing ground. Average weight in health, 90 pounds. Height, 5 feet. Weight on admission to dispensary, 86½ pounds, in February, 1910. Weight on return from Mont Alto in July, 1910, where she spent three months, 91¼ pounds. Patient was observed for one month after leaving Mont Alto, during which time she felt weak, tired easily and was unable to work; was afebrile.

Treatment and Results.—Tuberculin was begun July 2, 1910, and patient received a total of thirty-six injections during a period of nine months. After having been on tuberculin for two months, patient felt so much better and stronger that she was permitted to return to work on half time. Her cough had entirely left her. Before the completion of her tuberculin course, she had returned to her regular work and could be seen by the nurse only on Sundays as she was out at her place of employment during the whole of each day. One year after last injection patient states that she feels as well now as at any time previous to her illness, and can do as much work. She is regularly employed daily and has been so right along.

Nov. 27, 1912: Patient feeling fine; no cough or other symptoms; working regularly (hours 8:30 a. m. to 5 p. m.); has not missed a day. Signs of arrested lesion. Weight 89¾ pounds, a loss of 1½ pounds from weight at commencement of tuberculin, twenty-nine months ago.

CASE 5.—S. W. (sister of A. W.), school-girl, aged 12 American. Diagnosis on admission, Feb. 17, 1910, marked tuberculous adenitis, cervical and axillary glands; probable bronchial glands. No pulmonary localization. Active symptoms began with enlargement of cervical and axillary glands and cough one year previously. Average weight in health unknown. Height, 4 feet, 9¼ inches. Weight on admission to dispensary, 75 pounds. This was distinctly a glandular case and the glands on both sides of neck were becoming rapidly larger (as big as hen's eggs), tenser and more tender. There were large glands in both axillae.

Treatment and Results.—Tuberculin was begun March 15 1910, and patient received thirty injections during a period of eight months. Following the first few injections of tuberculin the glands became perceptibly less tender and after several months were greatly reduced in size and entirely painless; at the conclusion of the treatment the glands were barely palpable. Patient gained steadily in weight from 75½ pounds on first injection to 85 pounds on date of last tuberculin injection; had returned to school and was apparently in normal physical health

Nov. 27, 1912: Patient is feeling well and has attended school regularly since. Examination of chest is negative. Glands in neck are palpable (about the size of a pea), but give her no trouble. Weight is 91¼ pounds, 15¾ pounds gain over weight at commencement of tuberculin, thirty-two months ago.

Case 6.—Samuel W., tailor, aged 35, married, Russian. Diagnosis on admission, Feb. 1, 1908, pulmonary tuberculosis, moderately advanced; prognosis doubtful. Consolidation right upper lobe. Active symptoms began five years previously with influenza and hemoptysis. Average weight in health, 145 pounds. Height, 5 feet, 6 inches. Weight on admission to dispensary, 129 pounds. Weight on admission to Mont Alto, 117 pounds. Under dispensary treatment for six months, but failing steadily. Weight on return from Mont Alto, December, 1909, where he spent six months, 127 pounds. (Patient suffered while at Mont Alto with chronic gastritis and vomiting after meals.) Under treatment three months following return, but was slowly deteriorating; afebrile but unable to work.

Treatment and Results.—Tuberculin begun March 1, 1910 (weight 117¼ pounds), and patient received in all thirty-eight injections during a period of eleven months. The sputum for one year preceding injections showed the presence of tubercle bacilli. Since tuberculin injections were begun, no bacilli could be demonstrated in the sputum; three months of tuberculin greatly improved patient's condition and he was able to resume his work for the first time in three years. After the last injection the following information was elicited in the patient's own statements: "For past three years I was not able to attend to my work at tailoring and carrying bundles of clothes. Three months after first injection, I commenced to work at my trade and have been doing so for past seven months. I work ten hours daily and feel better in every respect. The cough, expectoration, 'wind,' appetite, digestion and sleep are very much improved, and I become less exhausted at work." Ten months after last injection patient is in good condition; works daily; lesion in the lung shows no activity.

Nov. 27, 1912: Patient working on full time (hours 7:30 a. m. to 5:30 p. m.); supporting family of eight; feeling well and strong. Both upper lobes fibroid; weight 121 pounds, a gain of 3¾ pounds over weight at commencement of tuberculin, thirty-three months ago.

Case 7.—M. D., aged 15, single, American, occupation housework. Diagnosis on admission, July 6, 1908, pulmonary tuberculosis, moderately advanced; prognosis doubtful. Infiltration right upper lobe and left apex. Active symptoms began two years previously with cough, and loss of weight and strength. Average weight in health, 108 pounds. Height, 5 feet, 3 inches. Weight on admission to dispensary, 102 pounds. Weight on leaving sanatorium (White Haven), one month previously, where she had spent five months, 107¾ pounds. Patient was under systematic treatment for seven months, slowly deteriorating, but afebrile; tires easily and unable to work. Weight slowly went down to 99 pounds.

Treatment and Results.—Tuberculin was begun Feb. 1, 1910, and patient received a total of fifteen injections in a period of six months. As she developed a hypersensibility, the injections were given at long intervals. Her weight two months after beginning tuberculin treatment reached 109 pounds, which was approximately retained until the very hot weather of July and August. Weight at last injection in August was 105½ pounds. Patient states that she suffers from the hot weather, but cough and expectoration are must improved and she feels much stronger. She helps her mother about the house. Tubercle bacilli were found previous to the tuberculin, but not during or after the treatment.

Dec. 3, 1912: Patient in fine condition, working regularly in a department store. No cough or other symptoms. Weight, 130 pounds, 31 pounds more than weight at beginning of tuberculin treatment, thirty-four months ago.

Case 8.—W. B., weaver, aged 40, single, English. Diagnosis on admission, Dec. 16, 1908, pulmonary tuberculosis, far advanced; prognosis doubtful. Infiltration upper and middle lobes right side; consolidation with cavitation, left upper lobe. Active symptoms began two years previously with severe hemorrhage. Previous to admission patient had spent three months in tuberculosis wards, Philadelphia General Hospital. He was six months under treatment at dispensary before he was sent to Mont Alto, losing ground steadily. Average weight in health, 130 pounds. Height, 5 feet, 9¼ inches. Weight on admission to dispensary, 110½ pounds in December, 1908. For one year after his return from Mont Alto he was under most systematic treatment. He attempted to return to work but could not stick at it. He was slowly failing; had no appetite, poor digestion and slight fever; cough and expectoration troublesome.

Treatment and Results.—Tuberculin was begun Feb. 15, 1910; patient received thirty-nine injections during a period of twelve months. Four months of tuberculin treatment found the patient with a net gain of 10½ pounds from the time of first injection; cough and expectoration much less and great gain in general health; entirely afebrile. Patient went to work four months after beginning tuberculin, and continued at his work as night watchman throughout entire tuberculin treatment, reporting regularly once a week, except toward the end when his earning capacity having increased and his general health being so much better, he began to consume alcohol in varying amounts, became irregular in his habits and finally was lost sight of. He died April, 1912.

Case 9.—E. S., tailoress, married, Russian. Diagnosis on admission, Jan. 27, 1909, pulmonary tuberculosis, moderately advanced; prognosis fair. Consolidation right upper lobe. Active symptoms began two years previously with attack of influenza and hemorrhage. Average weight in health, 135 pounds. Height, 5 feet, 3½ inches. Weight on admission to dispensary, January, 1909, 114 pounds. Weight after return from Mont Alto, Aug. 25, 1910, where she staid eight months, 141¾ pounds. She returned to work, took cold, and began to lose weight; had some cough and expectoration, slight fever; was unable to continue at work.

Treatment and Results.—Tuberculin begun October 4, 1910; weight, 138 pounds; patient received a total of forty-two injections in a period of twelve months, the treatment having been started at Mont Alto. Patient returned to work (three days a week), Nov. 22, 1910, and full time in December, 1910. Weight on conclusion of tuberculin treatment, five months after return from Mont Alto and on full-time work, 140¼ pounds. Fourteen months after last injection, patient is working regularly daily. Cough and expectoration are much less than formerly; patient is stronger and feels better in every way. Lesion involving right upper lobe is in an arrested stage. Tubercle bacilli were present before and after tuberculin treatment.

Nov. 27, 1912: Patient has been working steadily ever since in tailor-shop, supporting self and two children. She still has some cough and expectoration and râles on right side. Weight is 130 pounds, a loss of 8 pounds over weight at commencement of tuberculin twenty-five months ago.

Case 10.—C. McG., housewife, aged 41, married, Irish. Diagnosis on admission, March 16, 1909, pulmonary tuberculosis, far advanced; prognosis unfavorable. Consolidation upper and middle lobes, right side and left apex. Active symptoms began four years previously with pleurisy. Patient was at White Haven five months previous to admission; returned April, 1908. Average weight in health, 155 pounds. Height, 5 feet, 7 inches. Weight on admission to dispensary, 142½ pounds. Weight on return from Mont Alto in July, 1910, where she spent four months, 145 pounds. Patient was treated one year at dispensary before being sent to Mont Alto, during which time her weight remained stationary and she was afebrile, but suffered with several attacks of blood-spitting. No tuberculin was given during this time.

Treatment and Results.—At Mont Alto patient received a course of eleven injections of tuberculin, was free from blood-spitting and said she felt much improved. She asked to have her tuberculin continued and injections were resumed at dispensary. She received eleven more, or a total of twenty-two injections in eight months. At the end of this course patient weighed 142½ pounds, felt much better and stronger, cough and expectoration were less, and she resumed her work. Six months later patient was in good condition and doing her own housework. Patient died August, 1911.

Case 11.—G. S., ironworker, aged 42, married, American. Diagnosis on admission, Feb. 11, 1909, pulmonary tuberculosis, moderately advanced; prognosis doubtful. Consolidation both upper lobes. Active symptoms began five months previously with cough, hemoptysis and loss of weight. Average weight in health, 160 pounds. Height, 5 feet, 7 inches. Weight on admission to dispensary, 150 pounds. Weight on return from Mont Alto, Aug. 11, 1909, where he spent five months, 163¾ pounds. This case was complicated by chronic tuberculous laryngitis, and the patient did not improve much at the sanatorium. He had much cough and expectoration on return (filled two sputum boxes at night) and was unable to work. Tubercle bacilli were constantly present; no fever.

Treatment and Results.—Tuberculin treatment was begun Feb. 15, 1910, six months after return from Mont Alto. Patient's weight was 157 pounds; he received twelve injections during a period of four months. Patient was much improved in general health, cough and expectoration noticeably decreased, and he felt so well that he insisted on returning to work, securing a position as watchman. One year after last injection patient was working steadily and feeling fine.

Nov. 27, 1912: Patient has been working for some months for Adams Express Company, doing trucking of heavy freight, much heavy lifting (hours from 6:30 p. m. to 7 a. m.), twelve hours of heavy night work. Three weeks ago packing-case slipped and fell on shoulder, breaking his left arm. Patient has been worse since his injury, coughing and spitting more and suffered much pain in hospital. He lost 10 pounds in three weeks; weight previous to accident 150 pounds, a loss of 7 pounds from weight at beginning of tuberculin treatment thirty-nine months ago.

CONCLUSIONS

The conclusions which we feel justified in drawing from a thorough familiarity with the course of health in the cases above described for a long period of time is as follows:

1. These cases were all (with one exception, the glandular case) of an advanced chronic fibroid type, which had under treatment shown a fairly good resistance, but the patients, in spite of everything which could be done for them, were unable to work and slowly deteriorated in health, weight and strength; this deterioration was at least checked in every case while tuberculin was being used.

2. Further, every patient was distinctly improved in health and was able to resume and remain at regular work during or following the course of tuberculin.

3. We recognize the fallacy of attributing too much to any one factor or therapeutic measure in chronic diseases generally, and in tuberculosis particularly. In emphasizing the fact that these patients were so improved and were able to return and continue at work, we do not mean to infer that such results are not seen in chronic advanced tuberculosis untreated by tuberculin; but we do argue that from the previous course of health in these particular cases under most systematic treatment, the tuberculin at least seemed to be the sole added factor responsible for the improvement.

4. The tuberculin apparently cured the patient with glandular tuberculosis.

5. Tubercle bacilli disappeared from the sputum in several of the cases during the course of treatment, but the majority of the patients still showed the presence of tubercle bacilli on the completion of the full course of injections.

6. The local condition in the lungs showed a distinct improvement as evidenced by the disappearance of râles.

7. In advanced chronic tuberculosis, when there is fair resistance and little or no fever, tuberculin is unqualifiedly a valuable therapeutic measure, or at least proved so in the above series.

8. The reactions with Dixon's tuberculin (tubercle bacilli extract) were uniformly mild and without unfavorable influence on the course of treatment.

9. All the different preparations of tuberculin represent an effort to retain the favorable toxins of the bacillus and to eliminate those which are deleterious to the human organism; and we believe that for general use at least, particularly in ambulatory cases, it is safer and better to select a preparation of mild potency and toxicity, and that in the so-called Dixon's fluid we have a safe and effective tuberculin of this type.

218 South Fifteenth Street—1002 Jackson Street.

HEMORRHAGE CONTROLLED IN TWO CASES BY LOCAL APPLICATION OF HORSE-SERUM

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For a number of years it has been an accepted procedure to employ serum hypodermatically in hemorrhage due to a diminished tendency of the blood to coagulate, and experience has proved this remedy very effective. Usually horse-serum has been employed in varying quantities and the results have been excellent in hemophilia, purpura, melena neonatorum and in operations associated with a long-continued icterus. Latterly transfusion has been performed, the donor being preferably one of the relatives.

The present opinion is that these serums undoubtedly have the effect of increasing the coagulability of the blood.

The following case-reports are offered as a contribution to bleeding that was controlled by the local application of the serum:

Case 1. *History.*—The patient, aged 49, gave a history of having had, several years before, intermittent nose-bleed which was cured only after the turbinates had been removed; he had a moderate degree of arteriosclerosis. He had been suffering for some time from an irritable bladder and a cystoscopic examination revealed a cyst at the internal urethral opening; the cyst was cauterized by Dr. Henry Meyer with the operation cystoscope; there was no hemorrhage at the time.

The night of the operation the bladder became very much distended with blood-clots and the bladder could be evacuated only with the greatest difficulty. Bleeding persisted for a week and then became very profuse. When I saw the patient he was much exsanguinated. The bladder reached to the navel and was firm with blood-clots.

Treatment.—A cystotomy was done and the distended bladder was emptied of its coagulated blood; the cystic tumor was found to have been burned away at the previous operation and as a result there was a small bleeding area which was cauterized with the actual cautery; the bladder was then packed with iodoform gauze and a recurrence of the bleeding was not expected. The hemorrhage, however, never ceased for seven days despite the application of various astringents, namely, tincture of iron, alum, epinephrin and antipyrin, all of which were applied to the bleeding area and followed by packing. Horse-serum was also injected. The tissues of the abdominal wall bled as persistently as did the area in the bladder. There was a continuous ooze of bright red blood and the patient's condition was growing exceedingly grave.

At this time Dr. Jellinek suggested that horse-serum be applied locally. A flask of horse-serum was poured into the bladder; the hemorrhage seemed to cease almost at once and from that time on there was no further bleeding.

It seemed warranted to assume that the hemorrhage had been controlled by the local application of the serum.

Case 2.—*History.*—The patient, a woman aged 45, gave a history of jaundice that had been present for three months; the icterus was not very intense although it had been persistent. Coagulation time of the blood was eight minutes. She had an enlarged gall-bladder with no history of pain.

The diagnosis of carcinoma involving the deeper gall-ducts was made.

Treatment.—The patient might have had a preliminary transfusion but the icterus had not been sufficiently intense and I felt that exploration could be safely performed. The gall-bladder was exposed and about 8 ounces of dark green bile of the consistency of tar was removed; no gall-stones were found. A cholecystenterostomy was to be performed when the gall-bladder began to bleed; there had been no curettage of the viscus wall by a sharp spoon; only a dull spoon had been introduced, as the finger could not reach to the bottom of the gall-bladder. Bleeding became excessive and could not be controlled even after five yards of soft iodoform gauze had been packed into the gall-bladder. The hemorrhage became alarming and the patient was given 20 c.c. of horse-serum hypodermatically without any apparent result. Then a flask of horse-serum was poured into the gall-bladder; coagulation was immediate and there was no question in the opinion of those present but that the local application of the serum stopped the bleeding. The gall-bladder was then repacked and bleeding did not recur.

350 Post Street.

A CASE OF POISONING BY LITHIUM

PRESENTING SOME NEW FEATURES *

S. A. CLEAVELAND

CLEVELAND

During an investigation on the action of uric acid under Professor Haskins, I had occasion to take rather large doses of lithium chlorid, and experienced toxic symptoms differing in some respects from the hitherto described phenomena of lithium poisoning.

In the first experiment, 2 gm. of the chlorid were taken in a glass of water after each meal for three meals (about 1 p. m., 9 p. m. and 7 a. m.) and then, after skipping one meal, another dose was taken about 7 p. m., making a total of 8 gm., about 125 grains, in twenty-eight hours. Symptoms showed themselves three or four hours after the first dose, consisting in slight dizziness and fulness in the head. Nothing more was noted after the second dose, which was taken in the evening. Soon after the third dose there was so much blurring of vision that it was impossible to read anything smaller than the largest headlines of a newspaper.

Dizziness and ringing in the ears were quite marked. There were also great general weakness and marked tremors. The fourth dose was taken at night, and the dizziness became so marked that the room seemed to go round all night, and sleep was almost impossible. The next morning the condition approached prostration. The eye symptoms were exaggerated and the dizziness, weakness and tremors were so intense that there was staggering and it was necessary to go to bed. The eye and ear symptoms lasted about a day and a half after the last dose. The weakness and tremors persisted for five days. At no time were there any gastro-intestinal symptoms—there was no abdominal pain, diarrhea or gastric irritation, and the appetite was very good throughout the whole time.

Several months later the experiment was repeated to make certain that the effects were really due to lithium. Only two doses of 2 gm. each were necessary to bring on the dizziness, ringing in the ears and blurring of vision. The general symptoms were much less marked than before, but there was some weakness for a day or so. Again there were no gastro-intestinal effects.

The notable features of these observations are the marked muscular and general prostration; the occurrence of vertigo and eye and ear symptoms resembling those of cinchonism, and the entire absence of gastro-intestinal symptoms.

According to the literature of lithium poisoning, as quoted by Good,[1] the common symptoms consist in marked prostration and gastro-intestinal irritation. The latter was entirely absent in my case, while the striking cinchonism effects do not appear to have been described by any previous reporters; but the doses taken by me (60 to 90 grains per day) were two or three times greater than those which seem to have been taken in the cases reported in the literature.

2196 East Eighty-Seventh Street.

FECAL IMPACTION IN THE ILEUM FOR FIFTY-THREE DAYS, WITH RECOVERY

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The patient, Mr. H. L., whose case (No. 77,911) I report had intestinal obstruction at the age of 60, due to carcinoma of the sigmoid colon, and relieved after seven days by laparotomy and cecostomy; at 62 he had fecal impaction, lasting forty-nine days and relieved by a ride on a jolting lumber-wagon; at 63 he had fecal impaction and accumulation in the ileum, lasting fifty-three days and relieved by lavage of the ileum through the artificial anus; and he died of acute obstruction from prolapse of the cecum through the cecostomy fistula four years after the establishment of the artificial anus.

The patient was one of a family of thirteen children. He was born in England, came to the United States at the age of 23, and lived in New York State during the last sixteen years of his life. He married at the age of 33 and had two children. His occupation was always that of a farmer, and his out-of-door life would undoubtedly account in large part for his great vitality. The family history is negative, except that the patient's mother died at 48 of carcinoma of the breast. The patient's father died at 72, a paternal uncle at 70, a paternal aunt at 90, the maternal grandfather at 75 and the maternal grandmother at 90 years of age.

The patient was never ill and had never had a physician until he was 60 years of age, except that at 23 he accidentally injured both feet with an ax while chopping wood. He used practically no alcoholics. He smoked about 10 cents' worth of tobacco a week in a pipe, but never used cigars or cigarets. He drank one cup of coffee a day up to three years before his death, and tea three times a week. He ate meat in small quantity on an average of once a day all his life, and pepper, vinegar, mustard and other condiments in moderation.

Intestinal Obstruction from Carcinoma of the Sigmoid Colon.—At 60 years of age the patient had intestinal obstruction, for which cathartics and enemas were used for seven days without success. The patient's abdomen was distended, and he was in great pain, but vomited little. He had passed blood by rectum three months previously, but had lost little in weight. Dr. Edgar R. McGuire of Buffalo, who was called in consultation by the patient's home physician, advised an exploratory laparotomy, and performed the operation May 19, 1908. On opening the abdomen in the median line, he found a large tumor of the sigmoid which so involved the descending colon as to preclude a left inguinal colostomy. The tumor was without hesitation pronounced malignant; and its persistence with complete occlusion of the colon for four years after the operation would seem to exclude diverticulitis and obstruction from certain other causes.

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* From the Medical School of Western Reserve University.

[1] Good, C. A.: Am Jour. Med. Sc., February, 1903.

A cecostomy was performed, the opening in the cecum being placed at the level of the ileocecal valve. The patient was soon able to do his usual work about the farm, and he found little inconvenience with the artificial anus, except that about every two weeks he had diarrhea. He took cathartics and enemas occasionally. The cecum frequently prolapsed through the artificial anus but was easily replaced by the patient. No colostomy plug or cap was worn, merely a simple pad of cloth which was changed from time to time. Practically no fecal matter was passed by rectum during the remaining four years of the patient's life, and only occasionally blood-stained mucus.

Fecal Impaction at the Age of Sixty-Two.—In September and October, 1910, two and a half years after the establishment of his cecostomy, the patient went forty-nine days without having a movement of the bowels, either through the artificial anus or through the rectum. During that time the patient was free from headache and suffered very little from abdominal distention. He was inconvenienced by the accumulation of gas; but as soon as the gas escaped through the artificial anus, he was restored to a comfortable condition. About four weeks after the beginning of the fecal impaction, the urine became dark red and continued so until the patient obtained relief from the impaction.

The patient's bowels began to move after seven weeks, the favorable termination of the obstruction being brought about by the jarring of a ride on a lumber-wagon. The bowels moved intermittently for a week through the artificial anus, the material passed being chocolate brown in color and not offensive in odor.

Judging from the obstruction which took place one year later, it would seem that the determining factor in the production of the impaction was the ingestion of fruit with the seeds, and of imperfectly masticated coarse vegetables, which were abundant at that time of year.

The patient's expulsive power was certainly less efficient than normal by reason of the artificial anus, and he was less solicitious about the initiation of defecation than one would expect; but the principal factor in bringing about the impaction undoubtedly comes under the head of indigestible food residue.[1]

Fecal Impaction in the Ileum at the Age of Sixty-Three.—After the relief of his obstruction in 1910, our patient had no further difficulty until Aug. 21, 1911, when his bowels ceased to act through the artificial anus, the exact date being fixed by the patient and by his wife as being one week before the beginning of the county fair. The patient was prevented from attending the fair by the fear that his bowels would begin to move while he was away from home. The patient was not greatly concerned about his condition, and was fairly comfortable until seven weeks had passed. He was in daily expectation that some fortuitous circumstance would bring relief, as had his ride on the lumber-wagon the preceding year.

During the time of the fecal impaction, the patient passed only gas through the artificial anus and nothing by rectum except a small quantity of blood-stained mucus. During the entire time he went about his work on the farm, and ate three meals a day, his appetite beginning to fail only a day or two before he presented himself for treatment.

The following list of foods eaten at approximately 159 meals during the time of the impaction is interesting from the point of view of the fecal residue to be expected: grapes, tomatoes, raspberries, strawberries, elderberries, apples, pears, peaches, prunes, cherries and melons; potatoes, beets, carrots, turnips, cucumbers, squash, pumpkin, string beans, lima beans, corn and peas; eggs, milk, cream and butter; bread and oatmeal; beef, bacon, chicken, mutton, salmon and sardines; pies of various kinds; cereal coffee, tea and condiments.

Oct. 12, 1911, fifty-three days after his last bowel movement, the patient presented himself for treatment, having been referred to the hospital by his home physician. The patient had taken cathartics for four weeks and had used enemas by rectum three and four times a day for two weeks, naturally without result. Enemas of a pint of water at a time had been easily passed into the cecum through the artificial anus twice a day for a week, but only a few drams of water returned each time, the rest of the water being absorbed. This indicated that the obstruction was not at the cecostomy opening.

Condition of Patient on Fifty-Third Day of Impaction.—At this time the patient had few symptoms. He was uncomfortable from the abdominal distention and said that his abdomen felt numb. He was able to expel gas through the artificial anus. The appetite was beginning to wane, and the patient had eructations of gas. He was walking about and was not in the least nervous or apprehensive about his condition. He had none of the symptoms that might possibly have been expected—headache, vertigo, pain, dyspnea, palpitation, nausea, vomiting, abdominal rigidity or difficulty in urination. For several weeks the urine had been red.

The patient had a slight rise of temperature on arrival, the temperature being 100 F. and the pulse 88. Within two hours however, the temperature became 98.4 F. and the pulse 69. and continued normal thereafter. The systolic blood-pressure was 84 mm. for the brachial artery.

The patient had lost in weight, this being most noticeable in the arms and legs. The skin was dry but not more than normally pigmented. The pupils were equal and normal in size. The tongue was somewhat coated. The patient had twenty-six teeth, all but one of them being sound.

The heart and lungs were found normal, and points of special interest were found only in the examination of the abdomen. The abdomen showed the scars of the incisions made at the time of establishing the artificial anus. The cecostomy opening was surrounded by an area of unirritated though slightly pigmented skin. The opening was circular and only large enough to admit the little finger with difficulty. By depressing the abdominal wall, the finger in the artificial anus could be made to palpate across the cecum a mass which gave the impression of an accumulation of fruit seeds.

There was practically no tenderness in the abdomen, except on pressure over the tumor in the left lumbar region. The abdomen was distended, the principal distention being due to a mass which lay to the left of the median line from the pubes to the costal arch, and which could be moved slightly from side to side by pressure over the abdominal wall. The left lumbar region was easily compressible, and there was no evidence of peritoneal effusion. There was resonance in the epigastrium and dulness in the right lumbar region. (A subsequent skiagram showed the liver rotated to the right by the abdominal distention.)

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[1] Many cases are recorded in which impaction and intestinal obstruction have been caused by fruit-seeds eaten with the fruit, and by imperfectly masticated nuts and grains. Cherry-seeds seem to have been particularly potent in this regard. Impaction in the rectum has been caused by raisin-skins and seeds in a boy 9 years of age (Lesage, L. A.: Jour. de méd., chir., pharm., etc., 1812, xxv, 56); by grape-skins and seeds in a man 25 years of age (Thornton, J. B.: Boston Med. and Surg. Jour., 1896, cxxxv, 339); by watermelon-seeds in an adult negro (Holliday, W. Z.: Med. Rec., New York, 1888, xxxiv, 508); by cherry-stones and prune-stones in a man 27 years of age (Homans, J.: Boston Med. and Surg. Jour., 1895, cxxxiii, 164); by imperfectly masticated whole wheat in a man 45 years of age (Somers, G. B.: Occidental Med. Times, Sacramento, 1894, viii, 601); by chips of cinnamon bark eaten by a boy 11 years of age (Guy's Hosp. Gaz., 1893, vii, 245); and by tigernuts eaten by a 12-year-old boy (Ibotson, E. C. B.: Lancet, London, 1905, i, 1197). J. E. Moore (Internat. Clin., 1911, 21 s, ii, 155) reports a case in which obstruction in the cecum and ascending colon was caused by chestnuts eaten daily for some time. Fatal cases of impaction at the ileocecal valve have been caused by plum-stones in an adult (Maunsell, S. E.: Indian Med. Jour., Allahabad, 1885, iv, 126), and by unripe, unmasticated blackberries in a 5-year-old child (Gornall, J. G.: Brit. Med. Jour., 1896, ii, 1035). E. C. Evans (St Louis Med. and Surg. Jour., 1854, xii, 308) has reported two fatal cases of obstruction caused by husks of parched corn, one in the jejunum 5 inches below the duodenum in a girl of 18, and one in the duodenum in a boy 10 years of age.

Digital examination of the rectum gave no information of immediate value, beyond the fact that intra-abdominal pressure was increased.

Treatment of the Impaction.—Lavage through the artificial anus was commenced at 8 o'clock in the evening of the day the patient presented himself for treatment, and was continued uninterruptedly for seven hours, during which the patient fell asleep a number of times and experienced no inconvenience except for painful cramps in his left leg.

That the treatment was not altogether without danger was recognized. Great care was exercised in inserting the tube, always well lubricated with petrolatum, and in conducting the lavage so far as possible with the lavage tube *in situ*, lest the bowel should be separated from its attachment to the abdominal wall by any undue violence.

The ileum was greatly dilated by the prolonged fecal accumulation, and its walls undoubtedly weakened by stercoral ulceration. The quantity of water introduced at any one time and the pressure over the abdomen in encouraging the outflow through the tube were carefully regulated.

The lavage of the intestine through the artificial anus was carried out with the patient in the dorsal position, near the right side of the bed and on a Kelly pad. Water was readily passed into the bowel, but could not at first be withdrawn on account of the tube having entered a mass of feces. Many times during the lavage, the tube became clogged with hard fecal masses—seeds of grapes, berries and apples, and undigested portions of string beans. At times it was necessary to remove the tube, although a large-sized colon tube was used, and to strip along it the obstructing masses which it was impossible to dislodge with water under considerable pressure. As the lavage progressed, the tube could be freely passed 10 or 12 inches through the ileocecal orifice into the greatly dilated ileum, the water distending the bowel in advance of the tube. The outflow was often interrupted but usually could readily be restored by withdrawing the tube for a few inches. When the tube was passed directly downward parallel to the median line of the body, it was arrested by the cecum at a depth of about 4 inches.

As the distention was relieved, it was observed that the abdomen was being emptied along a curved line sweeping from the artificial anus into the pelvis, and upward toward the left hypochondrium. Careful pressure along this line accelerated the outflow through the tube, especially when combined with pressure over the dilated cecum and ascending colon. When the abdomen was flaccid and the intestine comparatively empty, the stomach was still distended and was more prominent than at the beginning of treatment. In view of the fact that the stomach would probably empty its contents into the small intestine without difficulty, it was not thought advisable to subject the patient to gastric lavage.

Nearly 60 liters (63 quarts) of warm water were used in the lavage. The washings resulting from the first 18 or 20 liters (19 or 21 quarts) were about as thick as pea purée, of a dark chocolate-brown color and not offensive in odor. The last 40 liters of washings were of the consistency of pea soup. The washings acquired a fecal odor in a few hours of exposure to the air.

The patient was given a full tub bath, and although his night had been so fully occupied, he insisted on dressing himself at his usual hour of 5:30 in the morning, and waited somewhat impatiently for his breakfast. The distention of the abdomen had been so much reduced by the treatment that the patient's vest, the lower part of which could not be buttoned the night before, now hung loosely when buttoned. The patient's appetite improved rapidly, so that by the fifth day he was eating more than 2,000 calories a day.

The Fecal Accumulation.—The mixed washings obtained by lavage of the bowel measured more than 61 (61.750) liters (65 quarts), and weighed more than 62 (62.493) kg. (138 pounds). They therefore had a specific gravity of 1.012, from which the average daily fecal residue might be roughly estimated at 32 gm. (1⅛ ounces) of dry material. A more accurate estimation was reached by drying an average sample, the dry residue being 3 per cent. by weight of the washings. Three per cent. of the total weight of the washings gives 1,874 gm. (4⅛ pounds) of dried fecal residue as the accumulation of fifty-three days. The average daily fecal residue was therefore 35.36 gm. Calculated in the proportion of four parts of moist feces to one part of dried residue (Landois), the fecal accumulation for which the patient sought relief approximated more than 16 pounds. The fecal accumulation might have been expected to be about 7.155 gm., since Voit gives 135 gm. as the average amount of moist feces eliminated daily by a normal man on a mixed diet.

Examination of Feces.—A sample of the washings, carefully examined in the laboratory, contained the fruit-seeds and undigested food remnants already mentioned, and many large crystals of triple phosphate which had the appearance macroscopically of sand. Besides phosphates no other crystals were found. Traces of blood were found, which may have resulted from the ingested meat, but probably originated in stercoral ulcers in the bowel. Gram stains and counts of bacteria in samples from each of the ten jars in which the washings were collected gave an average of 17.5 per cent. of Gram-positive and 82.5 per cent of Gram-negative bacteria present. The reaction was strongly alkaline. There were digestive enzymes present, and the material did not give the biuret test, which would indicate complete digestion or bacterial decomposition of the protein.

ANALYSES OF URINE

	Samples			
	1	2	3	4
Quantity (c.c.)	400	500	900	1,200
Color	Red.	Yellow.	Amber.	Reddish-yellow.
Specific gravity	1.020	1.002	1.003	1.013
Total solids (gm.)..	18.64	2.33	6.29	36.34
Acidity (c.c. tenth-normal acid). ...	71	10	65	110
Urea	10.00	1.50	3.60	16.80
Ammonia (gm. NH_3)	.212	.075	.205	.212
Chlorids (gm. NaCl)	2.80	.10	.00	10.32
Sugar	0	0	0	0
Albumin	0	0	0	0
Bile	0	0	0	0
Blood	0	0	0	0
Indican (Folin scale)	4	0	0	0
Indolacetic acid	Abundant.	Trace.	Trace.	0
Microscopic Findings:				
Crystals	0	0	0	Many calcium oxalates.
Epithelia	Few.	Few.	Few.	Few.
Casts (No. in field) .	0-1 Hyaline.	0	0	0

An examination of feces twenty-four days later gave the following result:

Amount of moist sample, 21 gm.; amount of dried residue, 3.37 gm.; color, brown; odor, normal; form, semiliquid; food remnants present; mucus normal in amount; reaction slightly acid; enzymes present; biuret reaction given; blood detected by chemical tests; no crystals present except crystals of fatty acid; some fat globules present; no other microscopic findings of note; bacteriologic examination showed 18 per cent. of Gram-positive and 82 per cent. of Gram-negative bacteria.

Blood Examination.—The patient's hemoglobin was 79 per cent. of normal; red cells 4,750,000 per c.mm., or 95 per cent.; white cells 8,200 per c.mm., or 109 per cent., normal being taken to be 7,500 per c.mm. The red cells were normal in size and shape. Differential count of 270 leukocytes gave 18.5 per cent.

of small lymphocytes, 5.1 per cent. of large lymphocytes and 76.3 per cent. of polymorphonuclear neutrophils.

Urinary Examination.—At the beginning of the lavage of the intestine through the artificial anus, the patient passed red urine (Sample No. 1), two hours later light yellow urine (Sample No. 2), and in the morning amber urine (Sample No. 3). For comparison the analyses of these three specimens are tabulated, with an analysis (Sample No. 4) made twenty-four days later.

RELATION OF URINARY AND FECAL FINDINGS TO SYMPTOMS

The color of normal urine is due principally to the yellow pigment, urochrome. The pronounced red color of the patient's urine was undoubtedly due to the reddish pigment urobilin, which is derived from bile pigments (Maly) and from hematin (Hoppe-Seyler) by reduction. Bile pigments, none of which left the intestine in feces during the impaction, and blood, which may have resulted from stercoral ulceration, or have been derived from the meat ingested, were without doubt the source of the urobilin in the patient's urine.

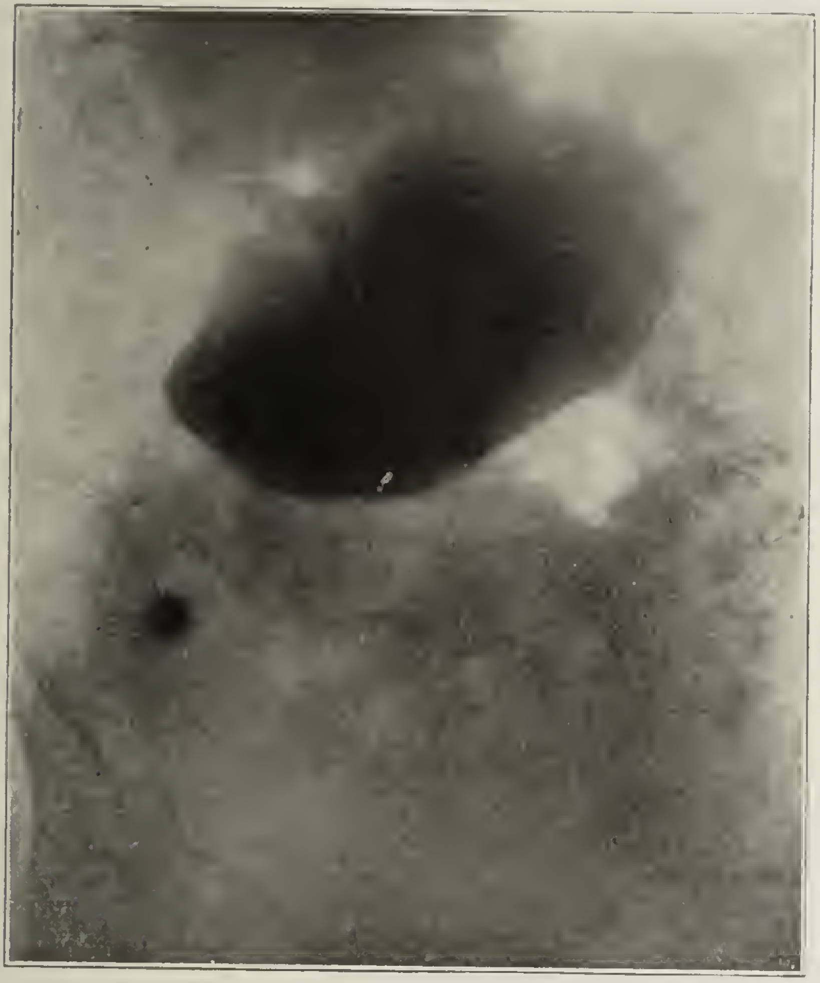

Fig. 1.—The stomach filled with bismuth suspension. The upper marker is placed over the navel, the lower marker at the cecostomy opening. The fine flaky shadows represent bismuth which has just passed out of the stomach and is en route to the small intestine. Note the width of the stomach shadow, indicating the true dilatation.

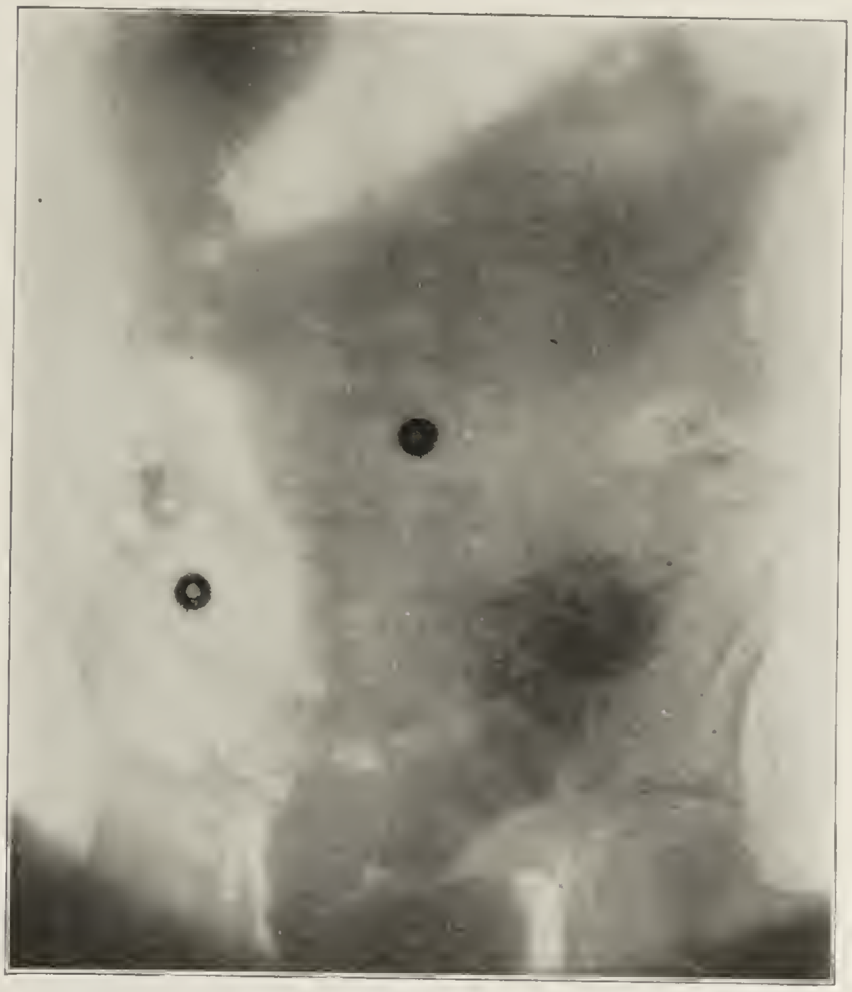

Fig. 2.—The colon injected by rectum. The bismuth column has filled the colon as high as the crest of the ilium, locating the obstruction at this point, beyond which it does not pass. The density of the upper right abdomen represents the liver, which is rotated so that none of it lies in the epigastrium.

Indigo-red, also called urorubin, has been found in the urine in intestinal obstruction, originating from indoxyl-sulphate (indican). This substance might possibly have been found in the urine in this case. No investigation was made to determine its presence.

There was no bilirubin in the urine, from which fact, and from the absence of jaundice, we may safely conclude that the intestinal stasis did not cause biliary obstruction, catarrhal or otherwise.

Indolacetic acid was present in large amount in the urine, but the indican was only slightly increased. The products of putrefaction in the intestine were thus rendered inert by combination with organic acids as well as with sulphates.

The occurrence of indican in small amount in this case is in marked contrast to the large amounts of indican found in acute obstruction of the small intestine. Nothnagel states that in occlusion of the small intestine there is a large, and occasionally enormous, increase of indican in the urine; in occlusion of the colon, on the contrary, the indican is increased only when this lasts a long time and when there is stagnation of intestinal contents above the ileocecal valve.

The great number of crystals of triple phosphate in the feces is a further indication that there had been putrefaction in the intestine. The absence of toxic and reflex symptoms was probably due in large part to the following facts:

1. The intestinal gases were able to find exit by eructation from the stomach and by passage from the artificial anus, as well as by elimination in the expired air.

2. The stasis of food in the small intestine was favorable to complete digestion and absorption of the protein, leaving little for putrefaction.

3. The bacteria of the small intestine were protective in producing substances, such as lactic acid, to inhibit the activity of putrefactive organisms.

4. A more or less constant balance was maintained between production and absorption of toxic substances, and their elimination.

Fluoroscopic and Skiagraphic Examination.—On the day following his arrival, and after his fecal impaction had been relieved, the patient spent the afternoon in the *x*-ray laboratory, where his stomach and small intestine were examined after a bismuth meal, and his colon after bismuth enema by rectum and after bismuth enema through the artificial anus.

The examination of the patient was conducted by Dr. A. J. Read, acting roentgenologist in the absence of Dr. J. T. Case. His findings made clear the changes brought about in the gastro-intestinal tract by the prolonged impaction and confirmed the diagnosis of tumor in the sigmoid colon. The fluoroscopic report will first be given, and then a description of the accompanying illustrations made from the skiagrams.

The heart and lungs were incidentally examined with the screen and were found radiologically normal.

The patient was given his first bismuth meal, consisting of 2½ drams of bismuth oxychlorid in 8 ounces of oriental clotted milk. The bismuth meal entered the stomach in a normal manner, and passed at once to the lower pole, which was about an inch below the level of the umbilicus. The stomach was enormously dilated but was completely empty within four hours.

The fluoroscopic examination was repeated two days later, a larger bismuth meal being given so as to obtain more accurate information in regard to the dilated stomach and small intestine. The meal consisted of 7½ drams of bismuth oxychlorid in 24 ounces of buttermilk. The observations of the previous examination were confirmed, and the lower pole of the stomach was found considerably displaced to the right, the pylorus being about 4 inches to the right of the median line and 3 inches above the level of the umbilicus. The pylorus was found close under the liver, which was rotated into the right lumbar region, the left lobe being in the right hypochondriac region with none of the liver in the epigastrium. Food began passing almost immediately into the small intestine, the loops of which gave a very broad shadow. The food had nearly all passed out of the stomach at the end of seven hours, and a portion of the meal was entering the cecum. There was thus little delay in the passage of the meal to the cecum, in spite of the long overdistention and the greatly dilated condition of the small intestine.

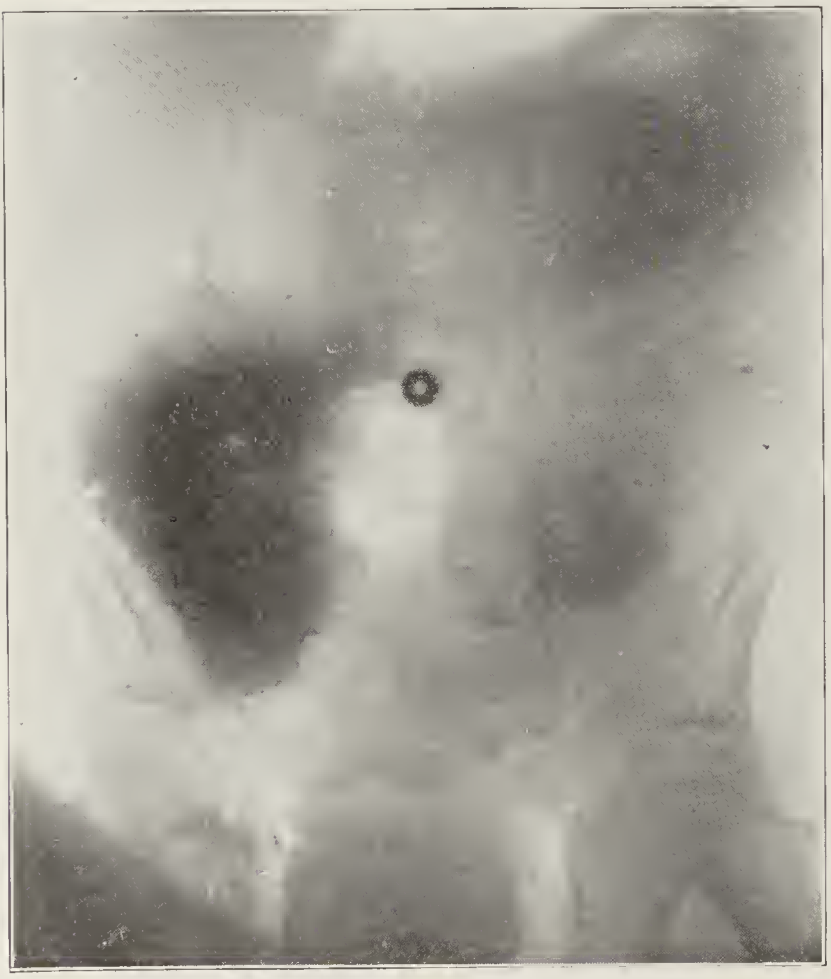

Fig. 3.—The colon is shown injected by rectum and through the cecostomy opening. Note the enlargement of the cecum.

The patient was given a bismuth suspension by rectum, which passed unobstructed through the rectum and sigmoid colon to a point 2 inches below the left iliac crest. At this point its progress was completely interrupted (by the tumor).

Injection of a bismuth enema through the artificial anus showed the cecum and first part of the colon, but the bismuth did not pass beyond the hepatic flexure. The artificial anus was shown by a metal marker to be in the cecum at the level of the ileocecal valve. The cecum, which extended 4 inches lower than the ileocecal junction, and the ascending colon were found greatly dilated.

Indications Against Surgical Operation.—The question of removal of the tumor in the sigmoid colon after relief of the impaction was considered, but it was decided that the patient's condition would not permit of safe recovery from any surgical operation extensive enough to eradicate the tumor and involved tissues. It was believed that there were metastatic growths, although positive evidence was lacking. It was thought that with proper care of the bowels, and management of the artificial anus, the patient would live comfortably.

Subsequent History.—The following history was obtained from the patient's family. On his return to his home in New York State in November, 1911, the patient felt fairly well and was able to walk about the neighborhood; but he was soon confined to the house by the cold weather and by pain in his left thigh. There was weakness and wasting of the muscles of the left thigh; and the pain, which was worse at night, was associated with anesthesia, paresthesia and coldness of the limb. No neurologic examination was made to determine whether the symptoms were due to metastatic growth in the spine or to direct involvement of the lumbar plexus in the tumor mass.

Prolapse of the Cecum Through the Artificial Anus.—The patient was reasonably comfortable until April, 1912, the bowels being easily managed by enemas through the cecostomy opening. April 20 the patient ate a little more than usual, and during the night the cecum prolapsed for about 5 inches through the artificial anus. The prolapsed bowel was caught in the grasp of the tightly contracted cecostomy, and it was found impossible to effect reduction, although I am informed that the examining finger could be passed through the apex of the presenting bowel down to the constricting ring. The artificial anus was completely obstructed and the patient suffered with the symptoms of acute intestinal obstruction—distention with gas and accumulated intestinal contents, intolerable pain, which was with difficulty controlled by opiates, and at the last fecal vomiting. The surgeons of the nearest town, who were called in consultation, decided that the patient was too feeble to undergo the necessary surgical interference and the patient was made as comfortable as possible till his death, April 27, 1912, one week after the prolapse of the cecum and almost four years after the establishment of the artificial anus. No post-mortem examination was made.

CONCLUSIONS

1. Cecostomy may be complicated (a) by contraction of the opening, requiring dilatation from time to time, (b) by fecal impaction, necessitating irrigation through the artificial anus, and (c) by prolapse of the cecum through the cecostomy fistula.

2. Fecal impaction in the ileum in the case herewith reported was due principally to the ingestion of fruit-seeds and imperfectly masticated vegetables such as string beans, which became impacted at the ileocecal orifice.

3. Mere fecal accumulation does not cause urgent symptoms as long as the intestinal gases have opportunity of exit. The distention may produce displacement of the liver and stomach without marked interference with their functions.

4. The urine became dark red from the elimination of bile pigments and hematin reduced to urobilin in the intestine; and the urine contained a few hyaline casts, but no albumin.

5. Roentgen-ray examination of the digestive tract after bismuth meals and bismuth enemas was valuable in estimating the extent of the changes which resulted from the impaction, and in confirming the exact location of the tumor.

6. Treatment to be effective must be persevering and should be conducted with full knowledge of the probable

existence of stercoral ulceration in a greatly distended intestine, and of the possibility of separating the bowel from the colostomy opening by any undue violence.

7. Prolapse of the cecum through the artificial anus may prove fatal unless skilful surgical attention is promptly available.'

TREATMENT OF ACUTE DACRYOCYSTITIS *

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The purpose of this paper is chiefly to call attention to a procedure in the treatment of acute dacryocystitis which, although first advocated by Agnew over forty years ago,[1] has been generally overlooked or forgotten. About three years ago I devised the same procedure, unaware at the time that Agnew had preceded me, and ever since have made use of it with increasing satisfaction.[2]

The methods of treating acute dacryocystitis most widely followed are undoubtedly those set forth by Fuchs in his text-book, viz:

> If the inflammation has passed the initial stage, it is idle to endeavor to prevent the formation of an abscess; besides, the methods of syringing, expression and compression, given above, could not be employed on account of the swelling and painfulness of the parts. The only thing to do now is to hasten the formation of the abscess, an object which is best attained by the use of moist and warm compresses. As soon as fluctuation makes itself apparent, we incise the anterior wall of the lacrimal sac, or that portion of skin beneath which the presence of pus can be made out. A lacrimal fistula is thus artificially produced, through which the contents of the abscess and of the lacrimal sac itself are discharged externally. This is kept open by the introduction of a strip of iodoform gauze every day, until all inflammatory symptoms have disappeared and the secretion that exudes has lost its purulent character.

It will be seen that this treatment is based on the assumption that a lacrimal abscess is analogous to any ordinary abscess. This, however, is not the case. In the earliest stage of an ordinary abscess a central cavity is lacking, owing to the fact that the purulent infiltration in the center has not become sufficiently dense to break down the tissue. While the abscess cavity is forming, a reaction is taking place around it, which walls it off and tends to prevent extension of the infection to the surrounding tissues. In the case of a lacrimal abscess, on the other hand, there is a preformed cavity which is already walled off from the surrounding parts by epithelium and connective tissue. As the inflammatory process increases, the cavity becomes more and more distended, and the infection penetrates the wall and forms one or more secondary abscesses in the tissues without, which ultimately open into the lacrimal sac and through the skin. From these considerations it is obvious that, while in the case of an ordinary abscess delay of operation may be advantageous, in the case of a lacrimal abscess it unnecessarily prolongs the process and increases the danger of extension to the surrounding tissues and of the formation of a fistula.

Admitting, then, that the usual temporizing methods in the treatment of acute dacryocystitis are improper, and that the pus should be evacuated as soon as possible, how should this be accomplished? In the very early stages an attempt may be made to press out or wash out the contents of the sac through the canaliculi, but this is seldom successful. This failing, the sac should not be incised through the skin under any circumstances. Objections to the skin incision are that owing to its depth it gives imperfect drainage, that it requires to be "wicked" or frequently reopened, and that it insures a fistula which too often is almost impossible to heal and which interferes with extirpation of the sac later. The Bowman operation of slitting the canaliculus is less objectionable, but it also does not give good drainage, involves unnecessary mutilation, and is difficult to do under the inflammatory conditions prevailing. Superior to either of these procedures is the incision of Agnew. This is made through the conjunctiva between the caruncle and inner commissure of the eyelids. It involves cutting through the least possible depth of tissue, and not only gives adequate drainage but insures constant irrigation of the lacrimal sac by the tears.

The following quotation gives Agnew's views on the treatment of acute dacryocystitis and the description of his incision:

> The common practice is to order leeches and hot poultices over the sac. This is a serious mistake. The first and imperative indication is to make an opening and let the contents out of the sac. . . . If the matter is already showing itself as a yellow or bloody mark beneath the cuticle, your course is simple; cut through the skin at the most depending part of the fluctuating tumor. . . . You have [otherwise] the choice of two other methods: either to slit up the lower canaliculus from punctum to sac and thus evacuate the matter; or, if that be prevented by excessive swelling, to make an incision behind the commissure of the eyelids between it and the caruncle, where you can reach the cavity of the sac with great ease, and do nothing to embarrass you in the after-treatment of the case. . . . You may then empty the sac without difficulty and avoid an external wound; nor does your procedure injure the canaliculi, or damage any appendage of the eye or interfere with after-treatment.

Agnew used a Beer's knife in making the incision. I found this unsatisfactory, because in giving it the desired direction, that is, directly inward toward the nose, the blade is almost sure to come in contact with the cornea and thus render the latter liable to infection. While planning a special instrument for this purpose, Dr. W. Liebman, my assistant in many of these operations, suggested the use of a small angular keratome, and this has proved perfectly satisfactory. General anesthesia with ether has been employed in all my cases. An assistant holds the lids apart with two small lid elevators. The angular keratome is then made to enter just in front of the caruncle, is plunged through the sac to the bone, and the incision enlarged by cutting upward and downward. There is always free hemorrhage, but pus does not always gush out until after a probe is introduced. I always immediately probe the lacrimal duct through the incision, using in adults first a No. 12 Theobald probe, then always a No. 14, and finally, if possible, a No. 16. The large probe is left in until the patient begins to regain consciousness, in order, as far as possible, to prevent bleeding from the duct.

For the after-treatment I direct the patient to press on the sac from time to time and keep the conjunctival sac free from pus with a lotion of boric acid. I have never irrigated the sac, even immediately after the operation, and my results show that this is unnecessary, the tears no doubt serving this purpose. Cold or hot

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* From the Massachusetts Charitable Eye and Ear Infirmary.

[1] Agnew, C. R.: Practical Suggestions for the Treatment of Lacrimal Disease, Am. Pract., January, 1871, p. 1.

[2] For the reference to Agnew's paper I am indebted to Dr. J. E. Weeks, who in his text-book makes brief mention of Agnew's incision.

applications are also unnecessary. On alternate days following the operation the duct is probed through the incision, a probe one or two sizes smaller than the largest probe used at the operation being introduced. The probing is done under cocain anesthesia and is almost painless, owing to the ease with which the probe is passed. The probe is allowed to remain only momentarily. Without probing the incision quickly closes. The result of this treatment is always most gratifying. Improvement begins at once, and in most cases within a week to all external appearances the condition is practically normal.

Agnew does not state that he probed the lacrimal duct through the conjunctival incision either at the time of operation or later. I regard the probing, however, as important. At first I introduced the probe at the operation very cautiously, in the fear that traumatizing the duct might lead to extension of the infection. Experience has shown that this fear is groundless, and now I pass the probes more boldly, using if necessary a moderate amount of force. I have been surprised to find, however, how readily in almost all cases even the largest probes may be passed. It might be supposed that in such an inflammatory condition the duct would immediately close after each probing so that drainage would be prevented, but the ease with which the subsequent probings are performed proves that this is not the case.

In still another particular I have differed from Agnew in the use of his procedure. Agnew employed it only in certain cases. In cases, especially, in which the abscess seemed to be pointing externally, he made an incision only through the skin. On the contrary, I make the incision through the conjunctiva in all cases, even when the abscess has already opened itself through the skin. When, however, there is an abscess immediately beneath the skin, I always in addition make a small incision into it and evacuate the pus, but I am careful not to carry the skin incision into the lacrimal sac. In this way the subsequent formation of a lacrimal fistula is avoided. I have been surprised to find that in certain cases what appeared to be the lacrimal abscess pointing beneath the skin was in reality a separate secondary abscess which did not communicate with the sac.

When I first conceived this operation, it was my expectation that it would convert an acute into a chronic dacryocystitis, at the same time obviating a fistula, so that extirpation of the sac could then readily be done. Much to my surprise I have found that, as far as I could ascertain, in almost all cases the sac has given no further trouble. In only one case, in which the patient discontinued treatment after only two probings, did the patient later return with a mucocele. This was extirpated without difficulty. What the ultimate results have been in all the remaining cases, in each of which there were five or more probings, I cannot say, as many patients have not returned. In the few cases I have seen since, the canaliculi were patent, but no secretion could be expressed from the sacs. In each case, however, with the possible exception of one, the lacrimal duct had again become closed, so that I attribute the good result not to the reestablishing of normal conditions, but to shrinkage of the sac.

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In Cases of Obstinate Sores, 'Think of Syphilis.—Another point about extragenital chancres is that a sore place that does not get well under ordinary treatment ought to make you think of syphilis.—George Pernet in *Clin. Jour.*, London.

A CASE SHOWING RESTORATION OF THE ENTIRE NOSE BY RHINOPLASTY AND BONE TRANSPLANTATION *

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I am indebted to Dr. Frank E. Miller of this city for the following interesting case:

The patient, a woman aged 32, is married and has a child of 5 who is apparently in good health. She had a stillborn child six years ago.

There is no record of hereditary syphilis in her family, and in other respects her family history is unimportant.

The patient was a strong and healthy girl up to the time she was 16 years old. At this time she had a slight nasal catarrh for which she received treatment. While she was undergoing this treatment she developed a chancre in her nose. This was followed by secondary symptoms. Several months later the throat became sore, the nose swelled up and began to discharge pus, occasional pieces of bone and cartilage coming away. Antisyphilitic treatment was begun, but as it seemed to do no good was soon discontinued. The ulcerative process became much worse, resulting in the destruction of the entire nose within two years of the beginning of the disease. During the active stages of the infection she was exhibited at the New York Academy of Medicine as a case of syphilis of extraordinary malignancy.

The patient applied to me for treatment early in March, 1912. At this time she wore an artificial nose of celluloid, which she stuck on her face with shellac. This artifice succeeded only in making her appearance ludicrous.

Examination.—The nose was absent, there being only a hole in the face where this organ should be. Surrounding this hole was a thick ring of scar tissue, extending beyond the limits of the nasal area on the cheeks and on the upper lip, which was badly scarred and retracted. The hard palate and to a considerable extent the superior maxilla, corresponding to the incisor teeth, were destroyed. The septum and the entire contents of the nasal cavity had completely disappeared, and the walls of this large cavity were covered with the crusts of an extensive ozena.

The patient's general condition was only fair. Wassermann reaction faintly positive.

Operation and Result.—March 20, 1912, I resected 3 inches of the right ninth rib, split it and scraped away the cancellous tissue from the outer half. I transplanted this between the superficial and deep fasciae over the biceps of the left arm. There was little or no reaction following this operation, primary union was obtained, and at the end of ten days the bone seemed thoroughly incorporated into the tissues.

March 30th, I dissected up a flap about a third larger than would be needed to construct a nose. This flap included the bone-graft, and was made large in order to allow for the great amount of contraction which I knew would occur. The upper end of the flap was sutured into the proper position on the face, and the end of the bone-graft was placed under the periosteum over the nasofrontal process. The lower end of the flap remained attached to the arm, which was bound to the head by means of plaster strips and bandages. On the third day after this operation, epithelial skin-grafts were removed from the thigh and placed on the under surface of the flap. April 12 the union between the flap and the face seemed to be complete, so its connection with the arm was severed. The flap immediately became white and cold and later bluish. When this condition had persisted for several hours, I felt certain that the flap would die, so I resorted to an expedient which I believe preserved its vitality. I succeeded in getting a leech to attach itself near the distal end of the flap. The suction of the leech produced a strong flow of blood through the recently formed capillaries at the connection of the flap with the face, dilating them and secur-

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* Case presented at New York Academy of Medicine, Oct. 23, 1912.

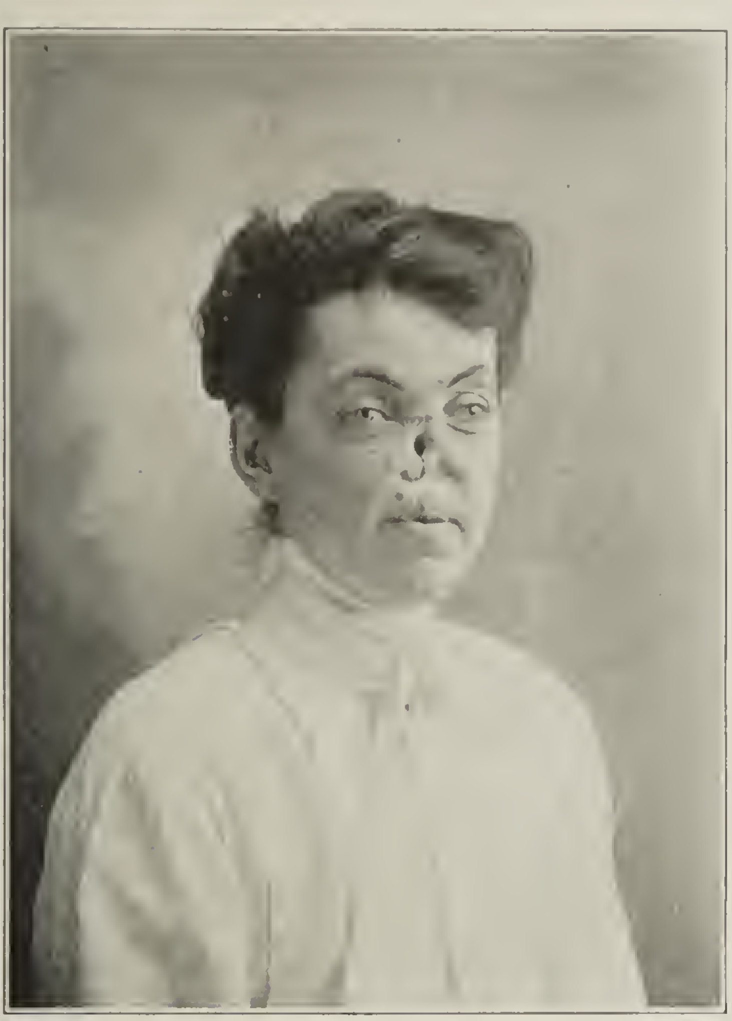

Fig. 1.—Patient before operation, face view.

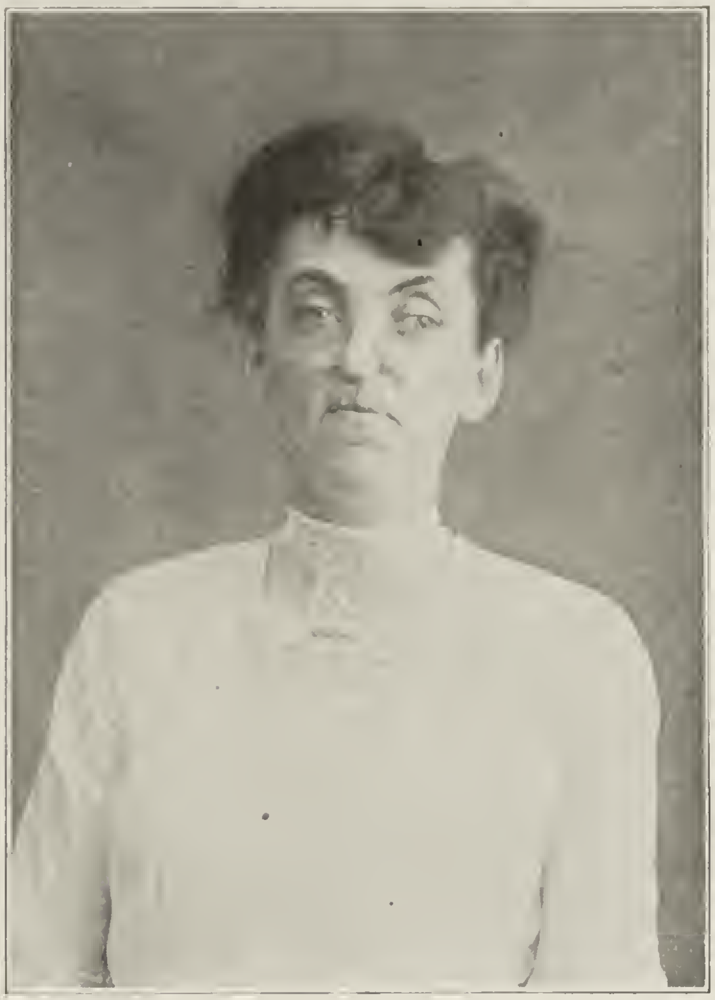

Fig. 3.—Patient after operation. Lip deformity is due to the disease.

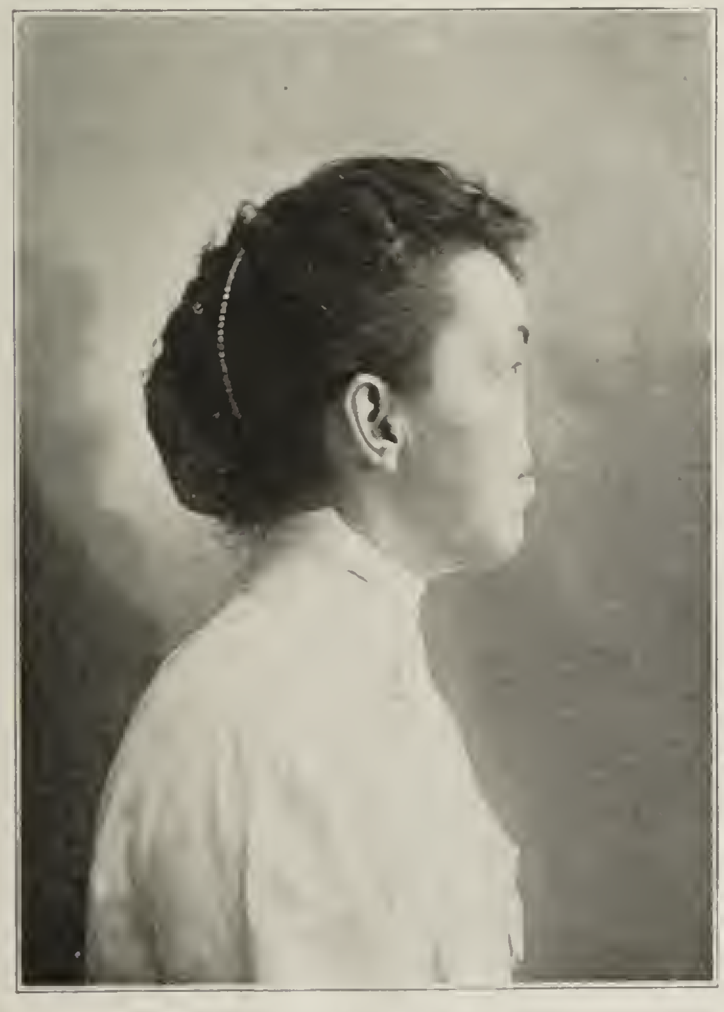

Fig. 2.—Patient before operation, profile.

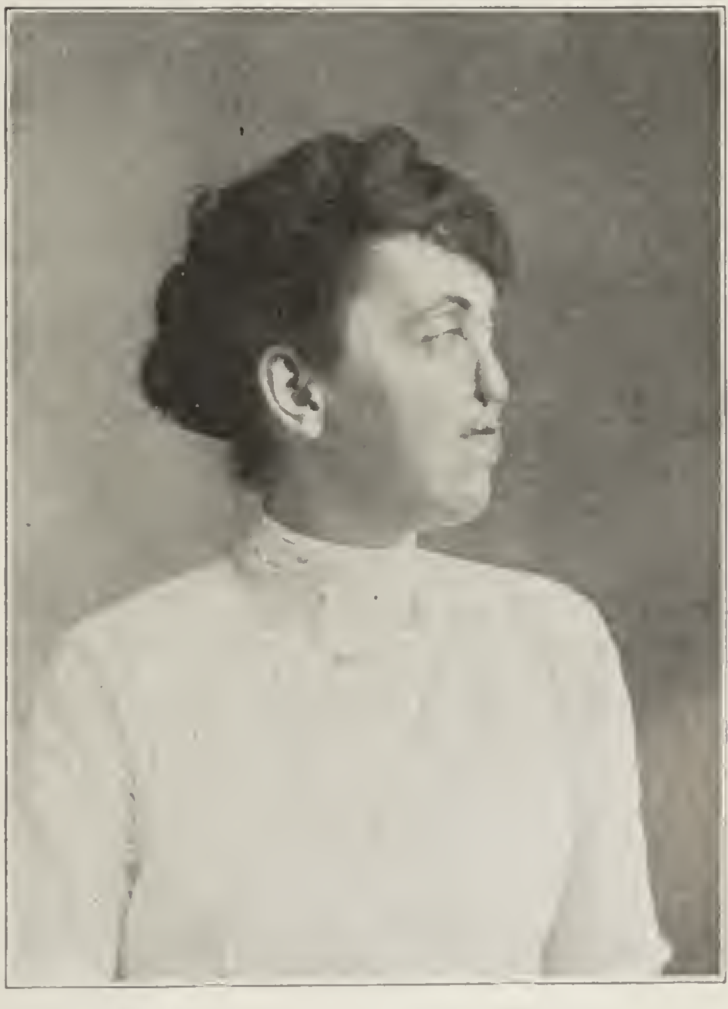

Fig. 4.—Profile of patient after operation.

ing a good blood-supply to the flap. The bleeding from the leech-bite continued for twenty-four hours after the worm had been removed. It is my belief that this expedient will often save flaps which would otherwise be lost from a lack of blood-supply, for in this case immediately after the application of the leech the flap became warm and of good color and remained so.

The molding and shaping of the flap into the nose as you see it has required several minor operations. There is an opening for nasal breathing, the appearance of the patient is greatly improved and she is well satisfied with the result. Much to my surprise she has sensation in her nose and she says that this is rapidly becoming more acute.

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RHINOPLASTY WITH FINGER

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The following procedures cover practically all conditions of external nasal deformities requiring the building up of the nose by the addition not only of bony structures but also of skin. The case reported represents the severest type, in which not only the soft parts, but also the bony structures are wanting and must be supplied. In such a case there are three measures which may be used:

1. A flap consisting of soft parts, periosteum and outer table of skull reflected down from the forehead. The resulting scarring of the forehead as well as the problematic, natural, final shape of the nose are the objections to this method.
2. The use of a finger to supply the deficiency of the nose. This an excellent method and has given splendid results. The only objection is the loss of the finger.
3. A rib may be transplanted into the forehead (Morestin) or into the arm (Carter), and when this has healed in place, then the soft parts containing the rib may be reflected as a flap and sutured in place. In such a procedure it would seem wisest to transplant a rib removed with periosteum covering half its surface. This rib is then split transversely and grafted into place in contact with the living frontal bone after separating its periosteum.

These measures would assure the life of the graft. The removal of half its periosteum would not militate against the reformation of the removed rib, since half its periosteum is left *in situ*.

That the rib will not be absorbed, the following conclusion by Murphy[1] indicates:

> Bone with or without periosteum transplanted in the same individual and contacted with other living osteogenetic bone at one or both of the ends of the transplanted fragment always becomes united to the living fragments and acts as a scaffolding for the reproduction of new bone of the same size and shape as the transplanted fragment, if asepsis is attained.

REPORT OF CASE

The patient, a man of 45, was admitted to the hospital Sept. 5, 1912. Two years prior he had been a stationary engine oiler. His right arm was caught in the belt and his face was drawn in so that the spokes of the wheel struck his face, annihilating his nose. He was then in a Long Island City Hospital for twelve months, where he said he had eleven operations. On admission to the Presbyterian Hospital, his face was entirely healed, but terribly disfigured, as the pictures show (Figs. 1 and 2). The face was marred by numerous scars, as was also the forehead, the skin of the forehead being attached to the bone by the scars. The projection of the nose was completely gone and the nasal and cartilaginous portions entirely missing, as was also the projection of the frontal bone forward. There was one small opening into the nasal cavity, admitting a probe. The left nostril was entirely gone, and its edge was attached to the bone beneath, while half of the right nostril remained and projected forward in a teat-like process. The defect in soft parts went up to within an inch of the frontal bone, and was 1 inch in transverse diameter and an inch and a half vertically. Any operation to reproduce the nose in such a case must introduce not only some bony support, but also a considerable amount of soft parts. Morestin has carried out a procedure of grafting a rib into the soft parts of the forehead and then turning down a flap, containing the implanted rib, to form the nose. This did not seem advisable because of the scars on the forehead, and the wish not to increase the patient's disfigurement by additional scars. It was considered best to graft a finger into the defect, because the man's condition was pitiable. He could get no position because of the deformity and went around with a handkerchief tied about his face to hide his disfigurement.

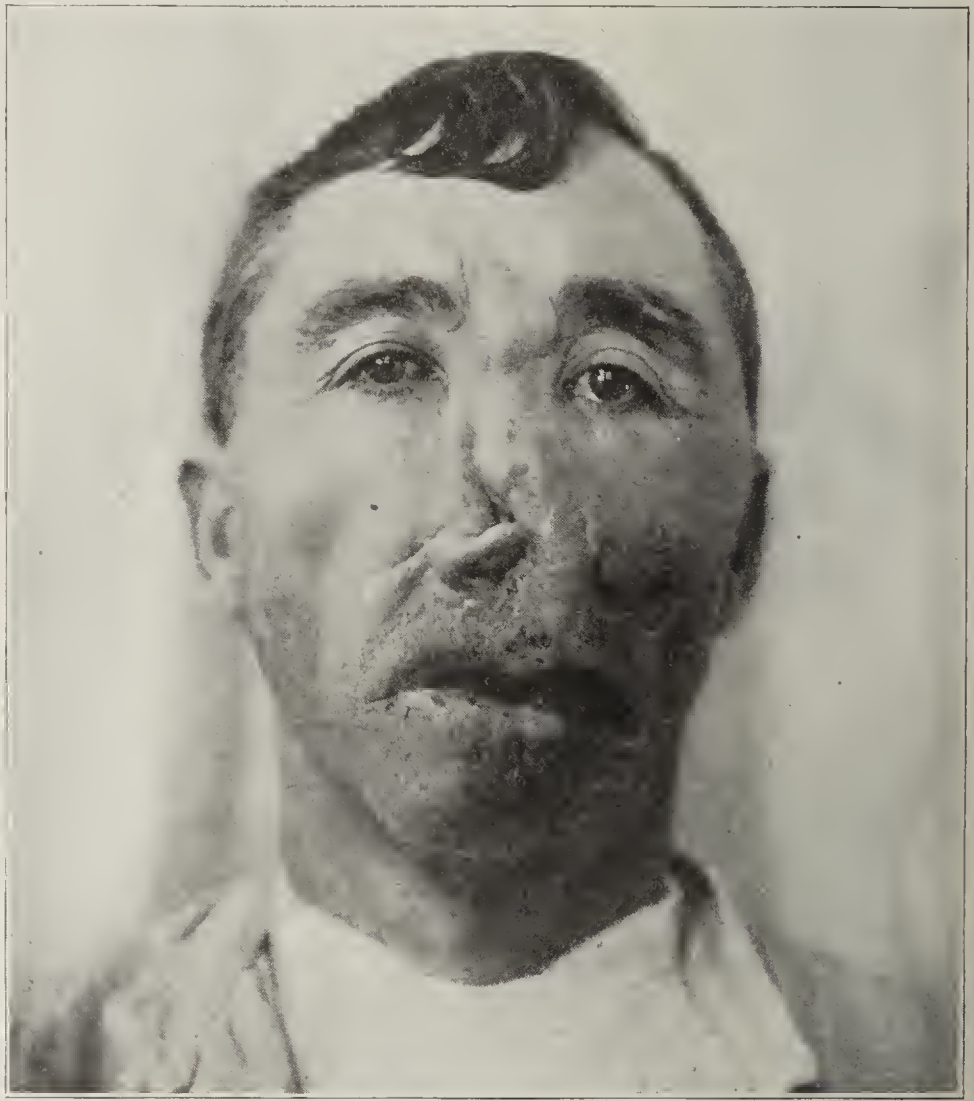

Fig. 1.—Patient before operation.

The procedure followed was a combination of the methods described by Finney and McGraw. The head and shoulders were immobilized in a plaster-of-Paris splint, the evening before the operation, and this splint was cut down on one side so that it could be quickly removed in the case of any accident during anesthesia. This splint was of great assistance in immobilizing the attached hand and arm immediately after the operation. A knife inserted in the defect separated the soft parts from the bone beneath, extending up to the frontal

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[1] Murphy, John B.: THE JOURNAL A. M. A., April 6, 1912, p. 989.

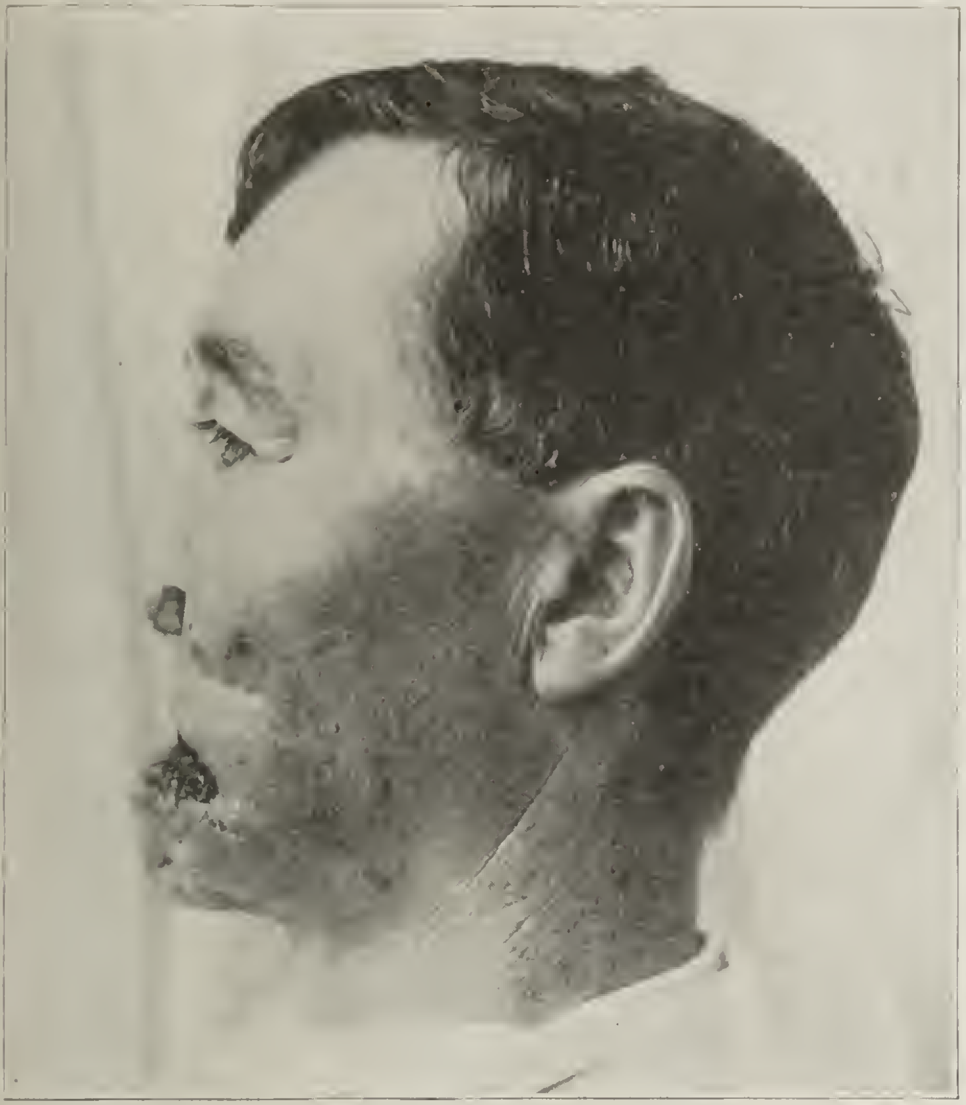

Fig. 2.—Profile of patient before operation.

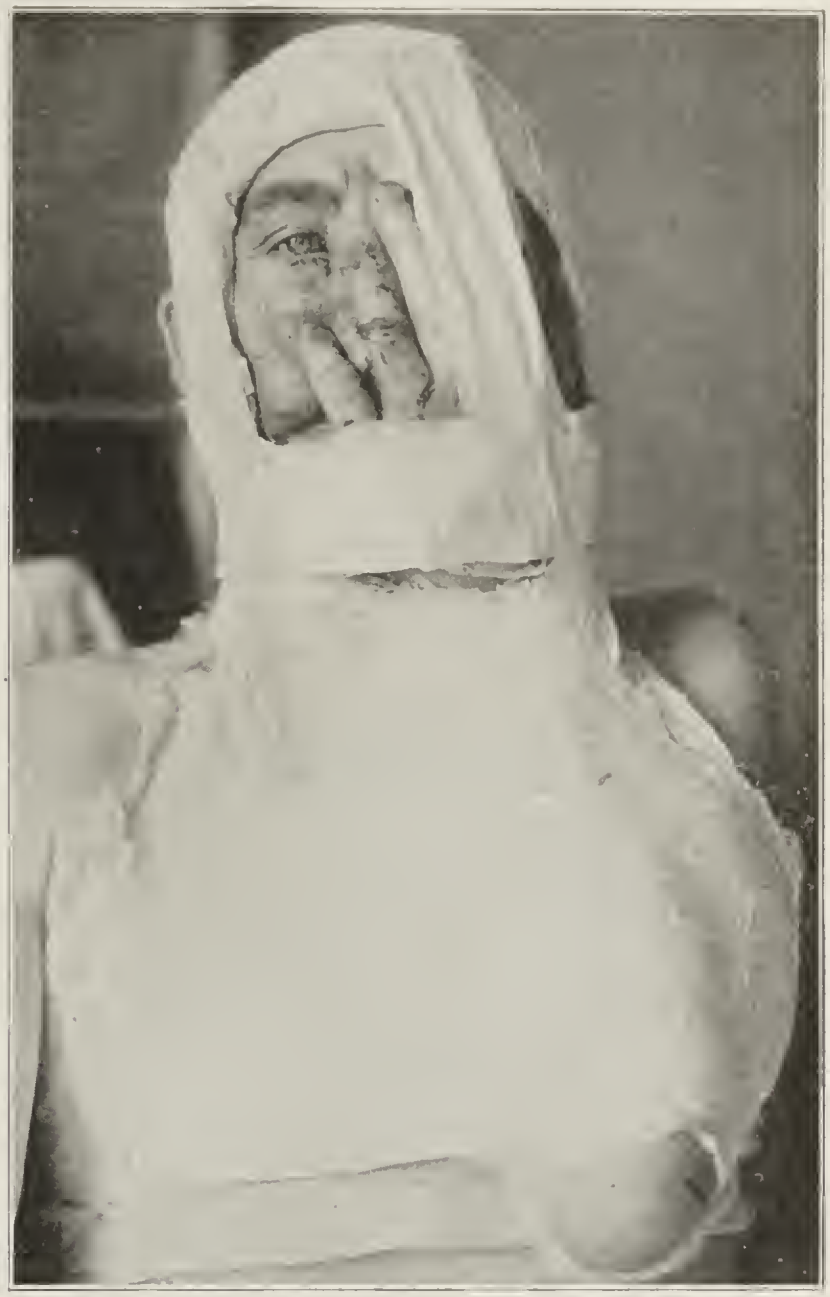

Fig. 3.—First stage of operation; finger joined to frontal bone; plaster-of-Paris splint about head, arm and chest.

Fig. 4.—Second stage of operation, twenty-one days later; finger has been amputated.

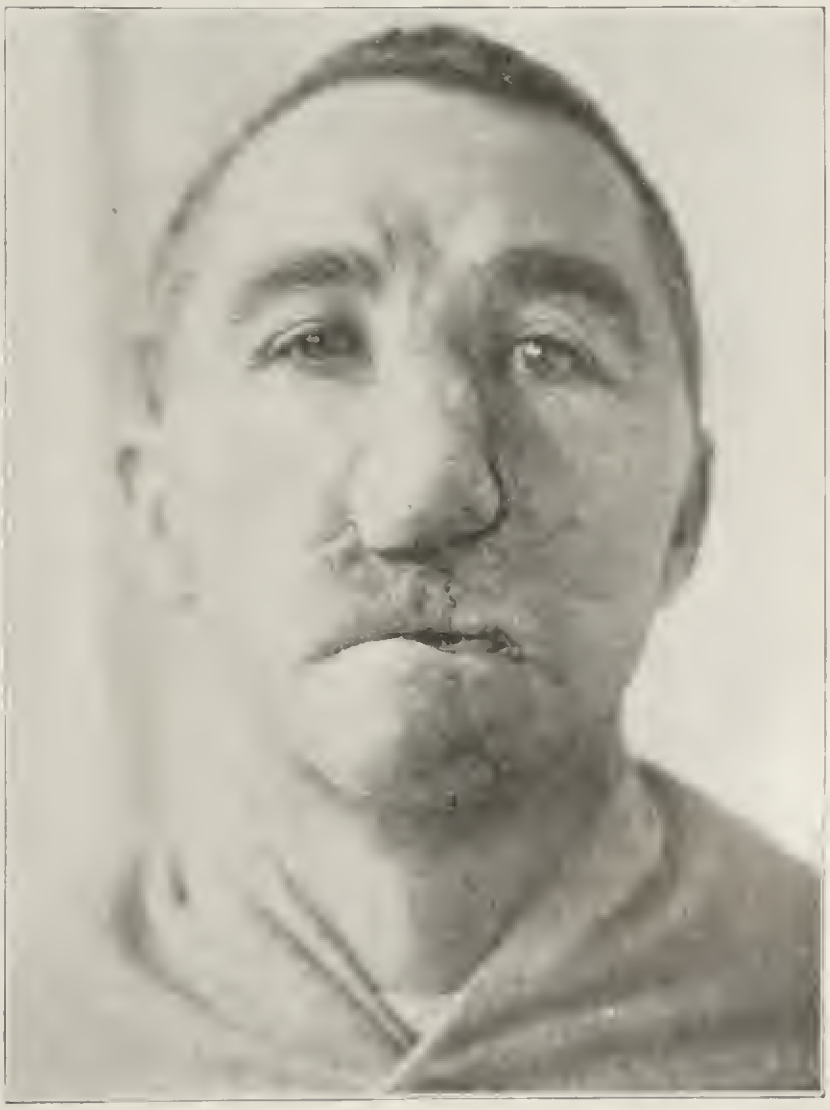

Fig. 5.—Appearance of patient two months after operation.

bone, and the edges of the defect were pared all about the margins. The left ring-finger was chosen.

Esmarch about arm. Nail removed and scraped, exposing bone beneath. Metacarpophalangeal articulation opened by a posterior longitudinal incision. Posterior extensor tendon divided by transverse incision. Joint opened. Head of metacarpal bone removed. Division of anterior tendons, also lateral ligaments of joint. Finger was then free but united by soft parts and nourished by uninjured digital vessels. Skin removed from whole circumference of last phalanx, and tip of phalanx nipped off with rongeur. Finger then slipped into place, the extremity of the last phalanx going up to the frontal bone under a bridge of undivided soft parts.

No suture was used to attach the phalanx to the frontal bone. A longitudinal denudation was made on each side of the second phalanx, about one-fourth inch wide, to which the edge of the cheek on one side was sutured, and on the other that of the nostril, the defect between the cheek and nostril being filled in by the skin of back of finger. The first phalanx was left unattached, as it was later to be turned backward. Interrupted silkworm gut sutures were used.

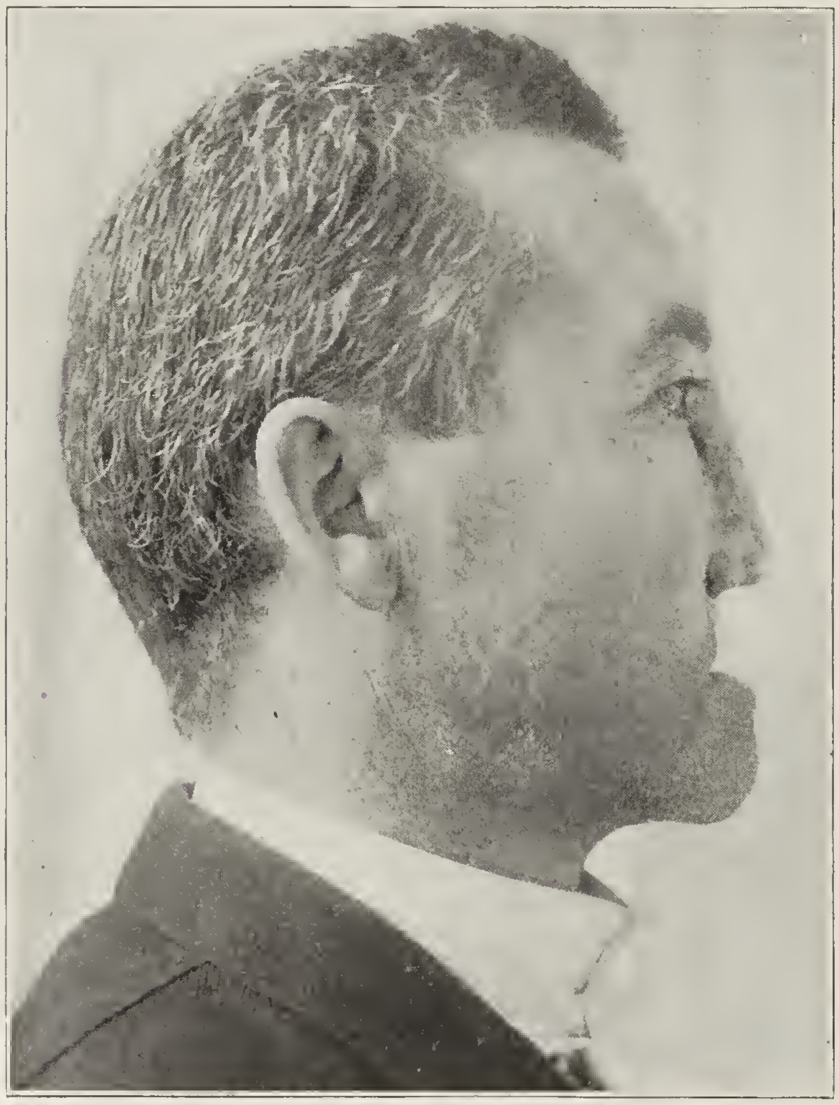

Fig. 6.—Profile of patient two months after operation.

A plaster-of-Paris splint was then applied about head and about arm and chest (Fig. 3) For a couple of days after the operation the pain in the arm was severe, but after that, the arm went asleep, so to speak, and there was comparatively little discomfort.

On the fifteenth day after this operation, one of the digital vessels on one side of the finger was tied under novocain 4 per cent. anesthesia; on the twenty-first day, the finger was amputated through the metacarpophalangeal articulation, using novocain locally. No attempt was made to close the proximal end of finger at this time (Fig. 4). Heat in the shape of hot cloths was applied to the finger for twenty-four hours. Subsequently there was some necrosis of the soft parts on the end of the first phalanx, but not to any great extent.

Eight days later the first phalanx was flexed to a right angle relative to the second phalanx and its tip was sutured in this position to the bone behind, while the soft parts covering it were also turned backward and sewed to the freshened lower border of the nasal defect. Sixteen days later it was necessary to remove most of the first phalanx because of necrosis.

After this operation there was some infection of the finger, the pus from which escaped through several places in the line of the scars. This infection, however, soon ceased. The tendons of the transplanted finger were not disturbed at any time during the various procedures, and are still in place.

The man is not yet handsome, but his appearance is vastly improved. There is no sign now, after three months, of any regrowth of the nail. There is a small opening into the nasal cavity, but not sufficient for respiration. The patient has very little sense of smell. The wound caused by amputating the finger healed by primary union. The tip of the last phalanx seems to be solidly united to the frontal bone. Figures 5 and 6 represent the result after two months. Figure 7 is a skiagram indicating the position of the phalanges.

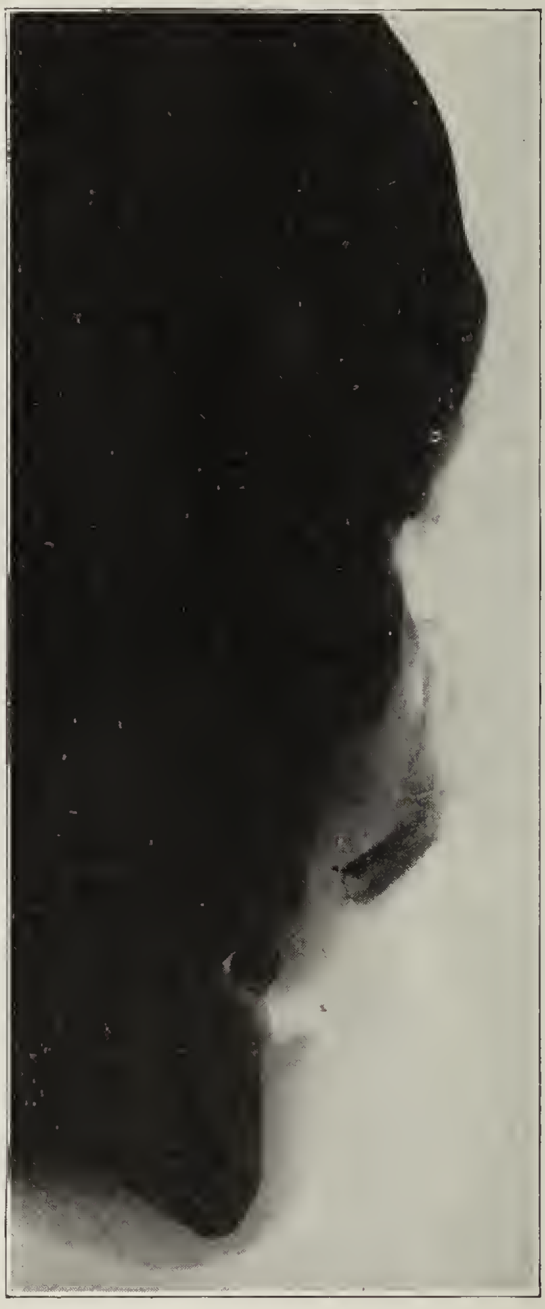

Fig. 7.—Skiagram indicating the position of the phalanges.

32 East Fifty-Third Street.

The Correct Rule of Medical Freedom.—The limit of "medical freedom" is a very plain and natural one. Let the patient take whatever kind of treatment he may wish, but let no treatment be administered by persons who have no knowledge of the fundamental facts of medical science. If the requirement of technical knowledge is fatal to any school of therapeutics, it is time that that particular form of robbery should be done away with. Taking chances with the lives of others for the money there is in it is not a profession to be encouraged.—David Starr Jordan, *Science.*

INTESTINAL OBSTRUCTION

A CLINICAL STUDY OF ONE HUNDRED AND EIGHTY-ONE CASES

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The deductions from the experimental work of Draper,[1] and of Whipple, Stone and Bernheim,[2] on the cause of death in acute intestinal obstruction are almost diametrically opposed to those of Hartwell and Hoguet[3] and are also very different from those of Murphy and Vincent.[4] Clinical experience, however, follows closely the results of Draper, Whipple and Stone. This close relation is well illustrated in Bloodgood's[5] cases of duodenal obstruction following the Billroth II gastrectomy.

All this experimental work concerning the cause of death is interesting, but the important problem for the surgeon is to apply the knowledge thus acquired to the curing of intestinal obstruction. Clinical study can never be so accurate as experimental work, because it is difficult, if not impossible, to determine at operation the completeness of the obstruction, or even its exact seat. Furthermore, the records of the operation are likely to be more definite in describing technical details than in describing the exact nature of the obstruction.

Clinical experience and experimental study agree that the duration of obstruction, its position and the character of the obstructing force are the important points in determining the severity of the symptoms and the time of the fatal result. It is universally agreed that the higher the obstruction, the more severe the symptoms and the more rapidly fatal the disease. Strangulation, or other interference with the circulation, increases the severity of the condition, at the same time adding to the probability of fatal outcome. It follows therefore that early recognition and prompt relief of the obstruction give the best opportunity for the cure.

The problem is to find the clinical picture which will enable us to recognize obstruction in its early curable stage, and to determine what extent of operation should be performed when the condition is complicated by the results of obstruction, namely, toxemia and gangrene.

In the hope of deciding these points I have analyzed the histories of 181 cases of intestinal obstruction from the records of the Johns Hopkins Hospital and of St. Agnes' Hospital. These cases include twenty-seven varieties of obstruction, exclusive of strangulated hernia, classified according to causation and operated on by fifteen surgeons over a period of twenty years. The personal equation is therefore eliminated, although all the operators followed the same general technic.

The course of an obstruction may be divided into three stages: (1) the stage of onset, when the symptoms are due to the arrest of the intestinal current; (2) the stage of compensation, when the gastro-intestinal organs attempt to overcome the obstruction or its results; (3) the stage of sequelae or complications, when the obstruction has caused secondary destructive changes in the bowel or in the body as an entirety. The higher and more complete the obstruction, the less clearly defined will be the symptoms of the different stages. In most cases there will be a merging of the symptoms of the various stages. Vascular injury always intensifies the course of the disease.[6]

SYMPTOMS OF ONSET

The characteristic symptoms of onset are pain, constipation or diarrhea, and vomiting. Abdominal pain, usually paroxysmal or described as "cramps," is the most constant initial symptom. Pain occurred early in all the cases. The pain of obstruction is not relieved by defecation or by vomiting. Opium brings temporary ease, but as the effect of the drug wears off the pain returns.

The association of pain and constipation at the onset occurred in 30 per cent. of the cases. Constipation may precede the pain (10 per cent.). It may come on after an initial bowel movement. The latter condition is frequently present in the cases of strangulated hernia and of intussusception. The constipation resists well-given enemas, or an effectual enema does not give relief from the pain.

Diarrhea and pain with blood and mucus in the stools occur in intussusception and with intestinal tumors.

Vomiting may be the initial symptom, followed by pain and constipation, but the usual sequence is pain, vomiting and constipation. The vomited material may be gastric or duodenal contents. As a rule, however, the material is progressively gastric, bilious and then intestinal. At the onset it is gastric, occurring without regard to the ingestion of food. Lavage does not relieve the symptoms, a distinction from the vomiting of acute dilatation of the stomach. The initial vomiting is reflex, from disturbance of the peritoneal and intestinal innervation. Later the vomiting is a mechanical attempt to rid the body of an overflowing amount of material in the gastro-intestinal tract.

Initial hiccough may replace the vomiting of onset and has the same significance.

Rare symptoms of onset are bloody or mucous stools preceding pain (two cases) and external tumor (three cases). In one of the latter cases the tumor was the projection of an intussusception through a colostomy. The other two were a prolapse of the rectum from straining, and an intussusception of the sigmoid projecting through the anus. Pain with an insatiable desire to defecate was present three times: (1) in the case of an internal hernia strangulating the ileocecal region, (2) a carcinoma of the colon and (3) a sigmoid volvulus.

The effect of lavage, effectual enemas and cathartics on the symptoms of onset was noted in forty-two cases. In twenty-five the remedy did not give relief. With this fact demonstrated, immediate operation was performed ten times with ten recoveries. When the operation was postponed until other symptoms developed, there were three recoveries and ten deaths. Five of the fatal cases had developed gangrene at the time of operation. Two patients in whose histories this fact was noted died before any operation could be performed.

Therefore I feel that whenever a patient suffering from abdominal pain alone, or pain with either vomiting or constipation, or both, is not permanently relieved by lavage or effectual enemas, immediate operation is indicated. A similar result following effectual purgatives also indicates operation, but purgatives should not be administered for the relief of these symptoms to the exclusion of the enema and lavage. If the latter remedies are effectual no purgative will be required. If these do not give relief, the purgative will do harm.

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[1] Draper, John William: Experimental Intestinal Obstruction, The Journal A. M. A., Oct. 21, 1911, p. 1338.

[2] Whipple, Stone and Bernheim: Johns Hopkins Hosp. Bull., June, 1912, p. 159.

[3] Hartwell and Hoguet: Am. Jour. Med. Sc., March, 1912, p. 357.

[4] Murphy and Vincent: Boston Med. and Surg. Jour., Nov. 2, 1911, p. 684.

[5] Bloodgood, Joseph C.: Dilatation of the Duodenum in Relation to Surgery of the Stomach and Colon, The Journal A. M. A., July 13, 1912, p. 117.

[6] These stages do not indicate periods of time. With a high strangulation the patient will reach the third stage in an hour or two, while one with a low obstipation may remain in the second stage for several days, or even weeks. After a diagnosis of intestinal obstruction is made the attending physician is never justified in allowing the patient to pass into a later stage before advising surgical intervention.

When the well-given enema or purgative is ineffectual, what is the proper procedure? This condition was noted forty-three times. In thirty-eight of these cases the patients were allowed to go on to the secondary stage or to that of complication before operation was performed. Four were operated on during the secondary period, two of whom died. Of thirty-three after complications had developed, eighteen died. One patient died of the complications without any operation.

Under these circumstances, with the patient in the hospital prepared for operation, we wash out the stomach and pour in from 50 to 75 c.c. of castor oil at the end of the lavage; at the same time giving the patient 1/32 grain eserin (physostigmin) salicylate hypodermically. In the presence of mechanical obstruction this treatment intensifies the primary symptoms and hastens the development of the secondary ones to such a degree that the diagnosis becomes easy.

We have noted this occurrence in five cases of postoperative obstruction included in the forty-three mentioned. All the patients were operated on as soon as the diagnosis was made. In all the obstruction was found and four recovered. The fatal case was an obstruction occurring three weeks after enterostomy for the paralyzed bowel of diffuse peritonitis from perforated typhoid ulcer.

SECONDARY SYMPTOMS

The symptoms of the second stage of obstruction are due (1) to the efforts of the intestine to force its contents beyond the point of closure (symptoms of compensation), (2) to the effect of these efforts on the size and shape of the bowel, and (3) to changes due to involvement of the blood-vessels in the mechanism of the obstruction. Whenever the obstructing force interferes with the circulation, the course of the disease becomes fulminating and the development of the complications more rapid.

Among the symptoms of compensation I shall first consider paroxysmal pain (colic), or increasing severity of the pain of the first stage. The cause of the pain in obstruction is mesenteric tugging due to the tonic contraction of the intestinal wall, going on to tetanic rigidity of a segment in which pressure is increased and unusual motor activity stimulated. Thus a vicious circle is established; the distention stimulates the peristalsis, which in turn, by sending more material into the obstructed area, increases the distention and pain, with later development of visible loops and peristalsis.

The pain of strangulation is slightly different from that of obstipation. The onset of strangulation is accompanied by peritoneal shock, and the pain is continuous with paroxysmal exacerbations. Anodynes do not give more than temporary relief in either variety. As toxemia and gangrene develop the pain diminishes or entirely disappears.

The vomiting of the initial stage of obstruction may be reflex from peritoneal shock, and when due to this cause consists of stomach or duodenal contents. The vomiting of the stage of compensation, according to Haquenot, is a running over of the contents of the filled intestine into the stomach. This vomitus consists of intestinal contents, often fecal. The vomited material is thin, usually yellow, green to brown, acrid and extremely disagreeable in taste and odor. The color seems to deepen with the duration of the obstruction, owing to putrefaction of the intestinal contents.

The quantity of intestinal material vomited may be extremely large. The quantity of fluid secreted by the intestine is markedly increased in obstruction. The action of cholin on the autonomic nerve influences governing intestinal secretion points to the possibility of this compound, or some allied substance, being the cause of all the symptoms of intestinal obstruction. It is known that neurin and muscarin, decomposition products of cholin, when injected into animals produce death with symptoms resembling those of paralytic ileus.

Vomiting as a secondary symptom was present in 100 cases, in which there were forty-three deaths. Fecal vomitus was noted in twenty-seven cases, of which eighteen were strangulated obstructions. Fifteen of the twenty-seven patients died.

Vomiting acts as compensation in two ways. 1. The removal of a quantity of intestinal contents relieves the general abdominal as well as the intra-intestinal pressure at the point of obstruction. In this way an opportunity is afforded for the spontaneous release of the bowel from an external obstruction. 2. The vomiting of intestinal contents removes a quantity of highly toxic material, thus delaying or avoiding the development of the stage of toxemia. Lavage has the same value in compensating for the effects of obstruction, and the greater one of being independent of the patient's reflexes. When the return flow from the lavage has become clear, and during its expulsion suddenly becomes discolored again by intestinal contents, regurgitation from the intestine is proved and the diagnosis of obstruction is therefore confirmed. Vomiting or lavage which does not relieve the distention indicates obstruction.

Visible peristalsis or visible stiffened intestinal coils are the most characteristic of the secondary symptoms, and constitute evidence of an endeavor on the part of the musculature to force the intestinal contents beyond the obstruction.

The stiffened coil is a distended area in which the contractions have reached the tetanic stage. Visible peristalsis is due to an extraordinary activity of the peristaltic movement of the bowel produced at this time in order to overcome the obstruction. These movements are vigorous and associated with the presence of the visible stiffened coil. When much of the small intestine is involved in this process, the spastic distended coils may show as a series of parallel ridges—the ladder pattern. These contractures are always associated with pain. Nothnagel states that the intensity of the accompanying pain is a measure of the motor activity of the obstructed bowel. Visible peristalsis without pain is a symptom of severe toxemia.

The distention of this stage is regional and limited to the loop of bowel involved in the obstruction. The later general distention is due to chemical disturbances.[7] Regional distention may show itself as an asymmetric swelling of the abdomen, or the distended loop may be palpable through the abdominal wall, rectum or vagina. This distended coil presents an area of increased resistance to palpation. These changes are due to (1) infiltration of the bowel wall, with accumulation of fluids, and (2) the development of gases in its interior. They are primarily due to disturbance of the blood-supply. Consequently, local distention or a palpable distended coil (von Wahl's sign) is a symptom of strangulation rather than obstipation. In the latter form of obstruction, because the gases are absorbed as soon as they are formed, no accumulation takes place.

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[7] Draper, John W.: Discussion to article by Bloodgood referred to in Footnote 5.

Distention was present in 100 cases: regional fifty-five, general forty-five.

Tympanites usually accompanied distention. Dulness in the flanks may be present when the colon is obstructed and greatly distended; as a rule, however, this sign indicates free fluid in the peritoneal cavity. Liver dulness may be diminished, pushed up or obliterated by great local or general distention. As a late symptom this may indicate perforation.

Local tenderness may be from a local peritonitis or may be the soreness which is common in muscle that has been spasmodically contracted for any considerable length of time. The local peritonitis marks the passage of infective or irritating material through the distended wall of the bowel. This is, therefore, a symptom of the beginning of the complications or sequelae to be considered in the next group. This symptom was noted but twenty-five times.

The blood-count in obstruction usually shows a marked leukocytosis. In sixty-two cases the average was 16,000; in but two was it below 5,000, and in seven others below 10,000. The highest was 46,000 in a case of sigmoid volvulus.

The blood-pressure falls with the onset of symptoms and becomes markedly lowered as toxemia develops.

As to the effect of enemas, lavage and purgatives on symptoms of the second stage: What has been said concerning purgatives in the first stage must be emphasized when speaking of their use in the second stage. No purgative should be given in the second stage of obstruction unless the patient is in a hospital prepared for immediate operation, should the purge prove ineffectual or intensify the symptoms. Leakage through distended bowel, actual rupture, gangrene and other serious complications or sequelae are likely to follow the violent reaction of strong purgatives.

When a well-given enema does not move the bowels, or when the movement from an enema does not relieve the symptoms, immediate operation is indicated. The latter was noted thirty-nine times in the history of the second stage. Immediate operation was performed on eighteen patients, all of whom recovered. A delayed operation was performed on twenty-one, eleven of whom died, three having gangrene at operation.

The diagnostic value of lavage has been noted in discussing the vomiting of this stage. Regurgitation of intestinal contents into the washed stomach was observed in six cases, all included in the before-mentioned statistics.

Ineffectiveness of enema or purgative was noted thirty-eight times. Four patients were immediately operated on, and two of these died, one from toxemia, the other of acute dilatation of the stomach. All the other patients when operated on showed some form of complication or sequel. Sixteen died and eighteen recovered.

SYMPTOMS OF THE THIRD STAGE

The conditions of the third stage are toxemia, gangrene, peritonitis and alteration of kidney function.

The symptoms of toxemia are increase in pulse and respiration rate, with falling blood-pressure, cyanosis with or without clammy skin, and great prostration. The mental condition varies from noisy delirium to unconsciousness. Often there is a subjective sense of well-being, contrasting greatly with the objective signs, fecal vomiting, or distended abdomen, in which violent peristaltic action is visible. The association of visible peristalsis with absence of pain is characteristic of a very severe toxemia. There were eighty-two cases of toxemia in this series; thirty of these patients recovered.

Gangrene is often an early complication, when strangulation is present. When associated with toxemia it is a late development, and is due to secondary vascular changes in the distended loop of bowel, or to a gradually developing and limited mesenteric thrombosis at the site of strangulation.

The development of gangrene is accompanied by collapse, and often sudden and severe increase of pain, although later the pain is diminished. As a result of leakage peritonitis ensues and with its spread comes movable dulness in the flanks and obliteration of liver dulness. Gangrene was present in twenty-five cases, fifteen of which were fatal.

The peritonitis may be (1) general, from rupture of a large area of gangrenous bowel, with extensive pouring out of intestinal contents; (2) general, the reaction to bacterial or toxic invasion through the altered wall of the intestine; (3) local, reaction to punctate extravasations from the obstructed coil; (4) diffuse, from extension of the last variety. The first two forms are uniformly fatal, most often before the symptoms of obstruction have passed the second stage. The local and diffuse varieties are likely to be complicated by the toxemia of obstruction, and therefore most often result fatally. Four such cases occurred in this series and but one patient recovered. This patient was operated on for internal hernia on the fifth day of obstruction, and a small area of peritonitis was found at the neck of the constriction.

Among urinary symptoms are diminution of the quantity of urine, and, in severe cases, actual anuria. Indol, skatol and other aromatic compounds are present. The occurrence of albumin and casts is an almost constant observation in the St. Agnes cases, twenty-five in number. Special care has been taken in this hospital to record the presence or absence of this condition of the urine, and this may account for our seemingly unique observation. The disappearance of casts after the obstruction has been relieved points to a causal relation. The casts seem to be present from the onset, and appear to be a measure of the toxemia. In all the fatal cases, large quantities of casts and albumin were present in the urine.

OPERATIVE TREATMENT

The form of operation required in any given case must depend on the nature of the obstruction, and on the presence or absence of complications. Thus we group the operations performed into three classes: (1) relief of the obstruction, (2) excision of the intestine, (3) removal of intestinal contents through a wound in the bowel.

Relief of the obstruction includes (1) the division of constricting bands; (2) the reduction of an internal hernia or an intussusception; (3) untwisting of a volvulus; (4) removal of a foreign body; (5) short-circuiting the intestinal current around the obstruction.

Excision of intestine includes (1) resection and anastomosis; (2) anastomosis and excision, the ends of the loop being left out or drained by a tube; (3) secondary excision of an extruded loop with or without primary anastomosis.

Operations by means of which the intestinal contents are removed through a wound of the bowel include (1) enterotomy, when the wound is closed at once; (2) primary enterostomy, when the bowel is opened at the original operation; (3) delayed enterostomy when the loop is sutured into the wound and opened after an interval; (4) secondary enterostomy, when the bowel is opened at a succeeding operation.

In order to judge the efficiency of any of these operations, it is necessary that the procedures be compared with regard to the stages of the disease at which the operation is performed. This is the only logical basis for study of the treatment of obstruction, and avoids the confusion of many classes as to (1) causation, (2) differences in position of the obstruction, (3) variations in the completeness of the occlusion. Each of the last-named factors alters the rapidity of development and the duration of the three stages of the disease. Consequently, a study of intestinal obstruction from the point of view of the symptomatology and treatment of these stages balances the relation of the various factors and makes the comparison of operative statistics possible.

Thirty-four patients were treated in the first stage; all recovered. Of these twelve were relieved of their symptoms by enemas and purgatives. The other twenty-two were operated on. In fifteen cases the obstruction was relieved, two by reduction of an ileocecal intussusception, one by reduction of a sigmoid intussusception, ten by division of bands, one by reduction of a hernia in Treitz' fossa, and one by the untwisting of a sigmoid volvulus.

Resection was performed in three cases, once for small-intestine intussusception caused by tumors, once for removal of a strangulated Meckel's diverticulum, and once for a recurrent sigmoid volvulus.

Simple enterostomy was done twice, in both cases as a delayed enterostomy following other abdominal operations: (1) a resection for cancer of the colon, (2) resection for adhesions.

Enterostomy with short-circuiting was done once, a case of small-intestine entanglement following an appendicitis peritonitis. Enterostomy and relief of the obstruction was done once, a postoperative acute angulation of the descending colon, following the removal of a postperitoneal tumor.

Relief of the obstruction therefore is the best operative procedure in cases treated in the first stage. When provision has been made for a delayed enterostomy, this is the best procedure in postoperative obstruction, probably because opening the previously brought-up loop gives no operative shock.

Sixty-five patients were operated on in the second stage. Fifty-five recovered and ten died. Of the recovered cases, eleven patients died as a result of a second operation, or some complication developing later than one week after the original operation.

The operations performed were as follows: relief of the obstruction, thirty cured, four fatal; resection nine, all cured; short-circuiting two, both patients cured; enterostomy and relief of the obstruction, eight cured, two fatal; enterostomy and resection, two cured; enterostomy and anastomosis, one cured; enterostomy and excision, two fatal; simple enterostomy, two cured, two fatal. One patient was relieved by an enema.

Gangrene was present in ten cases; two patients were treated by anastomosis and excision of the gangrenous area, and both died; eight patients recovered; six were resected, one had resection and enterostomy; one, anastomosis and extrusion

Relief of the obstruction, therefore, seems the best operation in the second stage, provided gangrene has not developed. Gangrene in this stage is always the result of strangulation; consequently the local necrosis may come on before the constitutional changes have reached the later stage.

In the presence of gangrene resection is the best operation provided the constitutional symptoms are not pronounced. In the latter event, enterostomy should be added to the resection, or if the condition of the patient is grave the loops may be brought out of the abdomen and packed off with gauze, with an enterostomy above the obstruction.

Of the eleven patients who died of later operations or complications, two died of bronchopneumonia, seventeen and twenty days after relief of the obstruction. Four died of peritonitis eight, eleven, twelve and fifteen days after the original operation; one died of embolism on the twelfth day, one died of general tuberculosis two months after delayed resection of gangrenous bowel, and one died of anuria three days after resection of entangled loops, eight weeks after the enterostomy. Two died on the seventeenth and twenty-first days, respectively; the cause of death cannot be ascertained.

Eighty-two patients were operated on in the third stage, of whom fifty-two died. Of those who recovered five died as the result of complications or after a second operation to remove the cause of obstruction.

Relief of the obstruction was done in 22 per cent. of the cures, 34 per cent. of the fatal cases; enterostomy and relief in 22 per cent. of the cures, 8.5 per cent. of the fatal; simple enterostomy in 45 per cent. of the cures, 32 per cent. of the fatal cases; enterostomy and resection in four cases, two of which resulted in cure and two in death; enterostomy and excision, one cured, seven fatal (15 per cent. of the fatal cases); resection was done in one fatal case and enterostomy and extrusion in two others. One patient was relieved by an enema, and five died without being operated on.

Gangrene was present in fifteen cases, two cured and thirteen fatal. In both the cured cases enterostomy and excision were done, the ends of the divided bowel being drained through a tube.

In the third stage enterostomy should be done either alone or in connection with the other procedures. In non-gangrenous cases enterostomy was done in 77 per cent. of the cured, and in but 41 per cent. of the fatal cases. However subtle may be the exact cause of death in intestinal obstruction, there can be no doubt that the accumulated material in the occluded bowel is extremely toxic and has a considerable influence on the production of toxemia. Therefore it is necessary that in the presence of the symptoms of toxemia, we provide an outlet for this accumulated material by making an opening into the bowel above the obstruction. Whether we shall do more depends on the general condition of the patient, but this removal of toxic material is our first duty, and if neglected robs the patient of about half of his chances for recovery.

114 West Franklin Street.

The Value of Sanitary Consciousness.—As the first step toward spiritual salvation is a recognition of one's sins, so the first step toward sanitary salvation is the recognition by the sick town or county of its sickness. It is characteristic of communities with death-rates far in excess of the average that they do not know that they are sick.—*Bull. North Carolina State Board of Health.*

ILLUMINATING-GAS POISONING *

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I. THE EFFECT OF FORMALDEHYD ON TESTS FOR CARBON MONOXID IN THE BLOOD

In an examination of the blood from the body of a man in which post-mortem showed evidences of poisoning with illuminating gas (especially a brilliant red color of the muscles and blood), the question arose whether formaldehyd, used in embalming the body four days previously, would in any way modify or inhibit the various reactions ordinarily used to demonstrate the presence of carbon monoxid hemoglobin. A careful study of the literature failed to reveal any previous note on this subject, which may well be one of practical interest, especially in cases of a medicolegal nature.

The following preparations were studied by the spectroscope and by means of various chemical tests, which will be discussed individually: (1) the blood of the body examined post mortem after formaldehyd embalming; (2) normal blood; (3) normal blood containing formaldehyd solution; (4) normal blood through which illuminating gas had bubbled for fifteen minutes; (5) normal blood plus formaldehyd solution through which illuminating gas had bubbled for fifteen minutes, and (6) blood from several unembalmed bodies of persons whose deaths were suspected to be caused by poisoning with illuminating gas.

The test suggested by Hoppe-Seyler, namely, boiling the blood, which, if rich in carbon monoxid, yields a brick-red mass, while normal blood becomes brown-black in color, was found to be practicable in most instances. Not sufficient formaldehyd was present in the embalmed body to inhibit the test in any way. In the specimen of normal blood containing formaldehyd, and in that containing illuminating gas and formaldehyd, the blood did not coagulate readily, but boiled as a fluid. After cooling, the normal blood containing formaldehyd appeared as a brown-black fluid, and the normal blood with gas and formaldehyd appeared as a bright red fluid. After several days a thick coagulum settles out and the color distinctions are lost. If suspected specimens are quite old and appear dark and clotted, it is advisable before making the test to dilute them with water so as to make them compare more closely with specimens of normal blood.

In a test suggested by Rubner, four or five volumes of lead acetate solution are added to one volume of carbon monoxid blood and thoroughly shaken for about a minute. Such blood retains its red color; normal blood under similar conditions becomes dark red. This test for immediate use is not so good as the first mentioned. In twenty-four hours, however, the reaction is marked and it increases daily, being visible after several weeks. In the presence of formaldehyd a whitish coagulum forms in the blood in all cases, and the test is not valuable in the presence of much formaldehyd; but with small quantities the differences are more marked.

Blood diluted 1 part to 4 with water and shaken with three times its volume of a 1 per cent. tannic acid solution becomes in twenty-four hours gray when normal, but in the presence of carbon monoxid, carmin red (Wetzel). In this case a precipitate resulted in all specimens, those containing formaldehyd giving a thicker coagulum. This, however, does not in any way interfere with the test. The reaction seems quite a good one in comparison with the others. The results are marked and the color distinctions very easy. The differences persist and become more marked with increasing time.

Another method suggested by Wetzel is as follows: When 10 c.c. of blood are mixed with 15 c.c. of 20 per cent. potassium ferrocyanid solution and 2 c.c. of moderately strong acetic acid (1 volume glacial acetic acid to 2 volumes of water) a solid coagulum gradually results, in normal blood black-brown, but when the blood contains carbon monoxid, bright red. With the quantities suggested, large amounts of material are required, and the tests must be made in large test-tubes or small beakers. The test may also be carried out with relatively smaller quantities. In several instances in which it was employed, however, the results compared very unfavorably with other tests. All formaldehyd-containing mixtures formed very thick coagulums as compared with those containing no formaldehyd. The color distinctions are difficult, and in the various cases which were examined very few bright red coagulums were observed. In most cases the coagulum was light green or purple-black, the color seeming to depend more than anything else on the age and viscosity of the specimen tested.

A modification of this test has been made by Schultz and used in many instances by Wachholz and Sieradzki.[1] In two flasks are placed 2 c.c. of the blood diluted with 8 c.c. of water. To these are added 20 drops of a freshly prepared solution of 10 per cent. potassium ferrocyanid. One tube is shaken once and set aside. The other is shaken repeatedly. After ten minutes from 3 to 5 drops of strong sulphuric acid are added, and following this, 10 c.c. of concentrated tannic acid. In the first tube there will be a red precipitate, in the second a brownish-green. By this method Otto was able to show carbon monoxid in a mummified body eighteen months after death. Here also I found the color distinctions very difficult. The fact that colored solutions are employed in making the test makes it difficult to distinguish variations in the shades of the sediments produced. As in other instances, specimens containing formaldehyd gave thicker, lighter coagulums.

The presence of formaldehyd affects most of all a test suggested by Salkowski which has heretofore received favorable comment as an aid to the recognition of illuminating-gas poisoning. When blood is added to dilute hydrogen sulphid water drop by drop, it produces a bright red precipitate when carbon monoxid is present, otherwise a bright green. It was found that the addition of formaldehyd to normal blood before carrying out the test caused a red precipitate on addition to hydrogen sulphid water which was but a little lighter than that produced by carbon monoxid blood. If no formaldehyd solution is present the test gives easily distinguishable color reactions. But the fact that the presence of formaldehyd causes a normal blood specimen to give a color reaction which is not distinguishable from that of blood containing illuminating gas makes the test of little value in embalmed bodies.

The following quotation from an article by Doremus[2] gives in brief the salient points regarding the examination of carbon monoxid blood by means of the spectroscope:

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* This work has been done under the alumni fellowship of Rush Medical College.

[1] Kobert: Lehrbuch der Intoxikationen, 1906, p. 882.

[2] Peterson and Haines: Legal Medicine and Toxicology, 1904, ii, 658.

Blood taken from persons or animals poisoned with carbon monoxid shows a characteristic absorption spectrum closely resembling that of oxyhemoglobin. The absorption occurs between the D and E lines chiefly, and is apparent through the appearance of two absorption bands of nearly equal intensity and width. The one near D coincides almost exactly with that of oxyhemoglobin of the same position; the space between it and the band toward F is considerably wider than that between the two bands of oxyhemoglobin spectrum. When more than 27 per cent. of the blood-coloring matter has been saturated by carbon monoxid, the addition to the blood of reducing agents, as a drop or two of a solution of crystallized ammonium sulphid, does not convert the spectrum into one of reduced hemoglobin. The character of this spectrum is that of a single band beginning on the D line and occupying a little more than half the space to the E line.

Dilution of the blood is advisable in order that a clear spectrum may be observed. Whenever carbon monoxid is present, the spectrum may be observed after a little practice, the presence of small amounts of formaldehyd having no inhibiting effect. Formaldehyd in larger quantities acts as a reducing substance, and when the quantity of carbon monoxid gas present is not larger than the percentage given above, the spectrum of reduced hemoglobin may be found. In the case of normal blood, various quantities of formaldehyd produce the various spectrums of oxyhemoglobin, some of which are distinguishable only with great difficulty from the spectrum of carbon monoxid gas blood, until sufficient formaldehyd is added, when the spectrum of reduced hemoglobin is produced. The addition of stronger reducing agents, such as mentioned by Doremus, produces the spectrum of reduced hemoglobin at once.

In view of the fact that formaldehyd was found to modify more or less completely all the chemical tests, and to act as a reducing agent when present in large amounts, so as to interfere also with spectroscopic examinations, it was thought best to make a brief report of these examinations. From my experience with the various tests under these conditions, it would seem that the first test suggested by Wetzel, namely, dilution of the blood 1 part to 4 with water and shaking with three times the volume of 1 per cent. tannic acid, whereby normal blood becomes gray and carbon monoxid blood remains red, is most reliable and trustworthy in the presence of formaldehyd. In case no formaldehyd is present, Rubner's test, the addition of 4 volumes of lead acetate, will be found to yield very satisfactory results. Spectroscopic observations are of little value unless preceded by many observations on the various forms of hemoglobin.

II. PERSISTENCE OF CARBON MONOXID IN THE BLOOD FOR FIVE DAYS

Of unusual interest are the conditions in the following instances of gas poisoning:

The patient, subjected for several hours after exposure to the action of the pulmotor, which has seemed to be of great efficiency in many cases, remained comatose. On admission to the Cook County Hospital, 12 ounces of blood were withdrawn and intravenous transfusion of saline solution was made. During four days normal saline solution by the drop method was given per rectum practically continuously. The patient remained unconscious throughout. The condition gradually grew worse and he died, nearly five days after the exposure to the gas. The following are the salient points in the post-mortem examination which was performed by Dr. E. R. LeCount:

This is the body of a colored adult 163 cm. (5 feet 4 1/6 inches) long and weighing approximately 125 pounds, about 22 years old. The skin in the axillary regions is white but elsewhere it has a peculiar brown color as in Addison's disease. The skeletal muscles are very dark red. The blood in a glass pipet looked at through the sunlight has the color and appearance of turbid claret.

Anatomic Diagnosis.—Hemorrhage into the lungs and visceral pleura, subpleural emphysema of the right lung (following the use of pulmotor?), engorgement of the pial vessels, edema and petechial hemorrhages in the lining of the small bowel, petechial hemorrhages in the lining of the greater antrum of the stomach and into the lining of the duodenum distal to the ampulla of Vater, hyperemia of the kidneys, small hemorrhages and slight edema of the lining of the base of the bladder, slight fatty changes and cloudy swelling of the liver, marked cloudy swelling of the pancreas, hyperplasia of the mesenteric lymph-nodes, fatty changes in the intima of the aorta, absence of union of the two branches of the posterior coronary artery, slight fenestration of the pulmonary valves and of the thebesian valve, fibrous patches of thickening in the anterior mitral leaflet, fibrous adhesions between the hepatic flexure of the colon and the under surface of the right lobe of the liver and between the anterior surface of the right kidney and the same surface of the liver, distention of the seminal vesicles, scars on the chest over the sternum.

Carbon monoxid was demonstrable in the blood by the various tests, chemical and spectroscopic. This is of special interest in view of the fact that many authorities hold that carbon monoxid blood loses its characteristics when exposed to the air, whereas in this case it was found even though the person lived five days after removal from the gas. Ordinarily if the patient lives, the carbon monoxid is eliminated within a few hours. Kobert mentions the report by Wachholz of carbon monoxid in the blood seven days after the exposure to the gas. Few such cases are reported; probably a further study would show many instances of this nature.

I desire to acknowledge my appreciation of the valuable advice rendered me by Prof. Walter S. Haines in the study of these reactions and of the kindly interest shown by Coroner Hoffmann in this work.

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DISPENSARY ABUSE AND ITS ELIMINATION BY ORGANIZATION AND THE APPLICATION OF SOCIOLOGIC METHODS

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There is to-day to a greater or less extent in all of our larger cities discussion of the problem of dispensary abuse. This problem has many sides, and dispensary physicians, outside physicians, dispensary managers and the patients are each and all in turn the abused and the abusers of the others in many ways.

Beyond the individuals involved there are four fundamental factors: (1) the medical needs of our ambulatory poor; (2) the response to this by benevolence through free dispensaries; (3) the demand for material for the teaching clinics, and (4) the hereditary privileges of the family physician. It must be admitted that this need of the poor for medical aid, this zeal of benevolence to give, the attraction to the teacher combined with the absolute necessity for clinics, and the demands of the general practitioners for this same material have not been brought into a working harmony. We must admit also that in this strife some of these poor, whom all aim to help, suffer needlessly and others are led by excessive aid into habits of dependence and pauperism. The fact that there is no corresponding problem with the bedridden poor and that no such persistent and wide-spread criticism of our hospitals has come from physicians, sociologists or others, is significant. There must be something wrong with the organization of the dispensaries; the efficiency of the machinery is not satisfactory.

We must admit not only that dispensary organization has in general failed to give satisfactory or efficient results, but also that there has been no good cause for this failure. Consider again the four factors involved. They will work in harmony more easily than in discord. Benevolence stands ready to provide dispensaries with buildings and equipment in the name of charity. Our medical colleges through the attractiveness of teaching positions have manned these dispensaries with high-grade men that they may dispense the best of medical advice and aid—advice and aid deemed by the patients worth the time, annoyance and publicity of the teaching clinics. The outside medical profession is ready to undertake the care of any patient in possible danger of being pauperized by too much free treatment. Each of the factors therefore can be used to aid all that is worthy in the others, as well as to check unbalanced or unwise activity on the part of any.

(The medical profession mentioned or considered in this paper does not include charlatans with diplomas or without, physicians dishonest in diagnosis or treatment, or those licensed parasites drawing too much support from the profession and too much sustenance from the people—in other words those physicians who without examination of the patient hand out tonic or pills and call "next"; or those physicians devoid of professional character or characteristics who manage to extract the last dollar, and then leave the patient to obtain further treatment wherever he can. These classes, or better this class, for they are one, are, indeed, well known to dispensaries. They are but camp-followers to the profession, counting for nothing in the work and meriting no consideration.)

Better organization and harmony must surely come, for dispensaries are well worthy of a position equal to that of hospitals. Why not? An infected hand pains as sharply as an infected foot. There is equal danger to life; and the family in either case suffers equally: a man cannot work with either. But the one is a dispensary patient, because he does not absolutely need a hospital bed; the other a hospital patient because he cannot come to the dispensary. The trend of medicine toward the prophylactic will necessarily bring the dispensaries into a position of greater importance. The dispensary visit is the first symptom of an invasion into the patient's sociologic family by some disease, physical or social, capable of doing damage. Action then is more efficient and timely than later when this patient has reached the hospital stage. It is surely as good charity to keep a man out of a hospital bed as to care for him after he is in it. Who is there, except the confirmed malingerer, who would not regard it as even a greater service?

The usefulness of dispensaries as a form of organized medical charity in themselves and as hospital adjuncts, and the value of these outpatients to medical education must be considered as established. The great possibilities of such institutions in the development of prophylactic and community medicine are just beginning to be recognized. But on the other hand one cannot commend the organization and efficiency of the majority of our existing general dispensaries. Those able to pay have been admitted too often for treatment. Too many physicians have used their appointments purely for personal gain of various sorts, disregarding all opportunities for service to humanity or to the community. In too many institutions the greed for clinical material has stifled consideration for fellow-practitioner or for the people themselves. In such clinics the patients are but grist for a mill that throws all but pathology out with the chaff. In the unfortunate men, women and children who come to our clinics there surely must be something besides pathology that charity, sociology or public health will find worth the working, even as a by-product, that the gain to society may be the greater. The just protests of the medical profession in active practice against the pauperizing of the people, against the cheapening of medical services and against the invasion into their paying clientele has too often been met with sharp retorts only. Dispensaries must do more good and less harm and soon acquire greater efficiency, or the forces behind modern sociology, scientific benevolence and the agencies working in the interests of public health, will devise and develop a substitute.

Preliminary to all other reforms, dispensaries must recognize the established principle of our better hospitals, that the medical treatment and the sociologic management of patients must be completely separated. The medical staff of dispensaries must have undivided authority to prescribe the medical treatment for the patients placed in their care, but there should be an executive or sociologic chief and assistants in every dispensary having unquestioned authority in all matters pertaining to admissions, and direct control of the efforts to better the social condition of the patient, of his family and of the community. It is true that the executive or sociologic staff of hospitals has not as a whole been so progressive or so thorough as the medical, and there has come in this country the social service movement as a rebuke to our medical institutions for the narrowness of their service and the meagerness of the sociologic effort; but the principle has been established.

By the organization of this executive or sociologic staff having control of admissions and all but medical treatment, a dispensary can through it stop the treatment of those able to pay, end all the evils of the grasping clinic and effectively check exploitation of the dispensary by any physician for personal gain other than that which comes to him through the larger experience. In the dispensaries which have already adopted this principle the standard of the medical staff has gone up, never down. Systematic management and greater kindness to the people have resulted in more return visits and established a confidence that brings better professional control. In such a dispensary the wide-awake clerks and other employees will catch something of the spirit of the trained social worker. In the daily crowds there will be less of the "exasperating foreign stupidity" and fewer of those answers of which the listener understands nothing but the angry or impatient tone, something which is common to all tongues. By the development of this sociologic staff under an executive head, there can come wiser admissions and less pauperizing, justice to the outside general practitioner, and justice and kindness to the patients refused or admitted. In other words, the problem of the so-called "dispensary abuse" can be solved. There can eventually come a practice in the science of sociology, a means of carrying prophylactic medicine to the people, an efficient factor in the control of public health and aid to our fellow man through ideal social service; but the discussion of these is outside the scope of this paper.

With the assumption of responsibility there comes to an executive or sociologic manager the problem of these clearly defined, well-understood and just complaints from at least two sources. Both practitioner and social worker have complained about the admission of those who could pay for what they ask to have given them, and social workers have complained over the results of certain refusals. It is the admission and the refusal to admit that have made the trouble, and it is at the admitting desk that the problems must be solved. Institutions have not generally recognized, or at least have not assumed the responsibility for the far-reaching effects of the careless, haphazard work of an admitting officer, and have not taken the necessary action to make this work efficient, just or anything short of a farce. The result is that in every large city of the country the medical profession is discussing dispensary abuse and dispensary methods. To provide a clerk who records name, address, etc., and routinely asks each applicant if he is unable to pay a physician is scarcely better than the old way of allowing the patients to present themselves directly to the physician. It is merely an inefficient beginning. The executive sociologic head of a dispensary and his staff of assistants should be given final authority to decide each application on its merits, and then he can be held responsible for the results.

The next step is to secure better data on which judgment in deciding applications must be based. To this end there have been many suggestions. It is my belief that routine home investigation of every family is not only difficult but also unnecessary. An admitting officer who is in any way competent to hold such a position must read humanity well enough and have sufficient social training to decide on most of the applications promptly. He must have time to obtain the necessary sociologic facts, however. Not over fifteen cases per hour can be handled by one officer. There will be some who are not frankly in one class or another or who seem to be concealing the truth. This must be investigated in the homes. There is no other way. All the possible combinations of human misfortunes and human deficiencies come before the admitting officers. To do justice to them all would require the infinite. No finite judgment can decide all right, but it is incumbent on an institution to bring these people before the best social workers obtainable, workers capable of discerning between fraud and real need and capable of finding out quickly and accurately the real reason why each is an applicant. Not all come because they need medical treatment for which they cannot pay. A loss of faith in the physician then treating them brings more of the doubtful cases than the possibility of avoiding physicians' fees. The European peasant accustomed to the thoroughness of university clinics in the old country has no faith in treatment based on casual inspection. It is to the disgrace of the medical profession that this is the real reason that so many come to our clinics. They made one visit to a physician of their neighborhood and found him wanting. Ignorance of medical ethics and of the purpose of dispensaries, and unreasonable ideas of a physician's powers to cure, each bring their share. The real reason for coming varies with each applicant, and no application can be judged intelligently until this real reason for coming is clear.

In order to reduce still farther the dispensary abuse I offer the following system of graded admissions and graded refusals. It was devised to help every one secure all the medical care needed and to compel every one to pay private physicians for as much of this care as is possible without hardship.

ADMISSIONS

Class A. General admission for treatment in any department until revoked. This class is for those who never in reasonable probability will be able to pay any physician anything.

Class B. Admissions to any department for this sickness only, another sickness requiring another interview with the admitting officer. This class is for those who might under favorable circumstances pay for some medical care, but at the time of admission can pay nothing.

Class C. Admissions for major or special surgery or for any chronic condition for which these people cannot reasonably be expected to pay the ordinary fees for the treatment necessary. These patients are referred to general practitioners for short illnesses of any kind or for minor surgery, and can properly be required to pay for these services.

Class D. Admissions for special examination or consultation only; no treatment given. Many persons who employ or should employ, as the case may be, a general practitioner are not able to pay for *x*-ray examination, Wassermann reactions, vaccines, etc., or for the round of consultation necessary to work out an obscure case in the same thorough way that this physician would work out the case of a patient able to pay all. Medical charity in some form must aid or the patient receive insufficient attention, and the physician through necessity drift into careless work. Dispensaries should stand ready to help this physician and this patient, but to take the entire care of this case is often no real help to either. At the request of this physician the dispensary should make special examination or see in consultation this patient, and then refer him back to this physician for treatment. The outside physician should invariably be treated squarely. The patient has served as interesting clinical material, which is sufficient return to the dispensary. He is paying all he can to the medical profession, and the position of examination without treatment in the minds of these persons is such that they are not by this pauperized. Those admitted to this class are to be investigated as carefully to determine that they are not able to pay for their special examination as the other classes to determine that they are not able to pay for treatment.

Many applicants to dispensaries have been in the care of physicians. They have come because they are not recovering rapidly or because a friend recommends the institution. A clinical consultation in cooperation with this physician reassures the patient, is just to the practitioner and is not open to the criticism of pauperizing. The application of that first principle of medical ethics, which is better known as the Golden Rule, can easily be explained and the applicant given a printed form to take to his physician, which explains the situation and suggests that such a consultation may assist. The report to the physician of the findings in the examination or consultation is, of course, an absolute essential. This same form may be given to applicants without a physician but able to pay a small fee, explaining to them that the dispensary will see them in consultation with a physician only and that they must first arrange with some physician for any possible treatment. These came because of greater faith in the dispensary than in any available physician. This is an undesirable condition, and it is clearly the duty of the dispensary to inspire in this applicant confidence in some member of the practicing profession available to him. To this end suggestions may be made and, if asked, the names and addresses of suitable physicians should be given.

The duty of a dispensary when it receives the application from a patient of a physician practicing any form of quackery is to my mind clear. By their acts these physicians have placed themselves outside of the profession: only the interests of the patient and of society are left to consider, and it is best for both these that all persons be served by honest physicians.

REFUSALS

An application, proper or improper, is always an expression of confidence in the institution. It is therefore clearly the duty of the institution to be courteous and to help the applicant to obtain what he needs in a proper way from proper resources. The curt dismissal of an applicant who hesitates to state that he cannot pay a physician may be as harmful to both this patient and to some physician as would be the admission. It takes but a moment to find out the real reason why each came. The institution has the opportunity to help the patient to secure relief, to help the medical profession by restoring this man to confidence in some physician, to keep him from self-medication and patent preparations, and to help society by keeping one more out of the dependent class. A refusal to admit is too often a rebuff to one who has come because he did not know what else to do or whom to trust. He may then have a few dollars, but without this advice in his blind search for a cure he may not spend them wisely, and later some charity finds him in want. It is then easy to see the opportunity for constructive sociology that was lost, and to complain. The mental attitude of the patient who has lost his trust in the physician of his choice varies from the defensive to the desperate. He knows that the "M.D., Physician and Surgeon" on a sign may stand for much or for little, and may hesitate to risk time and money. If mildly on the defensive, he is liable to turn to "patent medicines" until confidence in some physician is restored. If more worried, he may turn either to an advertised medical institute or to the best-known institution of the city to be treated as an outpatient and, though he may apply at the front office, this leads him to the dispensary. He does not understand why a hospital that treated him for an infected foot last year cannot treat him for an infected hand now.

Experience has led us to use four kinds of refusals:

1. A straight refusal and reference back to the former physician, if an honest one, when there is no good reason for coming even for advice.

2. Applicants who have no regular physician, but who are able to pay one, are given a letter to a physician whom we recommend, and who by location or language seems best fitted to care for this patient.

3. Treatment refused but consultation (Class D) offered, if the family physician wishes it. These applicants are given printed forms to take to their physician for endorsement.

4. There are many applications for some special treatment, as tonsillectomy or refraction, by persons who know that they need the services of a specialist, and yet feel that they cannot afford the fee of such a specialist. School inspection has greatly increased the number of this class. Investigation shows that many of these are really able to pay a small fee for a tonsillectomy, and we have little difficulty in convincing them that they should pay a certain specified amount. A letter is given them to the proper specialist asking him to care for the bearer, who will pay the sum agreed on for such services. Good specialists are perfectly willing to do this as long as the price is just, regardless of the fact that it is less than their usual fee. But the fact that makes this trouble worth the while is that these people really go to the specialists and have the needed work done. We found that oral references and recommendations to specialists without letters were almost useless. Not one in twenty went. They feared either a refusal or a price that would be hardship. With a letter nearly all go.

WORKING OF THE SYSTEM

All of the above classes of admissions and refusals (except Class D) have been in constant use in the dispensary of Lakeside Hospital and Western Reserve University for a year. Class D was planned with the others, but eight months were used in watching the applications to be sure of its reception and usefulness before actually putting it into effect. The results have more than justified the work of the more careful investigating and consideration of each case. The exclusions under Classes C and D and more frequent referring to outside physicians must necessarily reduce the number of dispensary treatments in the community, but the kinder treatment has made friends and our attendance has increased. Complaints from inside and from outside physicians have become few instead of many, and from both sources they have acquired a spirit of cooperation instead of protest. The physicians working in the dispensary have been more contented and satisfied, and have treated the patients in a kinder way and with more consideration. The better treatment of the patients has made them more appreciative, and nominal prices for medicines and supplies have been paid more often and more cheerfully. There has been even a cash return.

SUMMARY

1. The problem of dispensary abuse exists and must be solved.

2. The first step in the solution must be the creation in every dispensary of an executive head having sociologic training and interests. To this head and his assistants must be given final authority to decide admissions, and full control of all the functions of the dispensary excepting the medical treatment of the patients admitted. This executive staff will also develop the opportunities for preventive medicine and general social service.

3. A system of classified or graded admissions and graded or modified refusals will assist in the practical work of meeting the problem.

4. Such a system has been used in one dispensary for a year with satisfactory and pleasing results. It seems to be accomplishing much good, and no objectionable features have appeared.

Cancer and Worry.—One often has occasion to observe the bad effects of mental worry in these patients. Time and again when I find a patient not so well, with more pain or weaker, I learn that there has been some home worry that has caused it—a husband or child ill, or not behaving well, or children uncared for, or the little home broken up, or the sudden cessation of accustomed correspondence. The influence of mind on matter is seen with quite special force and clearness in cases of advanced cancer.—Alfred Pearce Gould in the *Lancet*, London.

A SUGGESTION ON PHENOL AND ICHTHYOL IN EXTERNAL OTITIS

Richard M. Nelson, M.D., Atlanta, Ga.

In the last years of my service at the head of the Eye and Ear Clinic, Colon Hospital, Cristobal, Canal Zone, we were trying both phenolized glycerin and ichthyol in glycerin in certain external and middle-ear diseases and comparing the results obtained, when unexpectedly the supply of fine gauze packing for making tampons ran out. I took some packing from the bottle of 10 per cent. phenolized glycerin, and, squeezing it partly dry, dropped 10 per cent. ichthyol in glycerin on it, and used it in a case which had resisted all previous treatment. The packing was removed in two hours. To my astonishment the tumefaction of the canal was very greatly lessened. I continued the hot 2 per cent. boric irrigations four times a day, with the addition of this tampon left in place two hours daily. The rapidity of improvement was wonderful and recovery complete. Thinking it possibly a coincidence that improvement came about at just this time, I tried the same method in a series of cases during the year ending July, 1912. An eye, ear, nose and throat out-clinic ranging during that time from 1,000 to 1,200 a month, exclusive of the hospital ward patients, gave a more or less adequate opportunity for a thorough trial of this method of treatment.

A mixture containing 5 per cent. each phenol and ichthyol in glycerin was found remarkably efficacious in otitis externa diffusa, myringitis, otitis externa circumscripta ("furuncle of canal"), and in connection with other treatment as good as any ear-drops in acute otitis media; and especially good in otitis externa caused by and complicating chronic suppurative otitis media. One of the greatest nightmares to the conscientious and conservative otologist is this last class of patients, especially those whose hearing is found by careful tests to be still so good that one hesitates to advise radical operative measures, and yet on whom all the methods commonly employed, including the so-called alcohol or dry treatments, have failed completely. I do not wish to be understood as recommending this method to the exclusion of all other methods of treatment, but as a remedy that in my hands has proved a valuable addition to existing methods, and particularly valuable where such methods have been carefully tried and have failed to give relief.

I can find no record of a mixture of phenol and ichthyol in glycerin being used for ear, or any other, disease.

807 Empire Life Building.

TWO CASES OF TONSILLECTOMY

T. G. Orr, M.D., New York
House Surgeon, St. Mary's Free Hospital for Children

The following cases are reported from the medical service of Dr. George M. Swift and the surgical service of Dr. Frank S. Mathews at St. Mary's Free Hospital for Children:

Case 1.—Miss C., aged 20, a nurse in the hospital, acquired a throat infection Oct. 5, 1912. The pharynx and tonsils were much inflamed and there was a small white plug about 2 mm. in diameter in a crypt of the left tonsil. There was no diphtheritic membrane. The temperature was never above 100.5 F., except after antitoxin, when it reached 101. The patient was not very ill at any time and remained in bed only four or five days. A throat culture taken October 6, grew diphtheria bacilli. Two doses of antitoxin were given in the first two weeks. Hexamethylenamin (urotropin) and the usual antiseptic gargles and applications were used. The inflammation disappeared in ten or twelve days and the throat appeared normal, but the cultures remained positive. Between October 5 and November 16 twelve cultures were taken from the tonsils and pharynx and all grew diphtheria bacilli. The organism was isolated and found virulent by inoculating a guinea-pig.

Nov. 16, 1912, Dr. Mathews removed the tonsils by the finger-enucleation method. They were not large but had relatively deep crypts, with no foci of pus or cheesy material. Six days later cultures from the tonsillar fossae and pharynx were negative for diphtheria bacilli. Healing was rapid without any complications. Cultures taken two and four weeks after operation were also negative.

Case 2.—A. O., boy aged 3 years, was admitted to the hospital Sept. 15, 1909. The family and past histories were negative. Two months before admission the parents noticed that the child's abdomen began to increase in size. This slowly increased for the next seven weeks. Ten days before admission the neck became swollen. Then it was noticed that the ankles, legs and thighs were swollen. There was no history of shortness of breath, headaches, vomiting, loss of appetite, disturbance of vision or disturbance of urination. At the time of admission the positive physical findings were general anasarca with liquid in the pleural and peritoneal cavities, and hypertrophied adenoids and tonsils. The urine contained a heavy cloud of albumin and many hyaline and granular casts.

The edema and transudation increased during the next three weeks, and the right pleural and peritoneal cavities were tapped. For the next five and one-half months the serous cavities were never free from liquid. The edema disappeared under restricted liquids, hot packs and diuretics, but soon reappeared. Attempts made to eliminate the source of infection by colon and nasal irrigations and extracting decayed teeth were unsuccessful. During the entire time the urine was never free from albumin. Cultures from the nose and throat grew the *Staphylococcus pyogenes aureus.*

Five times during stay in the hospital the temperature rose to 102 and 103. The last time this occurred an incision was made in the left tonsil and a small quantity of pus evacuated.

March 3, 1910, five and one-half months after the child's admission to the hospital, under very light ether anesthesia, the tonsils and adenoids were removed by Dr. Mathews. The tonsils were large and soft but no pus pockets found. The adenoid mass was very large and showed suppurative infection.

"Two days after operation improvement is very noticeable. Edema and albumin are decreasing. Appetite improving. Child seems to take much more interest in surroundings." Twelve days after operation the following note was made: "Remarkable improvement. Edema has entirely disappeared. Appetite good. Gaining rapidly in strength. Throat and tonsillar fossae clean. Faint trace of albumin in the urine." Fifteen days after operation the patient was up walking about the ward. April 9, 1910, "Discharged. General condition excellent. Throat is clean. No edema. Urine has faint trace of albumin."

Three and one-half months after operation the patient returned to the hospital for observation. At this time he appeared perfectly well. No edema. There was no albumin in the urine, and only a rare hyaline cast could be found.

In Case 1, tonsillectomy was a very efficient method of curing a diphtheria bacillus-carrier. The organisms were undoubtedly harbored in the deep crypts of the tonsils. In Case 2, the exciting cause of the nephritis seemed to be in the adenoids and tonsils. It illustrates well the rôle these tissues may play in diseases of the kidney.

DEAFNESS FOLLOWING THE USE OF SALVARSAN

C. A. Clapp, M.D., Baltimore

The following is a case report of deafness following the use of salvarsan:

A man, white, aged 22, had an initial lesion in April, 1911, for which he was treated by the use of mercury until October 9, when 0.6 gm. salvarsan was given intravenously. November 21, he had a severe attack of giddiness and vomiting with impairment of hearing, which confined him to his bed. He was treated at this time by a recent graduate who considered the case acute indigestion.

When first seen in the office Dec. 12, 1911, the patient still showed marked giddiness which was worse on closing the eyes. The ear-drums were normal; there was no spontaneous nystagmus. The left side of the face was slightly flat, and hearing was reduced to watch at 4 inches in the right ear and contact in the left. Barany's caloric tests showed slight functioning on the right side and none on the left. Patient was given 10 grains of potassium iodid three times a day, but the giddiness became more pronounced, and on December 19 he was put to bed and given pilocarpin hypodermically in increasing doses with hydragogue cathartics for ten days. After this time the giddiness was less.

Jan. 27, 1912, the Wassermann reaction was negative. The patient was kept on the iodid all summer, and on Oct. 16, 1912, his hearing had improved to watch at 3 inches in each ear, with a slight response to the caloric tests. His equilibrium is still bad but his slight facial paralysis seems to have entirely disappeared.

Whether this condition is due to the large dose of arsenic or to the liberation of large quantities of endotoxins, or shows that the medicament has not reached the deeper tissues, the fact remains that the occurrence of deafness is much more frequent since the use of this drug, three cases having occurred in Baltimore to my knowledge within the last two years.

513 North Charles Street.

Special Article

MEDICAL PROGRESS *

HENRY S. PRITCHETT

President of the Carnegie Foundation for the Advancement of Teaching

NEW YORK CITY

The foundation has continued its work in medical education by the publication during the past summer of Mr. Flexner's carefully prepared study of medical education in England, Germany and France. This forms an almost necessary supplement to the study of medical education in the United States and Canada, published two years earlier. The interest which has been displayed in this last bulletin, not only on this side of the water, but in England and in Germany, has been most gratifying. Following the suggestion of a number of those most actively interested in medical education and medical practice in Germany, an edition of the bulletin will be printed in German.

The comment on this publication from those directly concerned with American medical education has well illustrated the widely separated points of view which now hold among those dealing with this matter. By one critic the defects pointed out in foreign medical schools have been seized on as a proof that American medical teaching is quite abreast of, and even superior to, medical teaching in England and Germany. In another quarter the evident superiority of foreign schools in certain respects, as brought out in the report, has been resented as unpatriotic. These opinions represent, however, only the extremes. The great body of those interested in the matter have been glad to have a comparison of medical teaching on both sides of the Atlantic, written from the point of view of scientific medicine, and aiming to set forth the facts without partisanship. Medical patriotism which is willing to shut its eyes to actual conditions and glorify its own national weaknesses has no place to fill. There are no national boundaries in medicine.

EUROPEAN VS. AMERICAN MEDICAL SCHOOLS

As a matter of fact, admitting the weaknesses which still inhere in most American schools in professorial appointments, in clinical examinations, in hospitals and clinical facilities, and in medical research, the report shows that in the eight or ten stronger American schools of medicine the student has, on the whole, as good an opportunity to learn the theory and practice of modern medicine as does the student of the European schools. This fact is most gratifying and encouraging. But the report brought out at the same time two other facts which cannot be lost sight of, and which are, on the whole, the most significant and important for Americans, whether laymen or practitioners, to apprehend.

The first is that, while European medical schools — for example, those of Germany — are practically comparable in faculties and standards, American schools range from the highest to the lowest conception of medical education and medical ideals. Side by side with schools of the best modern type, which are preparing men in a thorough way for the practice of medicine with a conscientious appreciation of the rights of the public, stand other schools whose function is to get the ill-trained and the unfit into medical practice by the shortest route which the varying laws of our states will permit.

SOME COMPARISONS

Boston offers to medical students at the same time the Harvard Medical School and the Boston College of Physicians and Surgeons; New York presents the medical schools of Columbia and Cornell and at the same time leaves open for the unwary the doors of the Eclectic Medical College; Baltimore presents to the medical student a choice between the Johns Hopkins Medical School and the Maryland Medical College; Chicago invites the candidate for medicine to choose between such institutions as the medical schools of the University of Chicago and of the Northwestern University on the one hand, and utterly unworthy agencies for medical training, like the Bennett Medical College, the Jenner Medical College and the Hering Medical College, on the other; St. Louis presents the newly organized and endowed school of Washington University and the purely commercial enterprise known as the American (Barnes) Medical College. These are not frontier towns. They are our oldest and richest centers of civilization. Yet even in these the state of public opinion, and of legal enactment, and of medical ethics is such that the worst in medical education can flourish alongside the best. The state of California, which contains the medical schools of the state university and of Stanford University, also countenances a group of the worst schools in the country, and recently chartered a "College of Medical Evangelists," where the "subjects of hygiene and sanitation are . . . studied from a biblical standpoint," and the degree of M.D. is given for a course which includes 900 hours of Bible, 540 of the practice of medicine, 250 in general evangelistic field work and 240 in care of the sick. This situation forms the most striking contrast between medical conditions in America and in Europe. To remedy this condition, we need, first of all, the education of public opinion to the difference between medicine as a business and medicine as a profession. The public needs yet to learn that medical teaching cannot be

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* This is the chapter on medical education to be included in President Pritchett's annual report to the board of trustees of the Carnegie Foundation for the Advancement of Teaching. Printed by permission.

had either on the plane of commercial effort or yet on that of ill-equipped devotion. It needs to learn that the maintenance of commercial and defective agencies for the training of physicians is a blow at public health and a betrayal of public interest; that society can obtain a full supply of men for the medical profession who are educated, well trained and devoted to a high professional ideal. In proportion as the public realizes this it will come forward with the necessary financial support to maintain on a sound basis all the medical schools that the country needs. By some such process must this anomaly of our civilization be dealt with.

NEED OF EDUCATIONAL SINCERITY

A second striking fact brought out by this comparative study of medicine in Europe and America has to do with the matter of educational sincerity. In Europe no university would accept the responsibility of a medical school except with the same obligation of support and with the same educational ideals under which it conducts other departments of instruction. In America alone does one find a college or a university lending the shelter of its name and its charter to a medical school which it neither controls nor supports, and whose ideals of teaching are on an entirely different plane from those maintained in the other departments of its work.

Examples of this sort of relation are so wide-spread that instances will at once occur to any one familiar with the situation. Bowdoin College and the Maine College of Medicine at Portland; the Marquette University and the Milwaukee Medical College; the University of Southern California and the Los Angeles College of Physicians and Surgeons; Loyola University and the Bennett Medical College; Willamette University, Salem, Oregon, and its medical department; the University of Tennessee and its medical school at Memphis; Union University and the Albany Medical School; the Lincoln Memorial University and its medical school at Knoxville; the Texas Christian University and the Fort Worth School of Medicine; Cotner University and its medical school at Lincoln, Neb., are all instances of this sort of relationship.

These medical schools are not entirely comparable. Some of them, like the medical department of Cotner University, are hopelessly bad. Others have come to the better class of commercial medical schools. The Maine Medical School, for example, has showed marked improvement over its situation of two years ago, and a modest sum of money has been raised for its improvement. The University of Tennessee has during the past year for the first time obtained support for its medical school, and the use of this money has made a great improvement in the wretched enterprise which had hitherto constituted its medical department. But all these colleges share in the maintenance of a relation under which they commend to the public schools whose academic standards belong to an entirely different order from that of the work which these colleges directly support and control. Bowdoin College, for example, and its medical department represent totally different educational ideals. When the college invites a student to study Latin, or physics, or literature at Brunswick, it undertakes to give him an education in these subjects quite comparable to that which he could get at Harvard or McGill. But it invites the medical candidate to accept an education which it knows to be utterly inferior to that which he could get at Boston or Montreal. Similarly, Union University and the Albany Medical School, the University of Tennessee and its Memphis department of medicine, belong to different educational worlds. To stand for a high ideal of education in one place and for a low one in another is an artificial and insincere educational program. Nowhere on the continent of Europe does a college or a university deal with medicine on this commercial basis.

What are the reasons which impel colleges — sometimes old and well-known institutions — to maintain so singular a relation?

REASONS FOR ARTIFICIAL RELATIONSHIPS

This question would not be a simple one to answer. Many factors enter into the situation — institutional ambition, desire for power or for numbers, social influence — nearly every motive except an intelligent desire to serve the cause of medical education.

Some of these relations go back to a time when medicine was taught without laboratories. Bowdoin's medical college relation is an old one. An old connection is not always an easy one to drop. In addition, as Bowdoin is in a small town the medical school is generally looked on by the friends of the college as forming a good foothold in Portland. The artificial relation existing between Union University and the Albany Medical School is also one which belongs to a previous epoch in medicine. Originally assumed in order to give the semblance of a university to Union College, it is kept alive at this day by a combination of social relations, institutional ambitions, and of medical politics too complex for an outsider to dissect. On the other hand, the University of Tennessee took over the Memphis School, which now forms its medical department, only two years ago, after a similar weakling which it had fostered at Nashville had died a lingering death. Just what considerations moved the trustees to take this action, outside of the wide-spread desire of state universities to keep hands on all lines of higher educational work, it is difficult to see. If the University of Tennessee has the money to develop a medical school, the evident place to develop it would be at Knoxville in connection with its own departments. The Memphis venture has the air of a political, not an educational, enterprise.

UNFORTUNATE OPTIMISM IN WEAK SCHOOLS

Whatsoever sympathy one finds it possible to exercise toward these medical teaching agencies must go to the men in the medical schools, not to the colleges. So far as the colleges are concerned, the relation is in nearly every case an insincere one. On the other hand, many of the teachers in the medical schools work with genuine devotion and often at great personal sacrifice. To comply with the law, teachers of the underlying sciences are obtained at pitiful salaries. Practitioners in many instances give their time and their means. Unfortunately, devotion is not always wise. To teach poorly a certain number of medical students who otherwise would get a better training elsewhere may call forth admirable devotion, but it is justifiable only when a definite and satisfactory status can be fairly seen in the future. Unfortunately, too, the same optimism which makes every college believe that the education which it gives is somehow superior to that given elsewhere finds a home in the humblest medical school. I have found teachers of medicine whose students lacked almost every facility of laboratory or hospital, who lived in the midst of confusion and neglect, and who nevertheless persuaded themselves that students were better off with them than in well-appointed, clean and sanitary schools. Devotion is a wonderful thing. The world could not move without it. But one can well believe that in America, where devotion is so common, the ability to let alone the thing one cannot do well is a quality even more needed at the present moment.

These two things — the existence side by side of medical schools of the highest and the lowest type, and the anomalous relations between the universities and the medical schools — form the striking points of contrast between medical education in Europe and America as brought out by this report.

STRIKING EXAMPLES OF UNEVENNESS

The unevenness of our situation has recently received striking proof in the city of New York. The newspapers have dealt with two events of widely different character. The medical department of Cornell University has been enabled by a generous benefaction to arrange an alliance with the New York Hospital, in virtue of which it will hereafter control one-half the clinical facilities of this institution. Cornell thus becomes one of the medical schools which, at a comparatively small outlay, possess the equivalent of a university hospital. It remains to be seen whether, in making its appointments, it will cut loose from local traditions and honor men of ability and ideals regardless of where they are found; but in any case the proper relationship and opportunity have been secured. Simultaneously with this encouraging event, a faculty split, recalling the old proprietary days, was reported from the Fordham University Medical School. It appears that this school, by means of a faculty committee, had undertaken to institute certain improvements in order to remain in good standing with the Council on Medical Education of the American Medical Association. These improvements were so obviously necessary that no reputable school should have required pressure from any outside source before making them. Nevertheless, as money was needed to carry them out, the school authorities did not feel themselves in a position to carry out the faculty pledges. In consequence the most progressive members of the faculty withdrew in a body. At this point the characteristic difference between a genuine and a nominal university department appears. If a dozen professors withdrew from a university department, the entire country would have to be scoured to replace them; but when a dozen medical professors revolt from a proprietary medical school, their places can all be filled next morning from the ranks of the local profession. And this is what has been done by Fordham University. One realizes sharply the unevenness of our medical teaching when he finds that the American Medical Association still feels it necessary to construe its list so liberally as to include in its Class A weak schools of medicine like those of the Albany Medical College, the Medical School of Maine, the University of Vermont Medical School and the Medical School of the University of Buffalo. Undoubtedly the American Medical Association has done wisely in not going too fast. When one remembers how rapidly this reform has gone forward in six or seven years as the result of the intelligent work of this organization, he has no disposition to criticize the outcome. There is, however, always the danger in any attempt to separate educational institutions into artificially defined groups that the grouping will be assumed to represent more than it can possibly represent. When one realizes that Class A includes at the same time schools of medicine like those of Harvard, of Johns Hopkins and of Western Reserve, and weak schools like those just mentioned, he realizes how short a distance we have traveled toward a uniformly high plane of medical training. This classification is in fact purely provisional. Without question it will be advanced as rapidly as the conditions will warrant. Some of the weak schools now included in Class A will be able to meet the rapidly rising requirements. Others will inevitably drop out. The college or the medical school which expects to remain permanently in this class may well face now the fact that within a few years Class A will include only true university schools of medicine with paid professors in clinical branches, full laboratory facilities and right hospital relations.

EVIDENCE OF SUBSTANTIAL PROGRESS

Fortunately there is not lacking concrete evidence of substantial progress. The University of North Carolina, the University of Missouri, the University of Denver, the Central University of Kentucky, Chattanooga University, and, more recently, Washburn College at Topeka, Kan., have frankly abandoned clinical schools which they felt were unnecessary and for whose support they could not hope to provide. The University of Illinois applied to the legislature for an adequate appropriation for its clinical school at Chicago, and when the effort finally failed the university promptly severed its connection with the Chicago school and arranged to confine its medical instruction to the two years which it could give successfully at Urbana. In various directions — the improvement of standards, better teaching, larger support, better hospital relations — the past few years have shown most encouraging progress in the United States and Canada.

Credit for this progress belongs in the first instance to the American Medical Association and its Council on Medical Education. The annual conferences of the Council have been most interesting and fruitful. This is perhaps especially true of the last, to which Mr. Frederick G. Hallett, secretary of the Conjoint Board of the Royal Colleges of Physicians and Surgeons, was invited from London. It has long been plain that the time was ripe for an improvement in the methods of conducting our state examinations. In the past these examinations, wholly in writing, not only made it possible for poor schools to appear successful, but actually compelled good schools to adopt to some extent vicious teaching methods. The English examinations, largely practical in character, have the opposite tendency; and Mr. Hallett's clear exposition proved that such tests are both feasible and necessary in our own states. In addition to its educational conferences, the Council by its inspections, at once judicious and thorough, has established a general consensus of opinion as to the standard which may fairly be required at this moment of an establishment that undertakes to teach medicine. Schools incapable of meeting such requirements are fast disappearing. The total of 166 schools of all kinds existing in the United States and Canada in June, 1904, has in eight years decreased to 117 in 1912. Homeopathic schools, of which there were twenty-two in 1900, have now fallen to ten; eclectic schools from ten to six; the physiomedical schools have entirely disappeared. The total student enrolment, which reached 28,142 in 1904, has now declined to 18,412. As the student bodies of the higher grade schools have steadily advanced in numbers, this considerable decrease has taken place precisely where in the public interest it should take place, namely, in the weaker schools. It is thus obvious that the destruction of one inefficient school does not merely result in increasing the enrolment of another: it actually and absolutely keeps a certain number of unfit men out of the profession.

SMALLER QUANTITY—IMPROVED QUALITY

The changes just mentioned are mainly negative in character; they indicate that there is less of what is bad or undesirable. Meanwhile, positive progress has also taken place. It was pointed out in the fourth bulletin of the Carnegie Foundation that there could be no genuine educational standard as long as medical colleges that were professedly on a high school basis continue to admit students conditioned or on a so-called "equivalent." The Association of American Medical Colleges has now framed its rules so as to exclude from membership all schools adhering to these practices. Meanwhile, thirty medical schools require at least two years of college work for entrance and fifteen more require one. For the time being it is therefore important to make sure that standards are genuine rather than higher, and doubtless the association will look to this end. The internal improvements that have been made in the medical schools which survive are more remarkable and significant than the mere reduction in the number of medical colleges or medical students and graduates since 1904. The erection of new buildings, the construction of new laboratories, the installing of libraries and museums, the noteworthy extension of medical research, the employment of expert teachers, the improvement of the medical curriculum, the lengthening the medical school year from twenty-six weeks in many schools to thirty-four or thirty-six weeks, the raising of entrance requirements and the greater strictness and intelligence in their enforcement, the improvement in the keeping of wards, the improved methods by which a check is kept on the medical student's work, the increased facilities for the student's individual work at the bedside, the closer relations between medical schools and hospitals—all these things constitute a marvelous record of progress in the past seven years. The fact that all schools which aspire even to modest work now require a fair education for admission is perhaps the most significant fact of all. The experience of Europe proves that the requirement of a good education as a preliminary to the medical school exercises a larger influence for good than all other requirements combined. The simple demand that the physician shall be an educated man is the most important step toward a higher plane for the profession. American medical schools are committed to this step.

GREATEST NEED IS ADEQUATE SUPPORT

The question of adequate support for medical education becomes for the next decade a most far reaching and important one. Increased funds of varying amounts have been widely procured for laboratories, hospital extensions, and for the promotion of full time teaching and research. The Education Department of New York has taken advantage of this improvement to announce that in the near future it will cease to recognize schools employing less than six whole-time instructors. The department, furthermore, very wisely refuses to recognize nominal salaries as complying with its conditions. Naturally, in this general effort to procure money in order to escape further criticism waste inevitably occurs: many schools which would do better to emulate the example of those that have closed their doors struggle to imitate those that are destined to survive. Gifts and appropriations of $5,000 and similar sums for improvements are thus all too common. They enable weak establishments to maintain themselves a little longer. In no field of education to-day can wise giving do more than in medicine, but in no field does the intending giver need wiser discrimination.

CONSTRUCTIVE WORK THROUGH PUBLICITY

I venture one word further concerning the work of the Carnegie Foundation in this field of education. Its immediate connection with the subject dates from the publication of the Fourth Bulletin in June, 1910. In cooperation with the educational council of the American Medical Association and the Association of American Medical Colleges, both of which had for some years previously been effectively engaged in the work, it has sought to define the principles to which sound educational organization in medicine should conform at this time, and practically to assist in embodying these principles wherever opportunity offers. For the present these efforts are directed to the elimination of unnecessary schools, to the abrogation of all sectarian privileges, to the improvement of the student body as fast as local conditions permit, and to the replacement of proprietary establishments by adequately equipped and financed university departments, in whose conduct educational and scientific rather than professional motives are emphasized. In particular the foundation has sought to assist positive and constructive effort by frank publications on medical education which aimed to describe actual conditions, and to stimulate by a critical discussion the appreciation of things to be done and those to be avoided. The studies contained in the sixth bulletin, on medical education in Europe, fully sustain the position which the foundation has previously taken, that medical education is primarily an educational, not a professional question; that in the fixing and administration of entrance requirements, the choice of teachers—clinical as well as laboratory—the arrangement of the curriculum, in the relation of the hospital to the medical school, and in the conduct of examinations, the point of view of good teaching is of decisive importance.

It is the purpose of the foundation to pursue its work steadily in the field of medical education. The value of such an agency lies in no small measure in its continuing ability. To follow such a study not for two or five or ten years, but for a generation, is to make a continuing contribution. It is this work which the foundation hopes to do in medicine as well as in other educational fields which it enters.

I shall recommend to the trustees at an early date a study of dental education and dental training, and also a study of the training for pharmacy. There is at present much confusion as to these subjects, both of which are closely related to medicine, though standing on very different bases and demanding qualities of widely differing order. The matter of hospital relations is also one that urgently demands a fair statement of the existing facts before wide-spread improvement can be hoped for.

Therapeutics

THE FALLACY OF HYPOPHOSPHITE TREATMENT

Hypophosphites first began to be used as drugs about the year 1855, and have been used more or less ever since in diseases that cause loss of nutrition. They have been recommended especially in pulmonary tuberculosis with the belief that the phosphorus was of special value in this disease, and that the hypophosphite was the best form in which to administer the phosphorus element.

Phosphorus has long been known to be a stimulant to certain forms of nutrition, and the phosphates have also been credited with therapeutic virtues. In tuberculosis, however, the hypophosphites have been urged as especially specific. What are the reasons and evidences for this opinion?

The action cannot be attributed to the sodium, potassium or magnesium with which the hypophosphites are combined, for other salts of these bases are not credited with similar specific effects. Nor can they be considered as nutrients, for ordinary food contains plenty of these bases. It is also not necessary to discuss the value of iron hypophosphite and manganese hypophosphite, as iron can be obtained in many better ways, and administered, if insufficient, in many better forms; and manganese is probably not necessary to the body.

In the treatment of pulmonary tuberculosis, we come then, supposedly, to a discussion of the most valuable form of hypophosphite, namely, the calcium hypophosphite which has the formula $Ca(H_2PO_2)_2$.

As the calcium which it contains can be administered in many other ways as readily and perhaps more pleasantly, it is a question of the hypophosphite combination and what becomes of it in the body. Unfortunately for the believers in the hypophosphite treatment, there are absolutely no scientific data whatever to show that the hypophosphites have any specific value in the system. It has been shown that they do not oxidize to phosphates, substances which are of value to the system, and which must evidently be obtained from some food or from some other drug even when hypophosphites are administered. It has also been shown that the hypophosphites can almost entirely be recovered unchanged from the urine. They have entered the stomach, been absorbed from the intestines, passed through the liver without any special change except possibly a small loss of iron from the iron combination, and then passed out through the kidneys without having done anything to the nutrition of the body.

If a quinin salt or strychnin is given with the hypophosphites, there will be some bitter tonic effect and some general stimulant action, but this has nothing whatever to do with the question of the value of hypophosphites.

We have stated, and it is easily demonstrable, that calcium can be administered and received into the system in many better ways than by the more or less disagreeable hypophosphite preparations. If it is a question of the value of the phosphorus element in the hypophosphite, for the sake of argument, and in deference to the belief of those who find some specific value in the hypophosphite, it may be stated that about three-sevenths of the weight of the molecular combination of calcium hypophosphite is phosphorus. This would mean that if calcium hypophosphite should break up or oxidize into other combinations, about 0.04 gm. of each 0.1 gm. would be available phosphorus for the formation of phosphates or nucleoproteins.

A person receives approximately 1 per cent. of available phosphorus in every egg that he eats. He receives about 1 per cent. in casein; in other words, in every hundred grams of casein he would receive 1 gm. of phosphorus for the formation of phosphates, nucleoproteins and lecithins. He would receive 0.3 gm. of such available phosphorus in a quart of milk in addition to the liberal supply of additional phosphorus in the form of inorganic phosphates. About one-eighth of an ordinary cream cheese is phosphorus compounds. Put in another way, one glass of milk would equal about 10 gm. of casein, which, 1 per cent. of the casein being phosphorus, would equal about 0.1 gm. of food phosphorus. An eighth of a pound of ordinary American cream cheese contains about 0.1 gm. of available phosphorus. The yolk of one medium-sized egg would contain from 0.08 to 0.1 gm. of such phosphorus. Therefore there can be no reason for administering a doubtful hypophosphite in order to give a patient phosphorus.

The nervous tissues are rich in lecithin, which contains phosphorus, and the various nucleoproteins of the body contain phosphorus. Therefore it is not possible that the tissues during life are really much short of phosphorus, unless many of the ordinary foods are entirely withheld from the patient. Even the value of calcium in the form of such a substance as hypophosphite of calcium is negligible for the tuberculous healing process, as the calcium for that purpose comes from the regular calcium constituents of the blood and can scarcely be expected to come from the hypophosphite combination, which has been shown not to break up or be oxidized in the body.

We must therefore conclude that hypophosphites have absolutely no value as a source of phosphorus to the body. This does not exclude the possibility that they might have some direct action of their own on the course of the disease. For this, however, there is no experimental evidence. There is some clinical evidence in its favor; but it is noteworthy that very little, if any, of this comes from hospitals where careful observations are practiced. Even the favorable clinical opinions amount to little more than subjective improvement — a matter which is of very little scientific value in tuberculosis.

While there is thus very little critical evidence in favor of the hypophosphites, they are harmless in themselves. Their main danger is in encouraging the poor phthisic to seek his salvation in drugs, and most seriously, in nostrums, instead of in the hygienic measures which have thus far proved the most successful treatment. This danger of drugging is emphasized and reflected by the absurd and unscientific combinations in which the hypophosphites are prescribed.

The Pharmacopeia recognizes calcium hypophosphite, iron hypophosphite, manganese hypophosphite, potassium hypophosphite, sodium hypophosphite, the syrup of hypophosphites, the compound syrup of hypophosphites, and the emulsion of cod-liver oil and hypophosphites. The National Formulary recognizes the elixir of calcium hypophosphite, the solution of hypophosphites, the compound solution of hypophosphites, the syrup of calcium hypophosphites, and the syrup of calcium and sodium hypophosphites. All of these preparations, of both the Pharmacopeia and the National Formulary, could be deleted from these official books without any loss to mankind.

The syrup of hypophosphites, U. S. P., contains: calcium hypophosphite, potassium hypophosphite, sodium hypophosphite, dilute hypophosphorous acid, sugar, tincture of fresh lemon-peel and water.

As there is no known value in hypophosphorous acid, every ingredient of this mixture could be eliminated except the bare possible value of the calcium hypophosphite, and the multiple mixture be repudiated. As to the calcium hypophosphite, as just stated there is no known chemical or physiologic value of the hypophosphite salt, and both calcium and phosphorus can be given better by the ordinary foods.

The compound syrup of hypophosphites contains: calcium hypophosphite, potassium hypophosphite, sodium hypophosphite, iron hypophosphite, manganese hypophosphite, quinin, strychnin, sodium citrate, dilute hypophosphorous acid, sugar and water.

This multiple mixture is a disgrace to any modern book, and it is to be hoped that the disgrace will not be perpetuated in the new Pharmacopeia. As we have previously stated, iron, manganese, quinin and strychnin may be administered, if needed, in many better ways. There can be no excuse for this hodge-podge or "hash" of drugs, or, we might say, disagreeable soup—or for copying or perpetuating the nostrum which this formula really is supposed to ape. Let us dismiss this preparation from the Pharmacopeia and from therapeutic use.

It is not necessary to name the several proprietaries and the several nostrums that exploit the hypophosphite treatment of lack of nutrition or as an antidote to tuberculous processes. Whenever we administer these preparations of hypophosphites we are perpetuating a myth, we are giving something which we know has no scientific value, and has no clinical value except as the combination may contain tonics, and has no food or nutritive value that can compete with milk, eggs and cheese. When we order such combinations, especially if they are expensive proprietaries or nostrums, we are insulting our own intelligence.

DISTURBANCES OF THE HEART *

(Continued from page 667)

PAROXYSMAL TACHYCARDIA

This condition is generally termed by the patient a "palpitation," and palpitation of the heart is recognized by most physicians as meaning a too rapidly-acting heart, the term "tachycardia" being reserved for an excessive rapidity of the heart. Some persons normally have a pulse and heart too rapid; children more or less constantly have a heart-beat of from 90 to 100. Women have more rapid heart action than men, and it becomes more rapid with their varying functions, specifically increasing in rapidity before, and perhaps during, menstruation. Many patients have a rapid heart action with the slightest increase in temperature and in any fever process. Some have a rapid heart action after the least exertion without any cardiac lesion or assignable excuse for such rapidity. Others have a rapid heart with mental activity and excessive excitement. Therefore in deciding that a heart is abnormally rapid, as in bradycardia, one must individualize the patient.

During or after illness many patients are said to have palpitation when the real cause is an unhealed myocarditis. Tuberculosis almost invariably causes increased heart action, even when there is no fever. All high fever increases the heart's action, but not so markedly in typhoid fever as in other fevers; in fact, the heart in typhoid fever, during the early stages, is likely to be slower than the temperature would seem to call for. In anemia when the patient is active the heart is generally rapid. The rapid heart from cardiac disease has already been considered. For the palpitation or rapid heart just described there is little necessity for other treatment than what the acute or chronic condition would call for. With proper management the condition will improve unless the patient has an idiosyncrasy for intermittent attacks of slightly rapid heart, as from 100 to 120 beats per minute.

A permanently rapid heart, when the patient is at rest, is generally due to hypersecretion of the thyroid, which will be discussed later. Paroxysmal tachycardia, the condition now under discussion, is a name applied to very rapid heart attacks in persons who are more or less subject to their recurrence. They may occur without any tangible excuse, and are liable to occur during serious illness, after a large meal, after a cup of tea or coffee, or after taking alcohol. The heart may beat as rapidly as from 150 to 200 times a minute, or even more, with no other symptoms than a feeling of constriction or tightness in the chest, an inability to respire properly and a feeling of "air hunger." The patient almost invariably must sit up, or at least have his head raised. Attacks of cardiac delirium may occur with serious lesions of the heart, as valvular disease or sclerosis, but paroxysmal tachycardia occurs in certain persons without any tangible cardiac excuse. The auricles of the heart may act more energetically than normal and precede as usual the ventricular contraction; or the auricles and ventricles may contract almost together — a so-called "nodal" type of contraction. Rarely does a patient die of paroxysmal tachycardia. The length of time the attack may last varies from a few minutes to an hour, or even for a day or more.

There is no specific treatment for paroxysmal tachycardia. What is of value in one patient may be of no value in another; in fact, drugs are rarely successful in ameliorating or preventing the condition. Patients who are accustomed to these attacks often learn what particular position or management stops the attack. Sometimes a patient rises and walks about. Sometimes an ice-bag over the heart will stop the attack. If there is no serious illness present, and no serious cardiac disease causing the condition, and a patient is known to have an overloaded stomach or bowels, an emetic or a briskly-acting cathartic is the best possible treatment. The attack often terminates as suddenly as it begins, without leaving any knowledge as to which particular treatment has been beneficial. A patient who is well and has an attack of tachycardia should be allowed to assume the position that he finds to give him the most comfort, and to use the means of stopping his attack which he has found the most successful. In the absence of his success or of his knowledge of any successful treatment, a hypodermatic injection of 1/6 or even ¼ grain of morphin sulphate is often curative. Atropin should not be given, as it may increase the cardiac delirium.

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* Editorial Note: This series of article on "Disturbances of the Heart" will be issued in book form, in accordance with the desires of a large number of our readers from whom we have received letters. We will appreciate it if as many persons as possible order copies in advance, so that we may have some idea how many to print.

If an attack lasts more than an hour or so, one of the best treatments is the bromids, which should be given either as potassium or sodium bromid in a dose of 2 or 3 gm. (30 or 45 grains) at once. Sometimes one good-sized dose of digitalis may be of benefit, but it is often disappointing, and unless there is a valvular lesion with signs of broken compensation, it is rarely indicated. It should also be remembered that, if the patient is receiving digitalis in good dosage for broken compensation, cardiac delirium may be caused by an overaction of the digitalis. Such overaction would be indicated by previous symptoms of nausea, vomiting, intestinal irritation, a diminished amount of urine, headache and a tight, band-like feeling in the head, cold hands and feet, and a day or two of very slow pulse. If none of these symptoms is present, though a patient has received digitalis for broken compensation, a tachycardia occurring might not contra-indicate digitalis, as much of the digitalis on the market is useless, and a patient may not actually have been obtaining digitalis action.

If the tachycardia occurs in a patient with arteriosclerosis, especially if there is much cardiac pain, nitroglycerin is of advantage; also warm foot-baths. If there is prostration and a flaccid, flabby abdomen, a tight abdominal bandage may be of benefit.

Gastric flatulence, while perhaps not a cause of the tachycardia, is liable to develop and be a troublesome symptom. Anything that causes eructations of gases is of benefit, as spirit of peppermint, aromatic spirit of ammonia or plain hot water. If there is hyperacidity of the stomach, bicarbonate of sodium or milk of magnesia will be of benefit.

The ability of some patients to stand a rapid heart action without noting it or being incapacitated by it is astonishing. It may generally be stated that a rapid heart is noted, and a pulse above 120 generally prostrates, at least temporarily, a patient who is otherwise well, provided the cause is anything but hyperthyroidism. A patient who has hypersecretion of the thyroid will be perfectly calm, collected, often perhaps not seriously nervous, and, with a heart beating at the rate of 140, 150, 160 and even 170 per minute, will state that she has no palpitation now, although she sometimes has it. A heart thus fast, with a patient not noting it and not prostrated by it, is almost diagnostic of a thyroid cause.

Some patients, both men and women, cannot take even a small cup of tea or coffee without an attack of paroxysmal tachycardia. Such patients, of course, quickly learn their limitations.

HYPERTHYROIDISM

The presence of a well-marked case of Graves' disease or exophthalmic goiter is not necessary for the secretion of the thyroid to be increased sufficiently to cause tachycardia; in fact, an increased heart rapidity in women often has hyperthyroidism as its cause. The thyroid gland hypersecretes in women before every menstrual period and during each pregnancy, and with an active, emotional, nervous life, social excitement, theaters, too much coffee, and, unfortunately to-day among women, too much alcohol, it readily gives the condition of increased secretion; and the organ that notes this increased secretion the quickest is the heart.

The tachycardia of a developed exophthalmic goiter is difficult to inhibit. Digitalis is of no avail, and no other single medicinal treatment is of any great value. The tachycardia will improve as the disease improves. On the other hand, nothing is more serious for this patient than her rapid heart, and if it cannot be soon slowed, operative interference is absolutely necessary. If the rapid heart continues until a myocarditis has developed and a weakening of the muscle fibers occurs or dilatation is imminent or has actually occurred, operative interference is serious, and most patients under these conditions die after a complete operation, i. e., the removal of from one-half to two-thirds of the thyroid. In such cases the only excusable operative interference is the graded one, namely, the tying of first one artery and then another of the thyroid to inhibit the blood-supply to the gland so that it may not furnish so much secretion. If the heart then improves, a more radical operation may be done without much serious danger. Therefore the working rule should be that, if a heart does not quickly improve under medical management, operative interference should not be delayed until the heart has become degenerated.

If tachycardia is the only serious symptom present in a patient who is considered to have hyperthyroidism, it may generally be successfully treated by insistence on quiet, cessation of all physical and exciting mental activities, more or less complete rest, the absolute interdiction of all tea, coffee, or other caffein-bearing preparations, total abstinence from alcohol, the restriction to a milk, cereal and fruit diet (the withdrawal of all meat from the diet), the administration of calcium, as the calcium glycerophosphate in dose of 0.3 gram (5 grains) in powder three times a day, and for a time, perhaps, the administration of bromids. If the depressing action of bromids on the heart is counteracted by the coincident administration of digitalis, they will act only for good by quieting the nervous system and more or less inhibiting the secretion of the thyroid gland.

If a patient has exophthalmic goiter fully developed, absolute rest in bed, with the treatment above outlined, should soon cause improvement. If it does not, the operative treatment as above advised should be considered. If myocarditis has been diagnosed, the minor operations should be done if the patient does not soon improve. The prolongation of the treatment depends on the condition and the amount of improvement

If the physician is in doubt as to whether this particular tachycardia is caused by hyperthyroidism or not, the administration of sodium iodid in doses of 0.25 gm. (4 grains) three times a day will make the diagnosis positive within a few days. If the trouble is due to hyperthyroidism, all of the symptoms will be aggravated; there will be more palpitation, more nervousness, more restlessness, more sweating and more sleeplessness. In such cases the iodid should be stopped immediately, of course, and the proper treatment begun.

(To be continued)

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[*For other information see second page following reading matter*]

SATURDAY, MARCH 8, 1913

SOME FEATURES OF MALNUTRITION IN INFANCY

German pediatrists use the term *Nährschaden* to designate various types of malnutrition in children. The emphasis is placed on a pathologic make-up of the organism as the result of unsatisfactory utilization of the available food-supply. The defect may be conditioned by the individual itself and ultimately result in some abnormal composition of the body owing to an inherent anomaly; or it may be the outcome of an inadequate quality of the nutriment supplied. In other words, here is a situation in which both food and bodily constitution may be at fault.

Abnormally functioning mechanisms are not easily located in the human body — and least of all in the infant organism. Food factors are more readily amenable to analysis and review from the point of view of their physiologic fitness. The study of the association of pathologic phenomena with dietary causes in the formative period is just beginning to attract the attention which it deserves. Perhaps the most prominent, because most familiarly recognized, type of malnutrition in this group, is that observed in which carbohydrates preponderate in the diet, as in certain cereal foods. It is typical of the undue use — or abuse — of proprietary infant foods which results in profound alterations of the body, the so-called *Mehlnährschaden* of infants.

The preponderance of carbohydrate in these dietaries may have as a corollary an attendant poverty in other foodstuffs, notably proteins and inorganic salts. The opinion of pediatrists as to the relative importance of these different factors in the etiology of the nutritive defect has varied. By some, like Heubner, the low protein content of the food-intake of infants of the type under discussion has been emphasized as the detrimental feature. Others, like the Czerny school, have centered attention on the salt problems in these nutritive disorders. Professor Salge[1] of Freiburg has attempted to interpret the known phenomena and apply diagnostic methods in practice. He is not inclined to accept the low-protein theory of causation, because the changes observed in the organisms of these unsuitably fed infants point to severe disturbances in the water metabolism which is far more likely to be associated with salts than with proteins. Of course the possible rôle of tissue colloids must not be overlooked in such connections.

Salge has observed that at very early ages improper feeding ultimately betrays itself in changes in the composition of the blood which can be detected by comparatively simple procedures. The protein content of the serum and its quota of inorganic salts sink to unexpected levels, indicating a real impoverishment. This does not occur until quite late in the progress of the malnutrition. It is a postulate of physiology that the blood aims to conserve a constant composition. The tissues therefore disclose the nutritive defects much sooner; and only when compensatory processes no longer suffice does the blood-picture change. In the severer types, however, Salge states that he has never failed to detect a poverty of salts in the serum. So long as this has not supervened — so long as the blood, the main pillar of the system, remains unimpaired — recovery can be induced by correcting the dietary, notwithstanding the exhibition of severe symptoms on the part of the skin, muscles, etc.

The capacity of the infant organism to withstand the damages of unsuitable cereal feeding (which encompasses the majority of the cases) depends somewhat on conditions of age. The appearance of marked changes in the composition of the blood suggests an unfavorable prognosis. This unfavorable sign serves further to explain the lowered resistance of such malnourished infants to the invasion of infective organisms.

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[1] Salge, B.: Ein Beitrag zur Pathologie des Mehlnährschadens der Säuglinge, Jahrb. f. Kinderh. 1912, lxxvi, 125.

INCLUSION BODIES IN SCARLET FEVER

A few months ago attention was called in these columns[1] to a newly observed phenomenon in scarlet fever which gave promise of proving valuable in the diagnosis of this disease. Certain inclusion bodies in the white blood-cells were found by Döhle, Kretschmer, Ahmed, Nicoll and Williams and others to be of frequent occurrence in scarlet fever. It was not certain, however, that they appeared in all cases of scarlet fever, and that they did not occur in some cases of measles, diphtheria, pertussis, tonsillitis and streptococcal infections.

As pointed out, the peculiar virulence, treachery and epidemicity of scarlet fever lend particular interest to any diagnostic procedure which will facilitate early diagnosis, especially in obscure or mild cases, for it is to be remembered that the mild case may initiate a series of most virulent cases, and the obscure case is not infrequently complicated with some other disease. In fact, scarlet fever may be entirely overlooked when associated with diphtheria, measles, pertussis and other affections.

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[1] Alleged Diagnostic Sign of Scarlet Fever, Editorial, The Journal A. M. A., July 20, 1912, p. 198.

Ker, indeed,[2] states that he has seen four infections existing concurrently in the same patient: scarlet fever, diphtheria, chicken-pox and pertussis. It is evident that a reliable diagnostic measure would be of the highest value in obscure, mild and complicated cases.

Granger and Pole[3] have recently added another series of cases in which the blood was examined for Döhle's inclusion bodies. These authors use a simplified staining method which has certain advantages over the Manson method described in The Journal.[1] By this method ordinary blood-smears are made, and after being dried in the air, are fixed by being passed several times through a flame. They are then dipped into water, and the excess of water is removed by a few vigorous shakes. They are now covered with a solution of phenol methylene-blue for thirty seconds. This solution is made by adding 1.5 gm. of methylene-blue to 10 c.c. of absolute alcohol and 100 c.c. of a 5 per cent. solution of phenol in water. The red cells are not stained, while the polymorphonuclear white cells and the inclusion bodies are stained as in Manson's method.

The conclusions presented by Granger and Pole are drawn from the examination of 191 cases of scarlet fever, 37 of measles, 27 of diphtheria, 24 of tonsillitis, 20 of pertussis, 20 of serum rash, 7 of urticaria, 4 of pneumonia, 3 of erysipelas and 4 normal. Their results indicate that, excluding the malignant fatal toxic type of scarlatina, the inclusion bodies of Döhle probably occur in every true case of scarlatina during the first four days of illness, and that absence of the inclusion bodies practically excludes scarlet fever. In nearly every case the inclusion bodies were present up to the fourth day, after which they appeared with decreasing frequency and after the eighth day are seldom found. In a few cases, however, the bodies were found as late as the third or fourth week.

Granger and Pole found the inclusion bodies present in rather a large percentage of the cases of diphtheria, tonsillitis and measles; hence they were of no value in a differential diagnosis from these affections. In fact, these authors believe them to be present in most of the diseases caused by the ordinary pyogenic organisms, especially if streptococci are present. In toxic rashes none was found. It is impossible to diagnosticate scarlet fever from this blood examination alone.

So far no acceptable theory has been advanced to explain the nature or origin of these inclusion bodies. Undoubtedly they have some more or less specific relation to scarlet fever, but whether or not this relation is distinctive enough to be of absolute diagnostic value can be determined only by further study and observation of large series of cases and of many diseases. Explanation of the nature of the bodies may conceivably throw light on the etiology of scarlet fever.

ENDEMIC GOITER

It has almost become a conventionality to preface remarks about the etiology of goiter with the statement that the cause is unknown. Yet the problem is so interesting, the statistics are so suggestive, the opportunities for theorizing so inviting, and the practical aspects so important that the most diverse ideas on the subject have been entertained for many years. Certain factors can at once be ruled out in view of the fact that goiter, in its endemic form especially, occurs in every latitude, at every altitude where people live, and in various climates. Nevertheless there is an unquestionable relation of goiter to locality, and the influence of a region exhibits itself alike on the human beings and the domesticated and wild animals inhabiting it. There is difficulty, therefore, in escaping the conclusion that the cause must exist in the air, the soil or the water.

The consequences of endemic goiter and the maladies with which it may be intimately associated are no longer treated with the professional indifference characteristic of a generation ago. The number of individuals involved and the wide-reaching effects are better appreciated in the light of the growing statistics on the goitrous affections, so that a spirit of responsibility has been aroused. It is, of course, a truism that every advance in our knowledge of the etiology of disease represents progress toward the ultimate control thereof. Accordingly the evidence of the incidence of endemic goiter and the theories as to its cause are again being sifted over and subjected to critical inspection from twentieth-century points of view. An illustration of this type of research is furnished by a recent investigation of the goiter situation as it exists in Bavaria.[1] This has shown that the manufacture of statistics is not always conducted with the precision or insight which the question in hand demands. According to the judgment of Schittenhelm and Weichardt the most reliable index of the involvement of any region is to be attained by careful examination of the school population. The maximum frequency in the goiter areas is found to occur after the ninth year of age; in later years it diminishes. The significance of examinations of schoolchildren is brought into bold relief by quoting the figures for the more or less serious enlargement of the thyroid in the school population of circumscribed geographic areas. Thus at Erlangen it involves only 6 per cent.; at Traunstein in Upper Bavaria, 57 per cent.; at Erlau in Lower Bavaria, 77 per cent.

The detailed investigations of Bircher, who has attempted to correlate the frequency of endemic goiter with certain geologic formations, are more or less familiar to all students of the subject. Not only the superficial geologic relations, but also the stratigraphic features of different regions have been drawn into consideration in the discussion of this phase of the matter.

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[2] Ker, C. B.: Infectious Diseases, 1909, p. 526.

[3] Granger, John, and Pole, C. Kinsley: Inclusion Bodies In Scarlet Fever Brit Jour Child Dis, January, 1913, p. 9.

[1] Schittenhelm, A., and Weichardt, W.: Der endemische Kropf mit besonderer Berücksichtigung des Vorkommens im Königreich Bayern J. Springer, Berlin, 1912.

The newly available Bavarian statistics have now been analyzed, as have been other data from Norway and elsewhere, to ascertain to what extent, if at all, there is scientific justification for the belief that the rocks as such or the chemical or organic peculiarities of the soils of definite geologic origin are correlated with endemic goiter. The Bavarian report referred to concludes that geologic formation is not the primary or determining factor in the endemic distribution of goiter. The belief is further ventured that the etiologic factor is to be sought in water the composition of which may, of course, be indirectly modified by rock and soil conditions.

The association of goiter with drinking-water is not new.[2] The stories of the goiter-producing waters of India and the immunity of those persons who avoid them, and the classic experiment of Bircher in the Swiss commune of Rupperswyl, where the introduction of a water-supply from a non-goitrous region was followed by a gradual drop in the proportion of goitrous schoolchildren, are frequently quoted to support the contention that the cause of goiter is in drinking-water. Lately a type of thyroid hyperplasia in fishes has been found in "infected" fish-ponds.

The incidence of endemic goiter among children of school age recalls observations made on an epidemic form of thyroid hypertrophy prevalent in Brazil as the outcome of trypanosome infections. In the infected regions many cases of cretinism and infantilism developed, and it was principally children that were subjected to the malady. From such analogies and the facts earlier cited, Schittenhelm and Weichardt have developed the view that in goitrous regions the noxious agent (whatever it may be) may reach most of the population alike; but the majority acquire a sort of immunity. From this point of view the young would be expected to show greater susceptibility; and as a matter of fact it is known that it is the young who are peculiarly liable to develop goiter on being transferred from goiter-free districts to those involved.

It is too early to value correctly the various claims of immunity made for boiled waters and filtered waters in goiter regions. The strictly experimental study of the etiology of endemic goiter has scarcely been begun. Nevertheless it may not be amiss to venture the belief that, as a purely tentative hypothesis, the existence of a transmissible infective agent according well with many of the epidemiologic and biologic features of the disease, is by no means unlikely. Strong objections have been raised against the probability of a living agent as the cause of goiter; and it has been pointed out that the alleged infection does not tend to be progressive or self-propagating. But the unsuspected possibilities of acquired immunity must be taken into account and we must become prepared to recognize novel forms of latent infection. The situation ought to be faced with the weapons of modern experimental preventive medicine.

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[2] Compare McCarrison's Researches on Goiter, editorial, THE JOURNAL A. M. A., Aug. 10, 1912, p. 449.

FACTORS AFFECTING THE COMPOSITION OF MILK

In a recent issue of THE JOURNAL[1] the influence of the stage of lactation on the quality of the milk of dairy cattle was commented on. In addition to this factor there are other known causes of variations, notably the breed of the animal, the individuality and to some extent the feed, the interval between milkings, and the temperature and weather conditions. It is also known that the first and last milk drawn differ in composition. We have already pointed out that when a large supply of milk furnishes the source for the use of the individual any considerable variations in composition are likely to disappear, the average mixed product from many animals representing a fairly uniform food. These are the conditions which obtain in larger cities, where dairy companies sell the output from many farms. The uniformity is further preserved by the fact that it is quite common for a particular breed of cattle to form the prevailing type in the separate dairy localities, thereby obviating the chance for the more extreme inequalities represented by widely differing breeds. Whenever the milk supply is derived from a smaller herd or from a few selected cows, possibilities of daily variations and even changes from milking to milking are not unlikely to arise, bringing problems of immediate importance in the more refined practice of infant-feeding. There are other technical reasons for desiring reliable information regarding the variations in cow's milk; but neither these nor the conflicting claims of the breeder enthusiasts who represent the various types of cattle such as the Holsteins, Jerseys, etc. need concern us here.

A recent compilation,[2] including all complete analyses of the milk of pure-bred animals for the entire lactation periods published up to the present by American experiment stations, corroborates the generally accepted assumption regarding the variations in fat content due to breed. Among the more familiar breeds, namely, Jersey, Guernsey, Ayrshire, Holstein and Shorthorn, the average percentage of solids is highest with the Jersey and lowest with the Holstein. The fat represents 35 per cent. of the total solids with the Jersey breed and 28 per cent. for the Holsteins. What is not so generally known is that the breed also exerts a decided influence on the protein content. The individuals and breeds, such as the Jersey, having the higher percentage of fat have at the same time a higher percentage of protein. The proportion of the total protein present as casein does not seem to bear any special relation to the breed; but the ratio of casein to fat varies uniformly with it. The nature of the fat is undoubtedly influenced by the feed of the animal, while the sugar content gives little indication of variation with either the breed or the individual. The accompanying new comparative data representing the most recent statistics available may be of value to some of our readers:

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[1] Cow's Milk and the Stage of Lactation, editorial, THE JOURNAL A. M. A., Feb. 22, 1913, p. 596.

[2] Eckles, C. H., and Shaw, R. H.: The Influence of Breed and Individuality on the Composition and Properties of Milk, Bureau of Animal Industry, Bull. 156, 1913. This bulletin can be obtained from the Government Printing Office in Washington at 5 cents per copy.

	Total Solids Per Cent.	Fat Per Cent.	Protein Per Cent.	Sugar Per Cent.
Jersey	14.70	5.14	3.80	5.04
Guernsey	14.49	4.98	3.84	4.98
Ayrshire	12.72	3.85	3.34	5.02
Holstein	12.00	3.45	3.15	4.65
Shorthorn ...	12.57	3.63	3.32	4.89

Comparisons of morning and evening milk justify the statement that although the fat content may show some small variations depending mostly on the individual, in general the composition of the milk-plasma does not seem to vary appreciably when the intervals between the milkings is the same. The relative richness in fat of the last milk drawn and commonly known as strippings, in contrast with the foremilk from the same cow, is sometimes very striking. With cows producing large quantities of milk the strippings may contain from three to ten times as much fat as the first milk drawn.[3] The inequalities are confined solely to the amount of fat present, the plasma remaining practically the same in composition. The larger size of the fat globules in the last milk drawn and the general increase in their size from foremilk to strippings is perhaps accounted for on the assumption that larger fat globules are held back in the small ducts more readily than the smaller droplets. These general considerations may also apply to the milks of other species, and need to be taken into account in all sampling of milk for the purpose of analysis.

MISAPPREHENSION AS TO THE NOVELTY OF THE FRIEDMANN TREATMENT

In view of the newspaper sensation caused by the announcement by Dr. Friedmann of another "cure" for tuberculosis, it would seem well to review some of the facts previously known. Even editors of medical journals, who should be conversant with the history of medicine and of tuberculosis, have been led into grave error. For example, a recent editorial in a medical journal, from which the *Literary Digest* quotes,[1] makes the statement that "Friedmann came to the conviction that the most potent curative and immunizing powers lie in the living bacterial organism itself, and not in the dead organism as used in the method of Wright and his school." The editorial says further, "Our own impression from the entire debate is that Friedmann has enunciated a principle of far-reaching consequence and has probably discovered a remedy that influences tuberculosis favorably." The effect of this editorial is to credit to Friedmann the discovery that in order to produce immunization against tuberculosis living cultures are necessary. For the truth of medical history as well as the credit of American physicians it is well to point out some of the things which were done years ago.

In 1892 and 1893, Trudean[2] of Saranac Lake demonstrated the fact that subcutaneous inoculation of living cultures of the avian tubercle bacillus greatly increased the resistance of rabbits against infection by virulent mammalian cultures. He immunized rabbits to such an extent that when they were inoculated with virulent cultures, the inflammatory reaction gradually disappeared, leaving the eye in the normal condition, while in control animals the destruction of the eye was complete. As far as we have been able to discover, Trudeau was the first to announce the principle that living cultures must be used in order to produce an efficient immunity against tuberculosis.

De Schweinitz[3] in 1894 immunized animals with human tubercle bacilli which had been cultivated for twenty generations on slightly acid broth. At the end of this time the cultures were not virulent for guinea-pigs, but were capable of immunizing these animals to such an extent that they resisted infection with the bovine germ. Control animals died in seven weeks.

Pearson and Gilliland[4] demonstrated that human tubercle bacilli which were not virulent for cattle would produce a high degree of immunity when injected into the circulation. In 1905 the same authors[5] demonstrated a strong curative action on tuberculosis from injections of non-virulent tubercle bacilli derived from human beings.

Webb and Williams[6] demonstrated that immunity against tuberculosis could be produced by the inoculation of living tubercle bacilli, beginning with small doses and gradually increasing.

If we go to foreign publications it is easy to multiply instances of the use of living cultures. In 1901 McFadyean[7] not only demonstrated his ability to produce immunity in cattle by the use of living cultures, but also in one case treated an animal which was already tuberculous. The animals resisted for a long time injections of tubercle bacilli of proved virulence for cattle.

In 1901 von Behring announced his method of bovovaccination, the first detailed publication[8] of which appeared in 1902. Living cultures were used.

In 1903 Thomassen[9] reported experiments in which by the intravenous injection of human tubercle bacilli into young cattle he produced a considerable degree of immunity.

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[3] The justification for this and other statements is derived from Eckles, C. H., and Shaw, R. H.: Variations in the Composition and Properties of Milk from the Individual Cow, Bureau of Animal Industry, Bull. 157, 1913.

[1] Literary Digest, March 1, 1913, p. 451.

[2] Trudeau: New York Med. Jour., July 23, 1893.

[3] De Schweinitz: Med. News, Dec. 8, 1894.

[4] Pearson and Gilliland: Philadelphia Med. Jour., Nov. 29, 1902.

[5] Pearsor, L., and Gilliland, S. H.: Effect of Tuberculosis Vaccination on Cattle Infected with Tuberculosis, Univ. Penn. Med. Bull., April, 1905.

[6] Webb and Williams: Jour. Med. Research, xx, No. 1, xxiv, No. 1.

[7] McFadyean: Jour. Comp. Path. and Therap., June, 1901, March, 1902.

[8] Von Behring: Beitr. z. exper. Therap., 1902, No. 5.

[9] Thomassen: Rec. de méd. vet., Jan. 15, 1903.

Vallée[10] reported experiments in which young animals were rendered highly immune against virulent bovine infection by the use of non-virulent living cultures derived in the first instance from a horse.

Instances could be multiplied, but these are enough to demonstrate that Friedmann has not discovered or announced any new principle in regard to the immunization against tuberculosis. As far as our knowledge goes, he has followed methods which were demonstrated first in this country, and have been confirmed by many workers in America and Europe.

The psychology of the excitement of the public over Friedmann is hard to understand except on the basis of clever press-agent work. Practically every fact which he has brought forward has been known for years. Why the bacillus from the turtle should possess special curative value for the human being is a mystery, although, of course, it cannot be denied that it is within the range of possibility that such a thing may be true. The point of scientific interest that should be made clear, however, is that he has discovered no new principle, at least as far as the published communications go. The principle of using slightly virulent cultures derived from another species was demonstrated by Trudeau in 1891 and 1892. The principle of intravenous injection for the best production of immunity against tuberculosis was demonstrated by Pearson and Gilliland and others in 1902. It seems, then, that if he has discovered anything at all it is only a culture which possesses unusual immunizing powers for human beings.

Practically, of course, the point of interest is in the question whether or not a harmless and clinically efficient immunizing culture has actually been worked out. On this point we still await authoritative tests, for we have no information that Dr. Friedmann has yet submitted his treatment to investigation by competent and unprejudiced experts in the treatment of tuberculosis. The announcement that he has agreed to submit his method to be tested by the New York City Department of Health and by the Public Health Service will, perhaps, be viewed with natural skepticism until the test has actually taken place, in view of the fact that he withdrew the offer to submit the treatment to his own government. If it proves its worth under adequate, unbiased scientific investigation, the medical profession, of course, will be only too glad to forget the unfortunate features in its exploitation which have raised a presumption against its worth. Until then, the public and the profession alike may be pardoned for remembering that a patent was applied for and the treatment advertised before its value was established; that as yet we have the word of no one who has actually tested it except Dr. Friedmann and his assistants or associates and, finally, that, although there is no lack of clinical material in Germany, he has chosen to bring it to America first from no other apparent motive than pure commercialism.

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[10] Vallée: Ann. de l'Inst. Pasteur, August and September, 1909.

Current Comment

FAIR PLAY FOR DR. FRIEDMANN—AND FOR THE PUBLIC

One of the most useful functions of newspapers is to call public attention to public injustice. Occasionally, however, it is proper to inquire if the admirable zeal displayed in this good cause has not been hastily misapplied. For instance, Dr. Friedrich Franz Friedmann of Berlin is plaintively asking for a fair field in which to demonstrate his treatment for tuberculosis; one or two newspapers have at once sprung to champion his cause and are inquiring why Dr. Friedmann cannot be accorded fair play. Why, they ask, can he not be allowed a chance? Before answering this question, it is well to find out whether or not Dr. Friedmann has been denied fair play in any particular. In parenthesis, it may be remarked that, if all Dr. Friedmann wanted was a chance to demonstrate his treatment, he did not need to cross the ocean; indeed, his action in withdrawing his treatment from test by his own government accords somewhat strangely with his pose of unheeded and unjustly treated discoverer. Let that pass. Being on this side of the water, he presumably wishes either to submit his treatment to investigation by competent and unprejudiced practitioners, or to employ it himself—under such conditions, of course, if he is acting in good faith, as will permit his colleagues to form an adequate opinion of it. If he wants the first-mentioned opportunity—merely to have his treatment investigated under proper conditions—the Public Health Service has offered to give it ample clinical test after demonstration of its harmlessness. If, on the other hand, he wishes to employ it himself in New York, he has merely to present the proper credentials and pass an examination to prove his fitness to practice, as any other physician would be obliged to do. This, to be sure, would require time; but even this difficulty is not insurmountable, for the New York law contains a special provision for granting a license, under extraordinary circumstances, without the usual formalities. The New York authorities have signified their willingness to recognize extraordinary circumstances in this case provided Dr. Friedmann demonstrates the value of his method, and have stated that he is at liberty to make such demonstration in the New York City hospitals. We fail to see, therefore, that any unfairness is being shown Dr. Friedmann; on the contrary, he seems to us to be receiving the largest opportunity that any discoverer could desire for the demonstration of his treatment. It appears, moreover, that the newspapers which have hastily assumed that Dr. Friedmann is being unjustly treated have missed an important point—indeed, the important point in the whole matter: What about justice to the public? Would it be fair or just to the throngs of tuberculosis sufferers, excited by hope of a "sure cure," to facilitate their unlimited experimentation and exploitation by an unknown and perhaps dangerous method? It would not; and justice to the public, while not incompatible with justice to Dr. Friedmann, is, after all, the paramount consideration.

PEORIA CONFERENCE ON CHILD WELFARE

The February number of the *Child-Welfare Bulletin* of the Child-Welfare League of Peoria, Ill., is an interesting exemplification of the good work being done by local child-welfare associations throughout the country. The league publishes a monthly bulletin, and the February number contains a report of the midwinter conference. The program included papers and discussions on pure milk by physicians, dairymen, the citizen consumer and members of the health board, and covered the question of pure milk from the several points of view of these different classes of citizens. The interesting bulletin is distributed free on application to the league and should be valuable to other organizations.

COOPERATIVE CLINICAL INVESTIGATION OF INFECTIOUS DISEASES

The opening of the Durand Hospital for Infectious Diseases, Chicago, referred to in our News Department, is worthy of special mention, if only because such a hospital helps to supply facilities for caring for those afflicted with contagious diseases — unfortunates who are nearly always refused admission to general hospitals. But the event deserves notice for two other reasons. The hospital building, together with a substantial annual income, is turned over to the Memorial Institute for Infectious Diseases, the latter, as is well known, having for its prime object research, aiming to increase the knowledge as to the nature and cure of infectious diseases. The hospital, therefore, has for its fundamental object research and education — a combination so rare in this country as to merit approving comment. The other fact worthy of note is the spirit of cooperation between those having in charge the Durand fund and those managing the affairs of the Memorial Institute. It was recognized that with the money available by the Durand bequest it was possible to erect a hospital, but not adequately to equip or to run it. Through union with the Memorial Institute, however, the way was clear for utilizing the building for the highest purposes. Thus Dr. Hektoen and his associates will have greatly increased opportunities for productive work in this special field of scientific medicine.

A TRAVELING HOSPITAL FOR RURAL NEEDS

C. W. Stiles[1] asserts that a pressing need of our rural districts is the hospital treatment which is open to even the poorest inhabitants of our city slums. He finds the need for such treatment particularly urgent in gynecologic and pediatric cases. The average mother with whom he comes in contact in field work is attended in her confinements, rarely by a physician or a trained nurse, usually by some of the neighbors or a dirty and ignorant midwife, with the result that injuries frequently occur which are never properly treated. He also finds large numbers of children who are handicapped in their physical and mental development by large tonsils and adenoids, and by defective eyes and teeth. He says, moreover, that the average country woman (white or black) with whom he comes in contact has exceedingly rudimentary ideas on cooking, housekeeping and care of children and the sick, and to meet the needs of this side of the problem the district nurse would be invaluable. The remedy which he proposes for these evils is a traveling hospital, equipped for the minor surgical work on children suggested above and for the repair of obstetric injuries or gynecologic ailments. He believes that it would be a comparatively simple matter to fit out a special hospital train of from three to six cars and take it to districts without hospitals. The difficulties to be overcome in establishing these trains are not insurmountable, and the expense need not be greater than that connected with any other hospital. The traveling hospital could also be utilized to bring about such results as much-needed postgraduate medical instruction to local physicians, ideas on cooking, housekeeping, infant-feeding, etc., to mothers, ideas on sanitation to the fathers, and special instruction along health lines to the schools. Stiles believes that this work is more important than the teaching of the farmers by special school trains how to increase their crops or how to take care of their live stock. The suggestion is the more valuable coming from Stiles, as he has had practical experience on laboratory trains in the rural districts in which research and observations were made on school children. This has shown him the need, the practicability and the possibilities of such a hospital train as he suggests.

PRESIDENT PRITCHETT'S REPORT ON MEDICAL EDUCATION

An article worthy of careful reading is that part of President Pritchett's annual report to the board of trustees of the Carnegie Foundation for the Advancement of Teaching which deals with the progress of the year in medical education.[1] Basing his statements on the investigations made by the foundation in both Europe and America, he calls attention to the widely differing conditions found in this country as compared with the countries of Europe. He shows that while European medical schools — for example those of Germany — hold to equally high standards, those in this country range from the highest to the very lowest standards, these extremes often appearing in the same city. Another striking difference is the attitude held by many universities toward their medical departments, the education in the latter being in many instances on a decidedly lower plane than that given by the same universities in their departments of liberal arts. Pritchett refers also to the unfortunate optimism with which even some of the humblest medical schools believe they are offering an education somehow superior to that given in even our best medical schools. On the other hand, the report points to many concrete evidences of progress. The number of medical schools has been greatly reduced, while at the same time those remaining have been largely improved in their standards of admission and in their internal development. Pritchett shows that much of the progress made has been due to the publicity given by the American Medical Association and by the Carnegie Foundation to the actual conditions existing throughout the country. Much credit for the marked improvements is given to the work of the Council on

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[1] Stiles, Charles Wardell: Pub. Health Rep., Jan. 31, 1913.

[1] This issue, p. 743.

Medical Education of the American Medical Association. It is doubtless true, however, that a large part of this credit is due to the Carnegie Foundation for the thoroughness of its work and the wide publicity given to its reports.

THE TOXICITY OF ALDEHYDS

In a recent number was published a greatly needed warning of the dangers of formaldehyd,[1] which is coming into wide-spread popular use, with not infrequent disastrous results. Although formaldehyd is the most-used aldehyd, there are others which are not so generally known, and which may at times cause serious harm. Thus, Kunkel observed in persons working in acetic acid manufactories an extensive overgrowth of connective tissue in the liver, and sclerosis of the arteries, which he ascribed to chronic intoxication with aldehyds. Recently O. Loeb[2] has investigated the effects of a large number of aldehyds on experimental animals, and found that aldehyds of the fatty acid series generally cause arterial changes in rabbits, entirely similar to the experimental arteriosclerosis produced by epinephrin. Aldehyds of the aromatic series, although toxic, have not this effect on the arteries. It is thus evident that the anatomic effects here exhibited are dependent on the chemical structure of the agent, which introduces an interesting principle of pharmacology and toxicology. Evidently aldehyds are dangerous things, and formaldehyd may not limit its effects to the skin and respiratory passages, but, as Loeb's studies indicate, may cause deeper-seated changes if it acts for a long enough time or in sufficient doses. It certainly is not a proper substance for indiscriminate use, yet we observe more and more frequently its pungent, irritating vapors in public vehicles, water-closets, etc., which are presumably being "disinfected" while in use.

HIGHER PRELIMINARY QUALIFICATIONS ASSURED

Recognizing the need of a better preliminary training for those who are to study medicine than that furnished by the usual high-school degree, the Council on Medical Education of the American Medical Association in 1904 prepared what it termed an ideal standard for admission. In addition to the regulation four-year high-school education this standard included a year in physics, chemistry and biology, and the securing of a reading knowledge of a modern language, preferably German or French. It was suggested that this additional year's work might be taken in either a college of liberal arts or in a preliminary year given by the medical school itself. At that time, although in practically every other civilized country this higher preliminary training was required, only four medical colleges in this country were exacting anything in advance of a four-year high-school education, and for a large majority of medical schools there were practically no entrance requirements. By June 1, 1912, however, forty-five colleges had put into effect this or higher preliminary standards, and several others had adopted it to take effect in 1913 or 1914. Ten state licensing boards also had adopted one or two years of preliminary work in addition to the four-year high-school education as their minimum requirement of preliminary education. At the annual meeting of the American Medical Association in Atlantic City in June, 1912, the House of Delegates adopted a recommendation instructing the Council on Medical Education not to include in Class A (among acceptable colleges) after Jan. 1, 1914, any medical school which was not requiring for admission "not less than one year of college credits in chemistry, biology, physics and a modern language, or two or more years' work in a college of liberal arts, in addition to the accredited four-year high-school course." At a regular meeting held in Chicago last month, the Council on Medical Education adopted a resolution that the work of this preliminary year should correspond in excellence and in content at least with the freshman year's work in our standard colleges and universities. A subcommittee was appointed to prepare a detailed outline of the minimum requirements for this preliminary year's work. At its annual meeting held Feb. 26, 1913, the Association of American Medical Colleges appointed a committee with power to act, to cooperate with the committee of the Council on Medical Education in the preparation of an outline of minimum requirements for the preliminary year's work, thereby going on record as favoring this advance requirement. The general adoption throughout the country of at least one year of work in the premedical sciences, in addition to the standard four-year high-school course, for admission to the study of medicine would now seem to be assured.

Medical News

ARKANSAS

New Hospital Planned.—An emergency hospital is to be erected on Eighth Street, Argenta, for the Baring Cross shops.

Personal.—A fire in the apartment of Dr. L. Parker, Devall's Bluff, February 1, destroyed the entire building.——Dr. Isaac A. Ryan, Fort Smith, fell from his buggy, January 29, fracturing his arm just below the shoulder.——The office building of Dr. W. P. Parks, Mena, was recently burned with a loss of $2,500.——Dr. C. P. Wilson, Jr., has been elected city bacteriologist of Fort Smith.

Dowling in Arkansas.—Dr. Oscar Dowling, president of the State Board of Health of Louisiana visited Little Rock with his health train, January 29-31 and during his visit made a strong appeal to the members of the Arkansas General Assembly for the establishment of a state board of health in Arkansas. During its stay in Little Rock, the train was visited by several thousand people. The closing feature of the visit was a lecture on "Health," delivered by Dr. Dowling at the High-School Auditorium. The legislature passed a unanimous vote of thanks to Dr. Dowling for his address and exhibition.——Dr. Dowling and the members of his party were entertained at a banquet, January 29, by the Arkansas Medical Society, the Little Rock Chamber of Commerce and the state and city health departments.

ILLINOIS

New Officers.—Jacksonville Medical Club, February 22: president, Dr. George H. Stacy; secretary, Dr. C. E. Cole (reelected)

Colony for Epileptics.—At meetings of 2,000 Christian Endeavor societies of Illinois, February 23, the establishment of a farm colony for epileptics, under control of the State Charities Commission, was urged.

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[1] Morgan, William E.: The Serpent's Tooth in Formaldehyd, The Journal, Feb. 22, 1913, p. 590.

[2] Loeb, O.: Arch. f. exper. Path. u. Pharmakol., 1912, lxix, 114.

Personal.—Dr. George F. Johnson, mayor of East Moline, expects to move to Los Angeles early in the spring.——Dr. Harry E. Kerch, Dundee, suffered a partial paralysis of the motor nerve of the right eye, recently.

Hospital Notes.—The Marion Hospital Company has been incorporated at Marion with a capital stock of $20,000, by Drs. D. D. Hartwell, L. L. Fowler and A. M. Edwards.——The St. Clair County Board of Supervisors has asked for bids for the construction of a two-story addition to the County Free Hospital, Belleville. The old building is also to be remodeled and equipped with an elevator, operating-rooms, etc., the entire cost of the improvement is estimated at $16,500.

Chicago

Jacobi and Martin Guests of Honor.—At the dinner of the Chicago Medical Society, February 26, Dr. Abraham Jacobi, New York City, and Dr. Edward Martin, Philadelphia, were the guests of honor.

Western Reserve Alumni Dine.—A dinner was given at the Hotel Sherman, February 24, by the Chicago Alumni Association of the Western Reserve University, Cleveland, to the president of the institution, Dean C. A. Hamann and Secretary F. C. Waite of the Medical School.

Personal.—Dr. William A. Gross was cut and bruised in a collision between automobiles, February 26.——Dr. and Mrs. Casey A. Wood are taking a six weeks' trip to southern California.——Dr. and Mrs. Albert H. Hoy and Miss Hoy have sailed for Europe.——Dr. and Mrs. Junius C. Hoag sailed from New York, February 25, on a cruise to the West Indies and Panama.——Dr. Henry O. Wernicke, Chicago, has been appointed house physician at the Madison (Wis.) General Hospital.

Death of Eminent Pharmacist.—Prof. Oscar Oldberg, dean emeritus of the Northwestern University School of Pharmacy, an authority on pharmaceutics and chemistry; formerly dean of the National College of Pharmacy, Washington, where he was instrumental in introducing the metric system of weights and measures in the government service; for twenty-five years professor of pharmacy and for thirty years a member of the committee of revision of the United States Pharmacopeia, died suddenly in Pasadena, Cal., February 27, from heart disease.

Durand Hospital Opened.—The Annie W. Durand Hospital of the Memorial Institute for Infectious Diseases was opened February 27. The institution is located at York and Wood streets and for the time being will be devoted only to the care of scarlet fever cases. The exercises consisted in the transfer of the hospital from the Northern Trust Company as trustee under the will of Mrs. Durand, to the Memorial Institute, which will conduct the institution under a ninety-nine year agreement. In the absence of Dr. Frank Billings, Dr. James B. Herrick delivered the address which had been prepared by Dr. Billings, accepting the hospital on behalf of the Memorial Institute. The building and equipment are valued at about $400,000 and a laboratory for infectious disease research is to be established on land acquired immediately north of the hospital. The staff of the hospital is as follows: consulting physician, Dr. Ernest E. Irons; consulting surgeon, Dr. Dean D. Lewis; consulting otolaryngologist, Dr. S. A. Friedberg; physicians, Drs. George H. Weaver and E. C. Rosenow; resident physician, Dr. George F. Dirk, and intern, Dr. Morris Fishbein.

INDIANA

Appropriation for Medical School.—The Indiana legislature has made an appropriation of $65,000 for the Medical School and Hospital of the Indiana University School of Medicine for the first year, and an annual appropriation of $75,000 thereafter.

Personal.—Dr. Charles A. Daugherty, South Bend, who has been suffering for a considerable time from what was supposed to be inflammation of the gall-bladder, was operated on at Augustana Hospital, Chicago, February 25, but on opening the abdomen, conditions were found which rendered further procedure inadvisable.——Dr. James H. Taylor, Indianapolis, stepped from a street-car in front of an automobile, February 14, and was run down and painfully injured.

LOUISIANA

Personal.—Dr. Wiltz M. Ledbetter, formerly city physician of Shreveport, underwent operation for appendicitis, February 24.——Dr. Joseph A. O'Hara, New Orleans, coroner of Orleans Parish, who has been ill in Touro Infirmary, is reported convalescent.——Dr. O. L. Pothier, New Orleans, head of the pathologic department of the Charity Hospital, has resigned.

Clinic Superintendent Dies.—Louis Remon Janquet, for twenty-six years superintendent of the Eye, Ear, Nose and Throat Clinic, New Orleans, "a friend to man, who devoted his life to good," died at his home, February 7, aged 62.

Legal Proceedings Against Leper Suspect.—Dr. Paul Thibodaux, health officer of Donaldsonville, has taken legal proceedings against a leper suspect of McElroy, who is said to be engaged in business in that town, praying that he be committed to the leper home in Iverville Parish, as provided by law.

KENTUCKY

New Hospital.—Dr. E. S. Stuart, Fairview, has given $25,000 to erect and equip a hospital in Hopkinsville for the benefit of the city and Christian County. The institution will be known as the Jennie Stuart Memorial Hospital and the erection of the building will be commenced as soon as a lot can be secured and plans approved. One-fourth of the capacity of the institution is to be reserved for charity patients.

Work of Registrars.—The following is from the chief statistician of the Census Bureau, Washington, to the Kentucky State Registrar of Vital Statistics: "Through newspaper reports, the bulletins of the state boards of health and personal conferences, I have learned of the kind of health work the local registrars of Kentucky are doing. It is shown that they not only endeavor to secure complete records of births and deaths, but, acting under the authority of the Kentucky vital statistics law, they report epidemics of typhoid, diphtheria, measles, infantile paralysis and other communicable diseases and aid actively in distributing literature, and in other ways, limit the spread of these diseases. By so doing the registrars of Kentucky have succeeded in putting into actual practice the purpose of such a law; that is, to preserve and conserve the health and lives of the people. It is my purpose to call the attention of the local registrars of the other twenty-one of the United States under this registration law to the work done by the registrars of Kentucky, that the greatest good may be secured from its operation."

MARYLAND

Baltimore

Lectures on Animal Psychology.—John B. Watson, Ph.D. professor of psychology in Johns Hopkins University has been selected by the Department of Psychology of Columbia University to deliver at that institution a course of eight lectures devoted to the study of animal psychology.

Personal.—Dr. Sidney R. Miller on returning to his home in Windsor Mills, near Baltimore, February 26, surprised two burglars, who escaped with jewelry valued at $500 and $45 in money.——Dr. George Walker has been appointed a member of the State-Wide Vice Commission.——Dr. Thomas J. O'Donnell is ill with influenza in St. Joseph's Hospital.

Field Hospital Established.—Company A, Hospital Corps, N. G. Md., became Field Hospital No. 1, February 20. This organization has met the requirements of the Dick bill that sanitary troops shall be separate and distinct units. The equipment of the field hospital is at present stored in the Howard Street Armory.

Medical Missionary News.—Dr. Charles W. Young, professor of bacteriology and pathology in the Union Medical College, Peking, China, and Dr. and Mrs. G. W. Guinter, missionaries of the Presbyterian Board in the Soudan, Africa, are visiting in Baltimore.——Dr. Mary Baer, superintendent of the hospital at Chartla, India, is under treatment in Baltimore for an infected and crippled left arm.

Phipps Clinic Opening.—The ceremonies connected with the opening of the Phipps Psychiatric Clinic will begin April 16 and continue through three days. Among the distinguished guests who will deliver addresses are Sir William Osler and Prof. William McDougall of Oxford, Frederick W. Mott, F.R.S., of London, Professor Heilbronner of Utrecht, Professor Blenler of Zurich and Prof. Orovino Rossi of Italy.

MASSACHUSETTS

Examination for Bacteriologist.—The Massachusetts Civil Service Commission will hold a competitive examination, March 18, for a male bacteriologist in the Health Department of Boston with a salary of $1,200 a year.

Personal.—Dr. Luke Corcoran has been reappointed a trustee of the Northampton State Hospital.——Dr. Francis X. Mahoney, Boston, has been reappointed a member of the

Boston Health Board.——Dr. Edna M. Childs, Boston, has been appointed laboratory assistant in the Consumptives' Hospital.

Remedied Defects.—Dr. William J. Gallivan, chief of the Child Bureau of the Boston Board of Health, reports that the physical examinations of 30,331 school children have been reported to him since last September. Of these 17,233 were last year found to be defective, but, since the examination a year ago, 9,245 of these 17,233 have had their defects remedied.

Long Island Hospital.—The trustees of the infirmary department of the city of Boston have submitted plans for the improvement of the institution which if carried out will make this one of the best in the country. Alterations of the present building, new hospital pavilions, dormitory, nurses' home, kitchen building, tunnels, etc., involve an expenditure of about half a million dollars.

More Graduate Courses.—Further Massachusetts General Hospital courses offered to graduates in medicine are in "Medicine and Pathology" by Drs. William H. Smith, Roger I. Lee, and Oscar Richardson, Wednesdays in March and April from 3:30 to 5:30 p. m., and in "Orthopedic Surgery of Adults" by Dr. E. G. Brackett and his associates, Thursdays in March and April at 10:30 a. m.

Centennial of Hospital.—February marked the one-hundredth anniversary of the founding of the Massachusetts General Hospital. In February, 1813, the hospital received from the state the gift of Province House, valued at $40,000 and some cut stone worth $35,000. This is said to be all the assistance that has been given the hospital by the commonwealth during the past century. During the last year 6,629 patients were admitted to the institution. There were 22,029 new cases and 136,095 visits were made in the out-patients department.

NEW JERSEY

Health Board Election.—At the annual meeting of the Health Officers Association of New Jersey, held in Trenton, January 4: Dr. F. W. Sell, Rahway, was elected vice-president, and Drs. Alton S. Fell, Trenton; A. C. Benedict, South Orange, and Edward Guion members of the executive committee.

Medical Library Association Formed.—At a meeting of the physicians of Elizabeth, the Medical Library Association of Elizabeth was organized and the following officers were elected: president, Dr. J. P. Reilly; vice-president, Dr. Charles H. Schlichter, and secretary-treasurer, Dr. George Knauer.

NEW YORK

Diphtheria in Poughkeepsie.—There has been an outbreak of diphtheria in Vassar Brothers' Hospital, Poughkeepsie, which has made it necessary to place one ward of the hospital under quarantine.

New Hospital for Southampton.—The cornerstone of a new hospital for Southampton, L. I., which will cost $50,000, was laid February 22. The funds for the building have been raised entirely by popular subscription.

Personal.—Dr. J. O. Polhemus of Nyack was tendered a dinner on the occasion of his seventy-ninth birthday, February 26, by the staff of the Nyack Hospital.——Dr. John W. Russell, superintendent of the Matteawan State Hospital, resigned February 27.——Dr. James G. Hunt, Utica, has been appointed local surgeon for the New York, Ontario and Western Railroad.——Dr. Reid Gilmore has been appointed school physician, and Dr. F. E. White, city physician, of Schenectady.

State Should Aid Tuberculosis Fight.—The State Board of Charities has issued a formal statement to the effect that the state should establish district hospitals for the care of incipient and curable cases of tuberculosis. The board believes that it is absolutely necessary for the state to put forth much greater efforts looking to the relief of suffering and the prevention of the spread of contagion if the disease is ever to be overcome. These proposed district hospitals should be on the Ray Brook plan and the care of less promising and advanced cases should be left to local authorities. This plan would permit of enlarged facilities for the care of all classes of tuberculosis patients, and of a most desirable classification which it now seems impossible to secure in the smaller local institutions.

New York City

Personal.—Dr. Arthur S. Calman, house surgeon of the Lebanon Hospital, is in a very critical condition as a result of blood-poisoning from a small cut inflicted during an operation.——Dr. I. L. Nascher has been appointed professor of geriatrics in the College of Physicians and Surgeons, Boston.——Dr. William P. Healy has been reelected president, Dr. Albert F. Burgman, vice-president, and Dr. Alexander Nicoll, secretary of the medical board of Fordham Hospital (Bellevue and Allied Hospitals).

Child Welfare Exhibit.—The Child Welfare League is holding an exhibit in the interest of the thirty-two bills recommended by the Factory Investigating Committee at the Frances Building, 667 Fifth Avenue. Conferences are held at 4 p. m. daily, at which well-known welfare workers discuss the new measures and explain why their passage is necessary.

Diphtheria in School.—An outbreak of diphtheria in Public School 16, Williamsburg, has led to the closing of two class rooms by the Board of Health. There was a similar outbreak of diphtheria in the same school about a year ago and authorities are blaming the unsanitary condition of the building, especially the shutting off of light and air due to the erection of high buildings, for these outbreaks.

Amendments to the Sanitary Code.—The Board of Health has amended the Sanitary Code so as to require that after July 1, 1913, cream sold in New York must be produced from either grade A or grade B milk and that nuts, figs and dates used in making candy must be as good as when offered for sale without the candy combination. The object of this amendment is obviously to secure purer ice cream and candy. Another amendment requires that eggs known as "spots" shall be denatured as soon as discovered, thus making it impossible to sell them for food as has frequently been done. Still another provision makes it a misdemeanor to keep offensive fats, meat trimmings and bones in markets, hotels and restaurants. They are to be considered as garbage and if not disposed of at once will be seized and carted away by the city.

OHIO

New Officers.—Union Medical Association of the Sixth Councilor District at Akron, February 11: president, Dr. H. Blankenhorn, Orrville; secretary, Dr. J. H. Seiler, Akron (reelected for the thirteenth time).

Request that Occupational Diseases Be Reported.—Under the Thomas Bill, recommended by the Committee on Public Health, physicians will be requested, but not required, to report to the State Board of Health, all occupational diseases coming under their observation.

Hospital Notes.—Of the $150,000 required for the building fund of St. John's Hospital, Cleveland, $126,588.25 had been secured two days before the time for closing subscriptions.——On March 11 a campaign will be begun to raise $100,000 necessary to free St. Anne's Infant and Maternity Hospital, Cleveland, from the debt incurred three years ago.

Personal.—Dr. J. C. Lincoln, probate judge of Wood County for two years and a practitioner of Bowling Green for forty years, has closed his office and retired.——Dr. Herbert H. Bown, Pleasant City, has returned after a five months' trip to Europe.——Dr. James E. Welliver, Dayton, who has been ill with pneumonia, is reported to be improving.——Dr. J. Valentine Koch has been appointed assistant to the superintendent of the Dayton State Hospital.——Dr. R. G. Perkins, professor of hygiene in Western Reserve University, Cleveland, has been appointed city bacteriologist, vice Dr. W. T. Howard, resigned.

Cincinnati

Antituberculosis League Meeting.—At a recent meeting of the board of trustees of the Cincinnati Antituberculosis League, Dr. Samuel Iglauer was elected president and Drs. E. W. Mitchell and H. Kennon Dunham were elected vice-presidents.

Personal.—Dr. Samuel E. Allen, otolaryngologist of the Cincinnati Hospital has resigned.——Dr. A. C. Bachmeyer has been appointed assistant superintendent of the Cincinnati Hospital.——Dr. Alfred Friedlander has succeeded Dr. Allyn C. Poole as senior pediatrician to the Cincinnati Hospital.——Dr. Foster J. Boyd has been appointed physician to the Municipal Tuberculosis Hospital. Dr. Charles S. Rockhill, superintendent, will soon give up his private practice and reside at the hospital.——Dr. Lewis Heizer has been appointed chief medical inspector of schools.

Deprecate Commercialism in Tuberculosis Cures.—The following resolutions presented by Dr. George B. Orr have been adopted by the Cincinnati Academy of Medicine: "That the members of the Cincinnati Academy of Medicine ask the medical profession of America not to recognize any man or woman as a member of our profession, be he or she a native or foreigner, who possesses knowledge or material which will cure tuberculosis, who does not impart that knowledge voluntarily and give of that material free of monetary consideration to his brothers in the profession, without being asked for them; and who does not do this without delay in order that many human lives may be saved thereby. Be it further resolved, That the entire medical profession of the country be called upon to do this."

PENNSYLVANIA

State Responsible for Criminal Insane.—The Supreme Court has just rendered a decision to the effect that the state and not the county should pay for the maintenance of the criminal insane who are confined in the State Hospital at Norristown, Montgomery County. This decision means a saving of $4,000 yearly.

Personal.—Dr. Phoebe H. Flagler Hagenbach of Stroudsburg celebrated her eighty-first birthday, February 25. She has practiced medicine for the last thirty-four years and is a member of the Lehigh, Lycoming and Monroe County Medical societies.——Dr. E. L. Meyers, Wilkes-Barre, was seriously injured when his automobile plunged over an embankment, February 25.——Dr. R. W. McCafferty, physician to the Glen Mills School for Boys, has resigned.——Dr. N. Bell Drake has been elected a director and is to continue as superintendent of the Ellwood City Hospital.

Hospital Notes.—Application has been filed in the prothonotary's office for a charter for a hospital in Carlisle to be called the Carlisle Hospital. This application has been signed by the physicians of the city and is the result of a movement recently started by them to provide a hospital for Carlisle and Cumberland County.——The new hospital car of the Pennsylvania system, which is to be used in case of accident and is fully equipped with beds and emergency appliances, has been placed in service.——The trustees of the Scranton State Hospital have asked for an appropriation of $240,762.60.

Vaccination Commission Reports.—The Pennsylvania State Vaccination Commission, which was authorized by joint resolution of the General Assembly, June 14, 1911, and appointed several months later by the governor, has held a number of sessions covering the period of nearly two years, has heard fifty-eight witnesses, thirty of whom were physicians and has prepared two reports, one signed by the majority of the commission setting forth its findings in favor of vaccination and a minority report from those opposed. The commission will hold a final meeting on March 12, when the two reports will be formally signed for presentation to the legislature and the governor on the following day. The commission is composed of the following members: Emil Rosenberger, president of the Real Estate Title Insurance and Trust Co., chairman; Dr. William M. Welch, Philadelphia; Dr. Jay F. Schamberg, Philadelphia; Henry C. Lippincott, John Pitcairn, Porter F. Cope and Edward A. Woods, Pittsburgh.

Philadelphia

Hahnemann Plans Extension of Course.—Anticipating the new state law beginning Jan. 1, 1914, all graduates of medical schools in Pennsylvania will be required to complete a four-year course of study and then to serve for one year as intern in a hospital, the authorities of Hahnemann are preparing to begin an advance administration this fall. Their purpose is a six-year course of study and practical work. It is planned to add a college course including biology, chemistry, physics and modern languages other than English. It will be called the first-year course and will take the place of the course that first-year men heretofore have been obliged to take in some other school.

Adopts Higher Standard.—Of the Philadelphia medical schools, the Jefferson Medical College, the Medico-Chirurgical College, the Hahnemann Medical College and the Woman's Medical College have now gone on record as adopting the higher preliminary qualifications for medical students. In addition to completing the work in an accredited high school, the student will be required to take a year's work devoted to college courses in physics, chemistry, biology and a modern language aside from English. Some of the colleges are planning to give the work themselves in a year preliminary to the regular medical course. The University of Pennsylvania for three years now has been requiring for admission, two years of college work including the sciences above mentioned.

SOUTH CAROLINA

New Officers.—Aiken County Medical Association at Aiken, February 21: president, Dr. R. M. Hammond, Montmorenci; secretary-treasurer, Dr. M. H. Wyman, Aiken.——Chester County Medical Society at Chester: president, Dr. W. M. Love; secretary, Dr. J. G. Johnston, both of Chester.

Personal.—Dr. George T. Tyler has opened a hospital for surgical cases at Greenville.——Dr. W. J. Houseal, Newberry, appointed by the governor, superintendent of the State Hospital for the Insane, has refused to accept the appointment and Dr. J. W. Babcock, Columbia, remains in that position.

TENNESSEE

Medical Library Planned.—The Memphis and Shelby County Medical Society is raising a library fund. Its plan is to install a library in the downtown portion of the city where members of the society and the profession may rapidly gain access to the books and periodicals.

New Officers.—Carroll County Medical Society at Huntingdon: president, Dr. G. C. Bryant, McLemoresville; secretary, Dr. B. C. Dodds, Huntingdon (both reelected).——Mountain City Academy of Medicine and Surgery at Chattanooga: president, Dr. O. W. James; secretary, Dr. E. J. Cardwell.

Personal.—Dr. S. W. Woodyard, Greeneville, has recovered from his recent attack of influenza and resumed practice.——Dr. W. D. Poston, Brownsville, was stabbed by a negro recently and is said to be in a serious condition.——The degree of doctor of laws was conferred on Dr. John A. Witherspoon, Nashville, by the University of Georgia, January 29.——Dr. W. G. Frierson, Shelbyville, announces his retirement from practice.

WISCONSIN

Sanatorium Assured.—The Eau Claire Branch of the Wisconsin Antituberculosis Society has guaranteed $1,500 to equip the proposed sanatorium for tuberculosis. This action assures the immediate erection of the building.

Personal.—Dr. C. J. Coffey, Milwaukee, has gone to Europe.——Dr. Frank S. Wiley, Fond du Lac, entertained sixty of his friends among the medical fraternity of Fond du Lac city and county, at a dinner, February 20, in celebration of the thirtieth anniversary of his graduation from Rush Medical College, Chicago.

Council Against the Gospel of Health.—The finance committee of the Common Council of Milwaukee has failed to approve the appropriation of $2,500 asked by Health Commissioner Kraft for the publication of the monthly organ of the department, the *Healthologist*, as it did not seem to recognize the necessity for this expenditure and also considered the issuance of the magazine at public expense illegal.

WEST VIRGINIA

New Governor a Physician.—Dr. D. D. Hatfield, English, the first medical man to be elected governor of the state, was inaugurated last month.

Small-Pox Disappeared.—Berkeley Hospital for Small-Pox has been closed, the last patient having been discharged. During the prevalence of small-pox about forty patients were treated in the county, and three cases in Martinsburg. No deaths resulted.

New Officers.—Little Kanawa and Ohio Valley Medical Society at Parkersburg: president, Dr. W. S. Link; secretary, Dr. Marvin R. Stone, both of Parkersburg.——Brooke County Medical Association at Wellsburg: president, Dr. B. F. Harden, Wellsburg; vice-president, Dr. W. T. Booher, Bethany.

State Sanatorium.—The sanatorium for the cure and treatment of tuberculosis established by the state on a farm of 630 acres at Terra Alta, Preston County, in the heart of the Allegheny Mountains, was opened January 15. Three buildings accommodating sixty patients have been erected, one an administration building and two pavilions. The sanatorium is supplied with water from mountain springs and a dairy and poultry farm is to be conducted in connection with the institution. Dr. E. E. Clovis has been appointed superintendent.

GENERAL

Safeguarding America Against Disease.—To guard against the introduction of plague and yellow fever through tropical fruit importations between April and November, Surgeon-General Blue, U. S. P. H. S., has ordered Surgeon J. H. White, New Orleans, to proceed to Belize, Puerto Cortez, Tela and Ceiba, Honduras; Livingston, Zacapa and Puerto Barrios, Guatemala; Bocas del Toro, Panama; Port Limon, Costa Rica; and Kingston and Port Antonio, Jamaica, to inspect health conditions and precautions.

Attacks "Diploma Mill."—The Illinois State Board of Health charges the "Western University" with using the mails to defraud. According to Dr. Egan, this "diploma mill" was organized in 1897 and for three years did business openly in Chicago, issuing diplomas through correspondence. From 1900 to 1908 nothing was heard of the University, but about two years ago letters began to be received from British India, addressed to the Western Medical School, inquiring the price of medical degrees. The university is said to have offered for sale degrees in surgery, medicine and dentistry to residents of China and India at a flat rate of $100.

Abstract of Surgery.—*Surgery, Gynecology and Obstetrics* with its February issue begins the publication of a supplement called the *International Abstract of Surgery* which is published in collaboration with French and German and English surgical journals. The editors are Dr. Franklin H. Martin, Chicago; Mr. B. G. A. Moynihan, Leeds, England; Dr. August Bier, Berlin, and Dr. Paul Lecène, Paris, together with a large consulting and collaborating editorial staff. The abstracts and bibliography take up 128 pages of the February issue considered under the following general heads: Surgical technics; surgery of the head and neck; surgery of the chest; surgery of the abdomen; surgery of the extremities; orthopedic surgery; surgery of the nervous system; diseases and surgery of the skin and appendages, and miscellaneous; gynecology; obstetrics; genito-urinary surgery; surgery of the eye and ear, and surgery of the nose, throat and mouth. This extensive undertaking makes an excellent appearance in its first issue and will prove of great practical value.

University of Missouri Medical Bulletins.—The University of Missouri has begun the publication of a series of popular medical bulletins, which should be of value to both the profession and the public in an educational way, concerning the topics of preventive medicine. The first bulletin is by Dr. O. W. H. Mitchell, Assistant Professor of Pathology and Bacteriology in the university, and is on the subject of "Bacteria and Disease." It is a clearly and simply written article that anyone may understand. The pamphlet gives a brief history of the discovery of bacteria and a discussion of their characteristics and varieties, a brief explanation of the subject of immunity or body-resistance, and methods of destruction of bacteria, sterilization, disinfection, etc. It also gives a list of references to elementary and popular articles and books on bacteria and publications of a more advanced and technical nature, together with a glossary of terms used in the article in connection with bacteria and disease. Among the other articles to be published in this series are pamphlets on preventing typhoid, the early recognition of contagious diseases in school children, and eye, nose and throat troubles in children. These pamphlets will be distributed free to those requesting them, and should prove a valuable and authoritative means of educating the public in health matters.

LONDON LETTER

(From Our Regular Correspondent)

London, Feb. 22, 1913.

Career of Dr. Wilson of the National Antarctic Expedition, 1910

The career of Edward Adrian Wilson, B.A., M.B. (Cantab.), head of the scientific staff of the national Antarctic expedition, who, after reaching the pole, perished in the tent with Captain Scott and Lieutenant Bowers, has a special interest for physicians. Dr. Wilson was the son of a physician, and was educated at Cambridge, where he had a distinguished career. In 1894 he took a first class in the natural science tripos. Then he turned his attention to medicine and entered St. George's Hospital. Of a philanthropic and religious bent, he worked at the mission of his college in the East End of London. In March, 1898, he developed pulmonary tuberculosis, which was thought to be due to overwork. He went to Davos, where he slowly recovered. He graduated M.B. in 1900, but in consequence of the attack he had undergone he adopted the open-air life of a naturalist, and in 1901 he was appointed surgeon, zoologist and water-color artist to Captain Scott's first Antarctic expedition. His drawings of polar scenery excited great admiration, but his collection of zoologic specimens, which appealed only to specialists, was of greater importance. In a lecture delivered at St. George's Hospital he asserted, as a result of his experience on the expedition, that vegetables neither prevent nor cure scurvy, but that fresh meat does. In 1905 he did important work on an inquiry into grouse disease. On the last expedition he was appointed head of the scientific staff, and appears to have been most successful in the collection of specimens. In spite of the difficulties encountered in the return journey, the specimens were never abandoned, and those found in the hut with the three bodies weighed 35 pounds. The story of the tragic end has been told to the world. It is only necessary to add that Dr. Wilson was a man of simple and straightforward character, with a fund of genial humor which made him the life of the expedition. He has left a memory of which the British nation in general and the medical profession in particular will long feel proud.

The British Medical Association and the National Insurance Act

After the defeat of its policy, the dominant party in the British Medical Association seems inclined to fight what may be termed a rear-guard action. The association has issued a circular to physicians in order to ascertain whether the conditions of service are such that practitioners in large numbers will leave the panels in April when their contracts expire, or whether the profession is going to accept the panel system as an accomplished fact and wishes the association now to use its machinery for the purpose of remedying the defects found by experience in the act and regulations. In order that the association may have the necessary information, answers are requested to the following questions: "Are you giving service under the national insurance act? Did you accept service willingly or unwillingly? Are you satisfied with the conditions of service and remuneration so far as you are able to judge them? If not, will your dissatisfaction determine you to decline to renew your contract with the local insurance committee at the termination of the provisional three months, provided that a sufficient number of practitioners in your area will do the same? If dissatisfied, with what conditions of service are you dissatisfied and what alteration do you consider should be made therein? If not on the panel, have you any wish or intention to go on? If the government sought to overcome the opposition of the profession in any locality by appointing whole- or part-time officials to treat insured persons, do you know of practitioners in your division area of whom you have a reasonable certainty that they would accept such appointments, and what is their approximate number? If not on the panel, will you be good enough to supply particulars as to the numbers of insured persons who have been attended by you since Jan. 15, 1913, in spite of the fact that they will have to pay you private fees?"

The National Insurance Act: Removal of the Grievance of Too Much Clerical Work

The extraordinary and unnecessary amount of clerical work required of physicians under the national insurance act which interferes with their professional work and keeps them up at night until the small hours of the morning, described in a previous letter, is about to be remedied. As a result of conferences held by insurance commissioners with representatives of the National Insurance Practitioners' Association, the following official statement has been made: The issue of the red medical ticket was a temporary measure required by special circumstances incidental to the coming into operation of the act. After a physician has sent in a form accepting an insured patient for treatment he will not be required to fill up any new form for this person as long as he retains him on his list. Day books will be discontinued and a simple card system will be used for keeping a record. The number of entries will be reduced. In particular the physician will not be required to enter the insured person's name, society, or society number on the card more than once a year. The issue of prescription forms in triplicate will be discontinued: only one form will be given to the patient to give to the chemist and no physician need retain a duplicate for his own use unless he wishes. When physicians on the panel so desire, payments will now be made to them on account of insured persons on their lists.

The Dangerous Neglect of Vaccination

The relaxation of the vaccination law and its dangerous consequences have been described previously in The Journal. Speaking at the annual dinner of the public vaccinators of England and Wales, Dr. Arthur Maude, the president, complained that though the public vaccinators were doing an important work they received no assistance from the government. The importance of vaccination was recognized all over the world—in Japan, Servia, Mexico and Russia. The only place in which is was not recognized was England. The proportion of unvaccinated people now amounted to about 50 per cent. of the population, and in many towns was still larger. They might do something in the way of isolation when there was a limited outbreak, but the outbreak which would come would not be limited and the hospital accommodations would be totally inadequate.

BERLIN LETTER

(From Our Regular Correspondent)

BERLIN, Feb. 14, 1913.

Headquarters for Psychologic Examination

The foundation of a central headquarters for individual and differential psychologic research has been proposed by the management of the institute for applied psychology and collective psychologic research at Klein-Glienicke near Potsdam. Such headquarters are already provided in the institute in an embryonic form, as on the occasion of the fifth congress for experimental psychology, this institute held an exhibition of research material, and since then this exhibit has become permanent, through the influence of the Prussian department of education and the German educational exposition, which is under the control of the department of education. The headquarters will aim to collect material of various kinds for psychologic tests and experiments, photographs, especially of expressions of the face which may be used for psychologic purposes, specimens of handwriting, kinematograph serial pictures and reports and tabulations of individual and differential psychologic experiments.

Free Prophylactic Inoculation Against Diphtheria

During the diphtheria epidemic last winter, the city charity physicians were authorized in cases of diphtheria among the poor either to inoculate the remaining members of the family, especially children, or to refer such persons to the nearest municipal hospital for an inoculation for which no charge was made. On investigation it has been shown that through an early serum treatment of the sick (if possible within the first twenty-four hours) and the preventive injection of persons exposed to infection, especially children, unusually favorable results were obtained. The commission for the municipal hospitals and for public hygiene has therefore decided to carry on again this winter similar gratuitous prophylactic inoculations in all the municipal hospitals.

Changes in the Berlin First-Aid Service

The already existing emergency stations in Berlin—which will in the future be called first-aid stations (*Rettungsstellen*)—will form the foundation for the municipal first-aid service. For this purpose the accident stations which have heretofore existed will be taken charge of by the board of trustees of the Red Cross accident stations. For the stock and instruments, so far as they were on hand in the station on May 1, 1909, the sum of about 9,000 marks ($2,250) will be paid. Special regulations will be established for the medical service in the future municipal first-aid stations, and provision will be made for taking over, and settling with, the physicians formerly employed.

MEDICAL OFFICERS

The city council is proceeding on the principle that to ensure permanent and satisfactory readiness for medical service at the emergency stations it is necessary that the physicians concerned should be brought into as close and permanent connection with the individual stations as possible. For this reason provision is made that in the future no physician can be connected with two stations; that each physician must live within the district of the station with which he is connected; further that each must agree to a service lasting at least three consecutive hours, and at least forty-five hours of day service and thirty hours of night service in a month, and that only a limited number of physicians may be employed by each individual station.

REMUNERATION

For the same reason, to make the service at the stations more attractive to the physicians and also in accordance with other conditions of the present time, the salary, which has not been raised since 1907, has been increased moderately, to 1.25 marks (instead of 1 mark) for one hour of the day service, and .9 marks (instead of 8) for the night service, beginning at 10 o'clock in the evening and ending at 8 o'clock in the morning. For the regulation and supervision of the medical service, there will be in charge of each station a supervising physician who will be responsible to the board for the regular working of the station. The supervising physician will receive for his services a salary of 800 marks ($200). Besides this control and supervision of the medical service, there is, as heretofore, the control exercised by the board. Finally, in the interest of the united management of the medical service at all stations, it will be necessary to put at the head of all the physicians who are connected with the first-aid service one or more physicians as medical directors of the first-aid service. These directors will be employed on the basis of a private-service contract, will be subordinate to the board, and are to be paid from the 6,000 marks which are included in the budget for this purpose. After the completion of this new order of things, the expenses of the Berlin first-aid service will not exceed those heretofore appropriated by the municipal authorities. The sum of 220,000 marks ($55,000) will be sufficient.

Personal

Salge, the pediatrist of Freiburg, has been called to the chair of pediatrics at Strasburg, as Czerny's successor. He will assume the duties of his office April 1. Salge was a pupil of Heubner.

Thiemich of Magdeburg has been appointed director of the children's hospital at Leipsic, in place of Soltmann. Finkelstein of Berlin was again proposed in the first place for this position, but undoubtedly his being a Jew prejudiced the ministry against his appointment.

January 13 Heller, the director of the pathologic institute at Kiel, died at the age of 72. In 1869 he became a member of the faculty at Erlangen, and in 1872 he was called to Kiel. His most prominent works deal with intestinal parasites, diseases of the liver and tuberculosis.

Priv.-Doz. Dr. Wessely, who has heretofore been assistant to Hess, has been appointed director of the Würzburg eye clinic as his successor.

BUDAPEST LETTER

(From Our Occasional Correspondent)

BUDAPEST, Feb. 9, 1913

The Wounds Caused by Modern Rifles

Dr. Bertsalan Widder, a Hungarian surgeon, who was sent to the Balkan battle-field by the Hungarian Surgical Society to study war surgery, recently read a paper before the Hungarian Surgical Society on this subject. He says that the bullets of the Turkish rifles are pointed, and thus they are very humane. They either kill the soldier, or run through the body so that the wounds are curable. He has seen many soldiers dismissed from the hospitals entirely cured, though wounded on arm, leg, abdomen, etc. In one patient a bullet entered through the right frontal bone and went out 6 cm. from the entrance, in the temporal region. The fragment of bone pressed on the corresponding part of the brain, leaving behind paralysis of the left arm. In another instance of nerve-lesion the bullet entered the left side of the neck and went out through the right shoulder.. The paralysis and painfulness of the right arm and hand are existing yet. In the same hospital there is a patient in whom the right kidney was shot through and the bullet is imbedded in the left hip-bone. The patient feels tolerably well; the urine was bloody, but is not so now. In one case a soldier, while lying prone, was shot from a distance of 40 meters. The bullet entered at the top of the head and passed through the brain and hard palate; then it pierced its way through the bottom of the mouth and muscles of the neck. The bullet was palpable downward from the armpit under the third rib, and could be removed with ease. The patient was in bed for twenty-six days and left the hospital cured.

Dr. Grünfeld, an Austrian, had altogether seventy wounded. In one of his patients the right femoral artery and vein were shot through. Before this soldier was carried to the hospital, the leg had become gangrenous, so that it had to be amputated. From so many thousands of patients only eight or ten amputations had to be performed. In Grünfeld's seventy cases there were thirty-six in which the bullet pierced only soft parts and the patients were entirely cured; in eighteen cases there were bone injuries. The remaining cases were still more serious; in four cases joints were crushed. The latter injuries were caused by shrapnel; three out of the seventy cases healed without any dressing; an injury of the abdominal wall, caused by cannon-shot, resulted in peritonitis; in one case injury of the popliteal vessels necessitated amputation. In this case an old rifle had been used.

AWFULNESS OF SHRAPNEL

Thus most of the injuries were caused by bullets and shrapnel. The small number of injured by cannon shows that those hit by cannon-balls were killed instantly. The injuries caused by bullets are favorable from the point of view of healing, even if they are not dressed properly. Bayonet injuries were not seen; if there were any, they must have been mortal. The shrapnel injuries were terrible. Shrapnel causes a large wound, and the missiles carry with them flesh or bones, or whatever they encounter, leaving behind them a wide field for infection. The shrapnel falls from the air like soda-water from a siphon. The injured soldiers and officers have told terrible things about shrapnel fatalities.

The *Spitzgeschoss* (pointed bullets) did little harm even in the brain. This is shown by the fact that in the wards every fourth or fifth patient is injured in the head, and bullets have penetrated the brain. These patients are improving.

Dr. Widder saw one patient, who did not sleep or talk, but only sat and stared before him. The bullet had penetrated the right lobe of the brain. This patient died in five days.

Injuries to the lungs were relatively of benign character. It was unfortunate that the Roentgen apparatus of the Turks was not in condition to be of any service to us.

HOSPITAL EQUIPMENT

In general the hospital equipment of the Turks left much to be desired in accommodations, instruments and means for carrying the wounded from the battle-field. The contrary can be said of the Servians. They have proper conveyances, fine hospitals and even a large stock of coffins. In every Servian hospital nursing was done by women of the aristocracy. Dainty white hands bathed soldiers who had not been able to wash themselves for weeks. These women even helped cut the hair of the soldiers. They brought bed-linen and pillows, and distributed preserves, fruits and candies among the soldiers.

In the temporarily transformed schools the "better" places were kept for the physicians, who slept in cold rooms, on simple sheets laid on a straw mat on the floor. Hundreds of pretty women are washing and ironing dressings, scrubbing the floors, etc. They work in white coats, their heads dressed, each with a red cross on the forehead. This unexampled discipline and sincere love of compatriots is moving. It is not vanity but the pure love of the Fatherland that drives them to do the meanest work with such zeal and fervor. Dr. Widder said that the wounded soldiers do not cry here. You cannot hear a sigh even. They smile, because they think that they are all heroes. They withstand the most painful operations without a word. In this they are animated by the dear, diligent ladies surrounding them.

If as General Surgeon Soubbotich said, this war is the war of Humanity, he must have had in mind the self-sacrificing work of the conscientious medical staff and the noble work of the Red Cross women. It would be difficult to find anything humane in the whole war besides these.

Association News

MEMBERSHIP IN THE AMERICAN MEDICAL ASSOCIATION

The Proposed Change in Name

GEORGE H. SIMMONS, M.D., LL.D.

CHICAGO

Explanatory Note:—This Abstract of an Address before the Conference of State Secretaries is Republished from the American Medical Association Bulletin of Nov. 15, 1912, on the Request of the Judicial Council. The House of Delegates Referred the Report of the Committee to Formulate Amendments to the Constitution and By-Laws to Extend Membership, Presented at the 1912 Session (Journal, June 15, 1912, p. 1899) to the Judicial Council with Power to Confer with Constituent Associations. The Council, after Careful Consideration, Endorses the Proposed Change and Takes this Means of Bringing the Subject to the Constituent Associations as well as Directing to it the Attention of the Members.

I have been asked to discuss the present conditions of membership in the American Medical Association and the proposed change, which has been under discussion recently. While this is not directly related to the object of this conference, the discussion of uniform regulation of state membership, it is so closely connected with it that I cannot refuse to take advantage of the opportunity of discussing the question before such a large representation of state secretaries.

To get a clear understanding of what the present term "members" of the American Medical Association means, it is necessary to go back a little in the history of the Association.

The American Medical Association always has been a delegated body; only "delegates" ever had a right to take part in its proceedings.

"Permanent members" was a term originally applied to those delegates who connected themselves permanently with the Association after they had served as delegates. "Permanent members," however, had no rights except those of attending the meetings and taking part in the scientific work. In 1883, The Journal was started and the following year, for the purpose of increasing the circulation of The Journal, there was created another class: "Members by Application." A member of any so-called affiliated society could become a "member by application" simply by making application for membership and paying the annual dues. The difference between "members by application" and "permanent members" was that the latter had been delegates, whereas the former became members simply by making application. Neither "permanent members" nor "members by application" had vote or voice in business meetings.

MEMBERSHIP IN THE A. M. A. TO-DAY ON THE SAME BASIS AS THE FORMER "MEMBERS BY APPLICATION"

Briefly, we have the following situation:

1. The voting membership of the organization is the combined membership of all the 2,000 (more or less) component county societies, amounting approximately to 70,000 members. These elect the delegates to the House of Delegates of the state associations; they in turn elect the delegates who form the House of Delegates of the American Medical Association. Before 1901 the delegates to the American Medical Association were elected, or appointed, by the "affiliated" societies, which included local, district and state societies. Since 1901, that is, since the reorganization, the delegates to the national body are elected not by local, district and state societies, but by the state societies alone.

2. The so-called "members of the American Medical Association" are the direct successors of the old "members by application." By their payment of dues and their subscriptions to The Journal, they were and are to-day the supporting or contributing group of the members of the organization.

3. The House of Delegates is composed of approximately 150 members, who are elected by the various state Houses of Delegates, which are in turn composed of delegates elected by the members of the component county societies. The House of Delegates of the American Medical Association, therefore, is created by, and represents the combined membership of all the county societies of all the states; it is not elected by, nor does it represent, the present "members of the American Medical Association" as such; it never has.

The result is that we have two classes which could be called members. First, the actual, logical memberships of 70,000, usually designated as "the membership of the organization." Second, the 36,822 contributing or supporting members, who are designated as "members," although these "members of the American Medical Association" have no more privileges than have all members of the organization, except the right to take part in section work. This present situation I have had shown on the accompanying chart (Chart 1). The membership of the American Medical Association, at present 36,822, is an inner circle of the membership of county societies, while the House of Delegates is a still smaller circle composed of those who have been elected to represent the members of the organization of the whole country.

Now the situation itself is perfectly logical and is in every way to be commended. The trouble is that we have not named our groups accurately. Those whom we now call "members of the American Medical Association" are really those members of the organization who, in addition to supporting their county and state associations, also contribute to the support of the American Medical Association, while for the actual membership of 70,000 members we have no distinctive name.

The change that has been proposed is not a change in condition at all. It is simply a change in name. It is proposed to designate the 70,000 members included in the large outer circle (Chart 2) as "members of the American Medical Association," which they really are and always have been, while those included in the inner circle (that is, those members in good standing of their county and state societies, who also pay $5 a year to support the work of the American Medical Association) are to be called "fellows of the American Medical Association" instead of "members." This will make no change in the membership standing or relations of any man. If this suggestion is adopted, all members in good standing in their state organizations will be designated as "members of the American Medical Association," while those members who contribute $5 a year to support the work of the Association will be designated as "fellows of the American Medical Association." In other words, those who are now known as "members" of the American Medical Association will be known as "fellows" of the American Medical Association, while the term "members" will be applied to the entire, combined membership of the component county societies of the whole country.

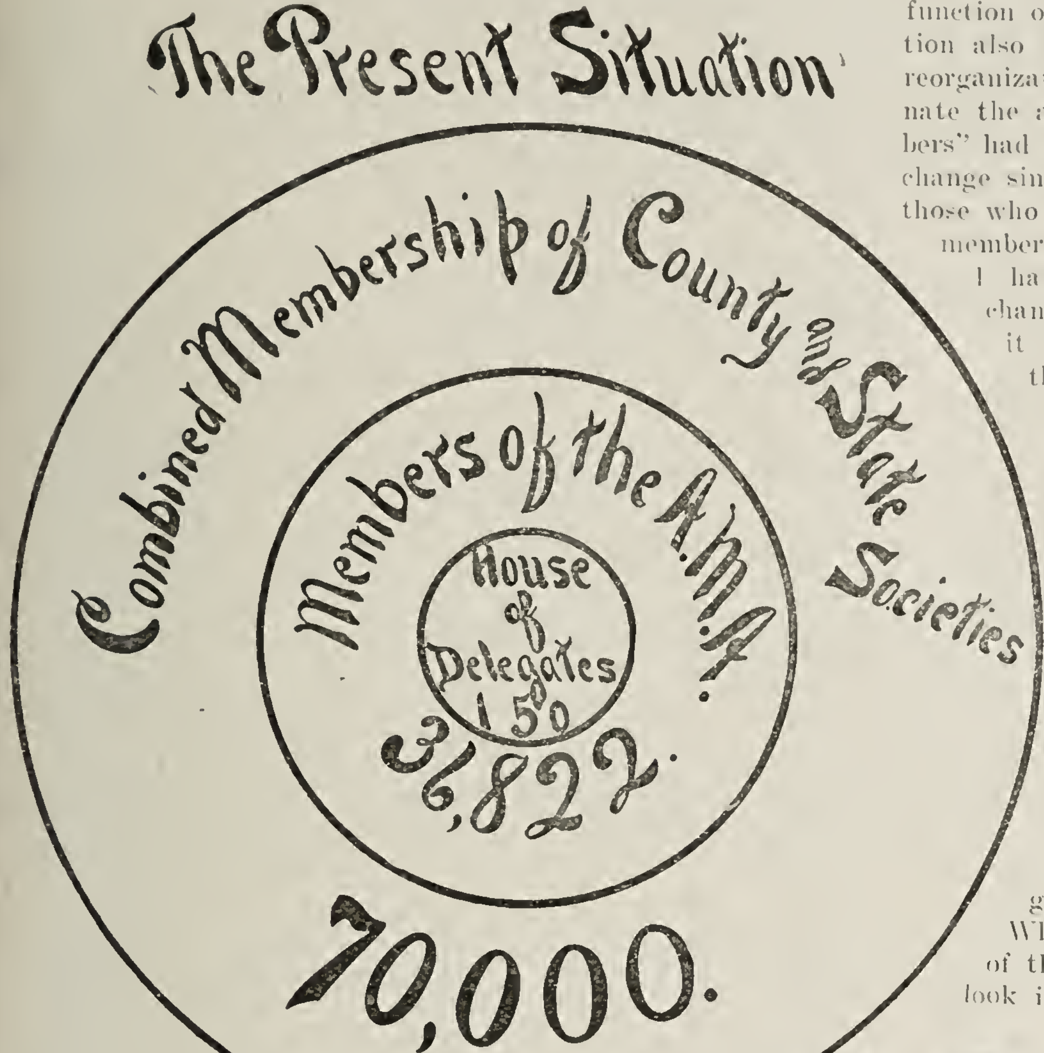

Chart 1

This plan has several advantages. In the first place it will give us a name for the entire membership of the organization, which we have never had before. Before 1901 they were referred to as members of "affiliated" societies, and since then they have been called, for lack of a distinctive name, "members of the organization." Another advantage will be that it will make clear that the voting power lies with the 70,000 members and not with the 36,822 "fellows." When this plan was first proposed, some got the impression that the intention was to compel the 70,000 members of the county societies to become "supporting members" of the American Medical Association, as the term is now understood. This, of course, would be a ridiculous proposition. The proposed change contemplates leaving membership conditions exactly as they are; it contemplates changing the name, and not the relation.

One great disadvantage prior to the reorganization of the American Medical Association in 1901 was the fact that we had no name by which to designate the delegates. As soon as the name "House of Delegates" was adopted, then the function of the delegates became clear at once. The Association also has labored under the disadvantage, ever since its reorganization, that there has been no name by which to designate the actual voting membership, because the term "members" had been applied to the supporting body. The proposed change simply recognizes this fact, designating as "members" those who really are members, and designating the supporting members as "fellows."

I have already given some reasons for making the change, but there is another and more important; in fact, it is the paramount reason. Up to the present time, the members of the organization have not realized that they are, in reality, members of the American Medical Association. They regard the American Medical Association as something entirely apart from them, something in which they have no interest. These members of the organization are through their elected representatives responsible for what the American Medical Association is doing, or what it ought to do and is not doing, but they do not realize this, hence they are not interested. They do not appreciate that the House of Delegates of the American Medical Association, which they elect, is the body that is doing the work through the officers, trustees, councils, etc., which they, through their representatives in the House of Delegates of the American Medical Association, select. While only a change in name, I think the subject is of the utmost importance. I hope that all of you will look into it carefully, so as to understand exactly what is intended, and then will explain it to your members at the first opportunity.

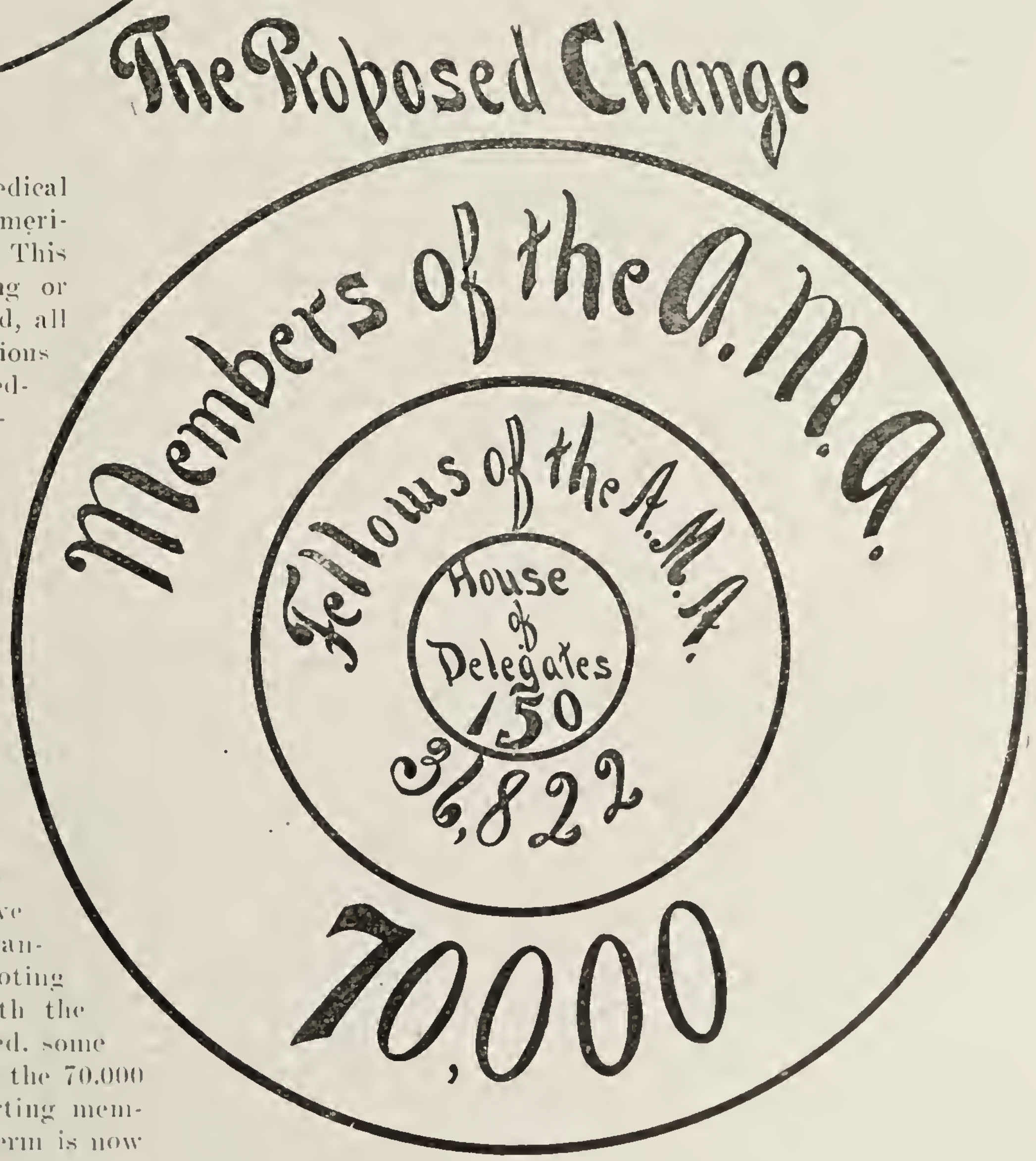

Chart 2

HOTELS AT MINNEAPOLIS

Announcement of Hotels and Rates for the Annual Session of the American Medical Association

The local Committee on Arrangements for the Minneapolis session, June 17-20, recommends to the members of the Association the hotels shown in the accompanying table. First are given the hotels selected as headquarters for the sections. A few St. Paul hotels, so designated, are included; all the others are in Minneapolis. In addition, the rooms in the dormitories on the University Campus will be available for rental.

The meetings will be held in the University buildings situated between Minneapolis and St. Paul so that members may lodge in either Minneapolis or St. Paul.

It is suggested that members arrange direct with hotels as early as possible. The Chairman of the Committee on Hotels, Dr. S. Marx White, Donaldson Building, Minneapolis, will be pleased to answer any special questions concerning hotel accommodations, and to assist members in the matter.

Other announcements concerning the session have appeared in The Journal during the past four weeks, on pages 460, 535, 615 and 680.

Hotel, Section Headquarters and Street Address	No. of Rooms	Without Bath		With Bath	
		Single	Double	Single	Double
Radisson—*General Headquarters*—Seventh St., bet. Nicollet and Hennepin	320	$1.50	$2.50	$2.50 to $5.00	$6.00 to $7.00
West—*Practice of Medicine*—Fifth St. and Hennepin Av	309	1.50 to 3.00	3.50 to 4.00	2.00 to 4.00	3.50 to 6.00
Leamington—*Surgery*—1013 Third Av., South	600	1.50	2.50	2.50 to 5.00	5.00 to 7.00
Andrews—*Obstetrics, Gynecology and Abdominal Surgery*—Fourth and Hennepin	186	....	....	1.50 to 3.00	2.50 to 4.00
Dyckman—*Ophthalmology*—Sixth St., bet. Nicollet and Hennepin	175	....	....	2.00 to 3.00	4.00 to 6.00
Plaza—*Laryngology, Otology and Rhinology*—1700 Hennepin Av	100	....	....	2.00 to 5.00	3.00 to 7.00
Hastings—*Diseases of Children*—Twelfth St. and Hawthorne Av	127	....	....	1.50 to 2.00	2.00 to 3.00
Majestic—*Pharmacology and Therapeutics*—Seventh and Hennepin	100	1.00 to 2.00	1.50 to 2.50	1.50 to 3.00	2.50 to 4.00
Camfield—*Pathology and Physiology*—Eighth St. and First Av., South	96	....	....	1.00 to 2.00	2.00 to 3.00
Nicollet—*Stomatology*—Washington and Nicollet Avs	136	1.00 to 1.50	2.00 to 2.50	2.00 to 2.50	3.00 to 3.50
Maryland—*Nervous and Mental Diseases*—Grant and Vine Place	200	....	....	1.50 to 2.50	2.50 to 4.00
Elgin—*Dermatology*—Eighth St. and Hennepin Av	150	1.00	1.50	1.50 to 2.00	2.00 to 3.00
Rogers—*Preventive Medicine and Public Health*—27 Fourth St., South	200	1.00 to 1.50	2.00 to 3.50	2.00 to 3.50	3.00 to 5.00
Vendome—*Genito-Urinary Diseases*—19 Fourth St., South	185	1.00 to 2.00	2.00 to 3.00	2.50 to 3.00	3.50 to 4.00
Waverly—*Hospitals*—1107 Harmon Place	80	....	....	1.00	2.00
St. Paul (St. Paul)—*Orthopedic Surgery*—Fifth and St. Peter Sts.	360	1.50	2.50	2.50 to 5.00	4.00 to 7.00
Other Hotels					
Aberdeen (St. Paul)—Dayton and Virginia	200	....	....	1.50 up.	3.00 up.
Allen—200 Third St., South	65	1.00	1.50	2.00	2.50
Beaufort—112 Third St., South	140	.50	1.00	1.00 up.	2.00 up.
Berkley—First Av. and Thirteenth St., South	103	1.50	2.50	2.00	3.00
Carleton—20 Eighth St., South	50	1.00	2.00	1.50	3.00
Clinton—Fourth Av., South., and Grant St	65	....	....	2.00	3.50
Commercial—1 Central Av	40	1.00	1.50	1.50	2.00
Curtis Court—309 Tenth St., South	200	....	....	1.00 to 2.50	2.00 to 5.00
Empress—316 Central Av	20	1.00	1.50	2.00	3.00
Frederick (St. Paul)—Fifth and Cedar Sts	100	1.00	2.00	1.50 up.	2.50 up.
Garrick—2½ Seventh St., North	27	1.00	2.00	....	....
Golden West—301 Washington Av., South	80	.75 to 1.25	1.50 to 2.50	1.50 to 2.50	2.00 to 3.00
Hampshire Arms—Fourth Av., South, and Ninth St	350	1.00	1.50	1.50 up.	2.00 up.
National—Second Av., South, and Washington	200	1.00 to 1.50	2.00 to 3.00	1.50 to 3.00	3.00 to 5.00
Ogden—Twelfth St. and Mary Place	84	....	....	2.00	2.50
Pauly—1-3-5 Nicollet Av	50	1.00	1.50	1.50	2.50
Rosslyn—707 Summit Av	70	....	....	1.00 to 1.50	2.50 to 4.00
Ryan (St. Paul)—Robert St	300	1.00 to 1.50	2.50 to 4.00	2.00 to 4.00	3.00 to 6.00
Revere—316 Second Av., South	100	1.00	1.50	1.50	2.50
Southern—822 Fourth Av., South	50	.75	1.50	1.50	2.00
Stratford—1200 Nicollet Av	40	1.50	3.00	....	....
Summers—Fourth Av. and Tenth St	75	.75 to 1.00	1.00 to 1.50	....	....
Willard (St. Paul)—Tenth and St. Peter's Sts	200	.75	1.25	2.00 to 4.00	3.00 to 6.00
Williston—500 Tenth St., South	60	1.00	1.50	2.00	2.50

Marriages

Stuart Harris Sheldon, M.D., Portland, Ore., to Miss Marion Louise Smith of St. Paul, Minn., February 26.

David Duke Todd, M.D., Calumet, Mich., to Miss Thayer Thompson of Hyde Park, Chicago, February 19.

Harry Z. Hibshman, M.D., to Miss Charlotte Elizabeth Mathews, both of Philadelphia, February 19.

L. Lafayette Bond, M.D., Denison, Ia., to Miss Florence Faulkner of Council Bluffs, Ia., January 29.

John Tolson O'Ferrall, M.D., Laurel Miss., to Miss Gladys Moulton of New Orleans, La., January 15.

William Worth Hale, M.D., to Miss Helen Marie Evans, both of Washington, D. C., February 13.

Joseph Tate Smith, Jr., M.D., Cleveland, O., to Miss Mary K. Hutchins, at Baltimore, February 20.

Spiro Sargentich, M.D., to Miss Jeanette Maxine Meiner, both of Portland, Ore., February 13.

Alpha R. Sawyer, M.D., to Miss Dorothy A. Parker, both of Roslindale, Boston, February 19.

George Alfred Mauer, M.D., Meriden, Ia., to Miss Albia Koss of Riverside, Ia., February 12.

Deaths

John Berry L'Hommedieu, M.D. New York University, New York City, 1890; a member of the American Medical Association; first deputy health officer of the Port of New York; for several years a member of the staff of Bureau of Municipal Diseases of the State Health Department; died suddenly at his home in the Quarantine Station, Staten Island, N. Y. February 21, from heart disease, aged 46.

J. B. Shawgo, M.D. Bennett Medical College, Chicago, 1877; of Quincy, Ill.; a member of the Illinois State Medical Society; a veteran of the Civil War; for four years an alderman of Quincy and president of the board of directors of the Public Library, and for twenty years chairman of the board of commissioners of the House of Correction; died in a hospital in Jacksonville, February 19, aged 69.

Walter Lawrie Whann, M.D. Starling Medical College, Columbus, O., 1857; Jefferson Medical College, Philadelphia, 1868; for many years a member of the American Medical Association; and for more than half a century a practitioner of Franklin and Venango County, Pa.; died at his home in San Diego, Cal., about February 20, from senile debility, aged 93.

William James Callan, M.D. Long Island College Hospital, Brooklyn, N. Y., 1892; for twenty-five years a professor of elocution and English literature in Catholic institutions of Brooklyn and vicinity; formerly connected with the Brooklyn office of the New York Department of Health; died in a convent at St. Joseph's, Sullivan County, N. Y., February 13, aged 47.

William Conrad Wile, M.D. New York University, New York City, 1870; for many years publisher and editor of the *New England Medical Monthly;* consulting surgeon to the Danbury (Conn.) Hospital, and founder and treasurer of the Danbury Printing Company; a veteran of the Civil War; died at his home in Danbury, February 21, aged 66.

Kingman B. Page, M.D. University of Vermont, Burlington, 1887; a member of the American Medical Association, American Urological Association and New York Academy of Medicine; a member of the attending staff of St. Marks and the People's hospitals, New York City; died at his home in New York, February 19, aged 49.

Harvey Daniel Hill, M.D. University of Michigan, Ann Arbor, 1867; a veteran of the Civil War and later in charge of the government dispensary at Springfield, O.; for three terms a member of the Kansas legislature from Butler County; died at his home in Baldwin, Kan., February 8, aged 73.

William W. Holmes, M. D. Barnes Medical College, St. Louis, 1903; (license, Iowa, practitioner, 1886); a practitioner of Denison, Iowa, since 1873; a veteran of the Civil War; superintendent of the Denison Hospital; died in that institution, February 8, from malignant disease, aged 70.

John F. Duvall, M.D. Physio-Medical College of Cincinnati, 1868; Eclectic Medical University, Kansas City, Mo., 1902; a member of the faculty of the latter institution; a veteran of the Civil War; died at his home in Kansas City, Mo., February 15, from cerebral hemorrhage, aged 66.

William C. McCurdy, M.D. University of Medicine, Indianapolis, Ind., 1898; physician and health officer of Pawnee County, Kan., and health officer of Larned; president of the Larned Hospital Association; died at his home, February 14, after an operation for kidney disease, aged 44.

John C. Conner, M.D. Cincinnati College of Medicine and Surgery, 1877; died at his home in Crescent City, Ill., February 11, from the effects of a gunshot wound of the head, believed to have been self-inflicted with suicidal intent, while despondent as the result of ill health, aged 68.

Minot A. Steele, M.D. Albany (N. Y.) Medical College, 1890; a member of the Rhode Island Medical Society; medical examiner of Portsmouth, R. I.; died in Newport, February 17, from erysipelas, following the bite of a dog about two weeks before, aged 45.

Albert P. Kadison, M.D. University of Munich, Bavaria, 1874; is said to have been the first Jewish physician in Chicago; known as "the little father of the Ghetto," active in Jewish social work; died at his home in Chicago, February 26, aged 78.

Henry O. Ritter, M.D. Louisville (Ky.) Medical College, 1896; of Orangeville, Ind.; died at his home, February 15, from the effects of a gunshot wound, self-inflicted, it is believed with suicidal intent, while delirious as the result of an injury, aged 46.

John Headland, M.D. Physio-Medical College of Indiana, Indianapolis, 1886; a member of the American Medical Association; at one time mayor of Galva, Ill.; died at the Peoria Sulphur Springs Sanitarium, February 12, from heart disease, aged 50.

Alfred James Brown, M.D. Bellevue Hospital Medical College, 1877; local surgeon at Higbee, Mo., for the Chicago & Alton and Missouri, Kansas & Texas railways; died suddenly in his store in Higbee, February 17, from heart disease, aged 56.

Israel W. Fulton, M.D. Washington University, Baltimore, 1872; a Confederate veteran; a practitioner of Indian Territory and Oklahoma for more than forty years; died at his home in Ardmore, February 14, from pneumonia, aged 66.

Ulysses P. White, M.D. College of Physicians and Surgeons, Baltimore, Md., 1894; for several years local surgeon of the Santa Fe system at Artesia, N. Mex.; died at his home in Artesia, February 3, from cerebral hemorrhage, aged 47.

James Jeremiah Williams, M.D. Bellevue Hospital Medical College, 1874; a member of the consulting staff of Bellevue Hospital; died at his home in the Bronx, New York City, February 12, from cerebral hemorrhage, aged 67.

George White McClure, M.D. Rush Medical College, 1900; a member of the American Medical Association; formerly of Cartersville, Mo.; died at his home in Springfield, Mo., February 17, from tuberculosis, aged 35.

Herbert Work Ferry, M.D. College of Physicians and Surgeons, Chicago, 1904; of Poland, O.; a veteran of the Spanish-American War; died at his home in Poland, O., February 14, from pneumonia, aged 33.

W. W. Ashton, M.D. University of Louisville, Ky., 1859; a Confederate veteran; one of the oldest practitioners of Rapides Parish, La.; died at his home in Alexandria, February 16, aged 75.

William Meyer, M.D. University of Jena, Austria, 185—; for more than thirty years a practitioner of California; died at his home in National City, February 16, from senile debility, aged 83.

Daniel S. Coleman, M.D. University of Wooster, Cleveland, O., 1869; one of the oldest practitioners of Knox County, O.; died at his home in Howard, February 15, from nephritis, aged 69.

Adolph Kantrovitz, M.D. Imperial University of Warsaw, Poland, 1862; a member of the Medical Society of the State of New York; died at his home in New York City, in December last.

William A. Gabbert, M.D. Eclectic Medical Institute, Cincinnati, 1875; of Paris, Ill.; died at the home of his brother in Bloomington, Ill., February 13, from arteriosclerosis, aged 65.

Robert Christy Gibson, M.D. University of Pennsylvania, Philadelphia, 1876; formerly of Pittsburgh; died at his home, in Chicago, February 14, from cerebral hemorrhage, aged 65.

Charles Clark Willets, M.D. Jefferson Medical College, 1882; of Sunbury, Pa.; died at the Mary M. Packer Hospital in that city, February 10, from cerebral hemorrhage, aged 56.

Curtis T. Fenn, M.D. Rush Medical College, Chicago, 1866; a member of the Illinois State Medical Society; died at his home in Chicago, February 21, from senile debility, aged 79.

William R. S. Cornell, M.D. University of Louisville, Ky., 1880; for a time teacher in the Joplin (Mo.) Medical College; died at his home in Paola, Kan., February 1, aged 63.

William H. Shaw, M.D. Starling Medical College, Columbus, O., 1870; for twenty-five years a practitioner of Dayton; died at his home in that city, January 4, aged 68.

Joseph T. Jarboe, M.D. College of Physicians and Surgeons of Baltimore, 1889; died at his home in Hagerstown, M., February 11, from nephritis, aged 58.

John H. Kochenderfer, M.D. Starling Medical College, Columbus, O., 1885; a veteran of the Civil War; died at his home in Galion, O., February 16, aged 71.

Joseph W Walters (license, Ohio, 1896); a practitioner of Ada for more than half a century; died at his home, February 14, from senile debility, aged 83.

George William Johnson, M.D. Vanderbilt University, Nashville, Tenn., 1875; died at his home in Adairville, Ky., February 17, from heart disease, aged 70.

William A. Stoneburner, M.D. Starling Medical College, Columbus, O., 1891; died at his home in Roseville, O., February 5, from heart disease, aged 52.

Ezra A. Robinson, M.D. University of Vermont, Burlington, 1881; died suddenly at his home in Genoa, Ill., February 14, from heart disease, aged 59.

George Stephen Cahill, M.D. Dartmouth Medical School, Hanover, N. H., 1891; died at his home in Cambridge, Mass., Dec. 24, 1912, aged 48.

Melville Hutchinson Criswell, M.D. Hahnemann Medical College, Chicago, 1891; died at his home in Cassopolis, Mich., Dec. 14, 1912, aged 49.

Stonewall J. Alsman, M.D. Barnes Medical College, St. Louis, 1904; died at his home in Pleasantville, Ind., Dec. 12, 1912, from tuberculosis.

Charles S. Brower, M.D. College of Physicians and Surgeons, Baltimore, 1880; of Phoenicia, N. Y.; died in Kingston, N. Y., Dec. 15, 1912.

George W. Davis, M.D. University of Maryland, Baltimore, 1869; died at his home near Pleasantville, Md., January 19, aged 69.

Albert V. D. Collier, M.D. Albany (N. Y.) Medical College, 1866; of Catskill, N. Y.; died in Albany, N. Y., Dec. 15, 1912, aged 75.

George Cowles Osgood, M.D. Harvard Medical School, 1866; died at his home in Lowell, Mass., January 5, aged 74.

The Propaganda for Reform

In This Department Appear Reports of the Council on Pharmacy and Chemistry and of the Association Laboratory, Together with Other Matter Tending to Aid Intelligent Prescribing and to Oppose Medical Fraud on the Public and on the Profession

ANTIMERISTEM-SCHMIDT FOR CANCER

Dr. M. Childress, Oskaloosa, Iowa, writes:

"Do you know anything about the cancer serum 'Antimeristem-Schmidt?' I have two or three patients who have had operations for cancer and either have a recurrence or in all probability will have. If there is anything that will do any good in such cases I would like to use it. The only way to get this remedy is to cable money for it to the maker and I do not feel like having the people give up nearly a hundred dollars for something I know nothing about. Please inform me either through The Journal or by letter if you can give me anything trustworthy in regard to it."

Antimeristem-Schmidt is a preparation claimed to be useful in the treatment of inoperable cancer and as a supplementary treatment after operations for cancer. The originator, Dr. O. Schmidt of Cologne, and the manufacturer, Mr. W. Schmidt, as we understand, do not recommend this treatment as a substitute for operation. The treatment is founded on a theory advanced by Dr. O. Schmidt that the cause of cancer is found in a fungus, *Mucor racemosus*, which, Schmidt at first asserted, carried a protozoon which he regarded as the real cause of the disease.

The "serum," or rather the vaccine, is prepared from cultures from this fungus. Schmidt claims that he has been able to produce malignant tumors by the injection of cultures of this fungus derived from cases of carcinoma and sarcoma. Careful investigations by the Heidelberg Institute for Cancer Research have failed to show the existence in cancer of any form of fungus, especially of *Mucor racemosus*, in the tissues of malignant tumors. Other experiments made with the preparations furnished by Schmidt have failed to show in any case the production of a tumor in healthy animals (mice and rats).

Professors Wasielewski and Wülker[1] conclude therefore that the foundation of Schmidt's hypothesis of cancer formation is lacking and that there is no justification for designating his Antimeristem treatment as specific. Extensive trials of the remedy in clinical work have shown that this treatment is without effect.

In 1911 Dr. K. Kolb[2] conducted experiments with this treatment in the wards of O. von Herff, at Basel. His experience with inoperable carcinoma of the cervix showed not the slightest influence on the tumor. In a second report in 1912, Kolb refers to the failures of other observers and gives abstracts of three cases. In some cases temporary improvement was noted, but the same phenomenon has been observed in other cases in which no specific treatment was applied.

An example of the ease with which a false conclusion may be drawn in regard to the action of a remedy in inoperable cancer, a case reported by Kolb, in which a patient was operated on for uterine carcinoma by vaginal hysterectomy (Schauta's method). After four months the patient began to have pains, poor appetite, loss of weight, and a tumor was found of the size of a goose's egg adherent to the wall of the pelvis. This, however, was of an inflammatory nature and disappeared in about six weeks after it was discovered. Had this patient been given Antimeristem, the case might have been included as a remarkable cure by this remedy. Kolb[3] concludes that clinical experience indicates plainly that Antimeristem has no specific action on carcinoma cells. The experimental evidence of Wasielewski and Wülker indicates that Schmidt's theory is incorrect. Antimeristem is not a specific remedy. Dr. O. Schmidt[4] reports three favorable cases.

From the preceding reviews of the recent literature, it will be seen that this proposed treatment is another premature attempt to introduce to the public an unscientific remedy which is sold to the despairing sufferers from inoperable carcinoma at an enormously high price. If the Laboratorium W. Schmidt of Cologne is to deserve the confidence of the medical profession, it must follow the advice of Wasielewski and Wülker and see to it that incorrect ideas of the scientific foundation and activity of the preparation put out by it are no longer promulgated to physicians and the laity, and Dr. O. Schmidt should also heed the warning and halt this unscientific propaganda.

So far as the use of this vaccine in the United States is concerned, it should be noted that "viruses, serums, toxins, and analogous products" cannot be imported into the United States unless the firm has received a license from the Treasury Department. Such products are held up at the Custom-House for inquiry before being admitted. The Schmidt laboratory has not received a license as can be seen from a list of licensed institutions in *Public Health Reports*, Jan. 10, 1913.

PERTUSSIN

Dr. L. A. Roberts, Dorchester, Mass., writes: "Please tell me what the composition of Pertussin is."

Pertussin is a proprietary whooping-cough remedy manufactured by the Kommandanten Apotheke, Berlin. A "physician's sample" bottle of this preparation sent out by Lehn & Fink bears a label on which appears the following:

"100 parts Pertussin contains.:

½	Ol. Thymi. et Thymol
21½	Ext. Thymi 'Taeschner'
50	Saccharum
2	Glycerinum
6¼	Alcohol
19¾	Aqua Destillata"

While it never has had much vogue in this country it has been and still is used in Germany. It belongs to that class of vegetable preparations which, since they contain no distinctive principle, are difficult of analysis—particularly as concerns the "joker" in the formula, in this case "Ol. Thymi. et Thymol" and "Ext. Thymi 'Taeschner'"—hence there has been much dispute in Germany as to the composition of this nostrum. In general, it appears that whatever virtues it has are due to some preparation of common thyme in a menstruum containing water, sugar and alcohol. At one time the preparation was found to contain potassium bromid; but tests recently made in the A. M. A. Chemical Laboratory indicated the absence of either bromids or iodids.

PASADYNE

A physician asks: "Can you tell me the formula of a preparation on the market called Pasadyne, put up by John B. Daniel, Atlanta, Georgia?"

According to the manufacturer Pasadyne is a tincture of passion-flower. Formerly this nostrum was sold under the title "Daniel's Concentrated Tincture of Passiflora Incarnata." While the manufacturer claims marvelous virtues for this preparation, made from "the fruit, roots and vines of the passion-flower or May-pop," passiflora (passion-flower) is now generally recognized as being of little if any value.

A circular makes the following absurd statement:

> "Chloral and the bromids, before the recognition and advent into medicine of Pasadyne (Daniel's Concentrated Tincture of Passiflora Incarnata), were widely employed in all turbulent states of the psyche and, notwithstanding their many untoward, even sometimes dangerous effects, were held in high favor by physicians. For that matter, they still retain some of their old-time popularity, but since the superior value of Pasadyne (Daniel's Concentrated Tincture of Passiflora Incarnata) has been demonstrated to the profession's satisfaction, the erstwhile high esteem in which chloral and the bromids were held, is fast waning and ere long Pasadyne will have crowded them out."

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[1] Wasielewski and Wülker: Baseless Claims for Antimeristem in Cancer, München. med. Wchnschr., Feb. 20, 1912, p. 421.

[2] Kolb, K.: Failure of Antimeristem, München. med. Wchnschr., May 16, 1911.

[3] Kolb, K.: Negative Experiences with Antimeristem in Cancer, Berl. klin. Wchnschr., April 22, 1912.

[4] Schmidt, O.: Antimeristem in Treatment of Inoperable Cancer of the Uterus, Zentralbl. f. Gynäk., Dec. 23, 1911.

Giving the reason why the drug passiflora was not deemed of sufficient value and hence, along with the Daniel preparation, was refused recognition, a report of the Council on Pharmacy and Chemistry (The Journal A. M. A., March 19, 1910) states:

> "Although passiflora was introduced into medicine nearly seventy years ago, the literature concerning it is not very extensive; it is not mentioned in the standard works on pharmacology and its chemistry seems never to have been worked out. There appears, also, to be no record of experimental investigations of the drug with reference to its pharmacologic action, except an article by I. Ott (*Med. Bull.*, 1898, xx, 457) who used 'Daniel's concentrated tincture.'
>
> "Extravagant and inconsistent claims are made for Daniel's concentrated tincture of passiflora in the advertising literature, where it is recommended for such a wide range of diseases as asthma, typhoid fever, convulsions and paralysis.
>
> "None of the evidence is sufficient to show that passiflora has therapeutic value; hence it is deemed inadvisable to include this drug in the list of nonofficial remedies."

THE NEW CONSCIENCE

In this country the public attitude toward things that hitherto have been tolerated is bound to undergo many changes. What *Collier's* said about "Mr. Morgan's Case" can be so aptly paraphrased that we have set it out below:

> "It may help Mr. Morgan [Mr. Patient] to understand if his case is stated by analogy, and in a shape that will appeal to his own experience. He would discharge his chauffeur [his physician] if he should find him to be a partner in the garage [drug-store] that is supplying . . . the gasoline [medicine]. And he would discharge him because of the nature of that relation, without inquiring into specific transactions, or making any charge of dishonesty. It is an axiom of fundamental business ethics that the purchasing agent of a firm [the prescriber of medicines] shall not have a profit-sharing interest in any of the concerns from which he buys supplies [orders medicines]. For how can he be faithful to both trusts? If he is faithful to his employers, he must get the lowest possible prices; if he is faithful to his associates, he must get the highest possible prices. [If he is faithful to his patients, he must use what is best in each particular case; if he is faithful to his pharmaceutical firm, he must use its drugs in every possible case]. If he is faithful to either, he must necessarily be disloyal to the other. This is so simple that every business man understands it. It is an axiom not merely of business ethics, but of law as well. . . . What Mr. Morgan fails to realize is that this relation between buyer and seller is not permissible, wholly regardless of any charge of unfair dealing."

When such relationships are forbidden by law, physicians will, of course, obey the law; but physicians ought to be ready to avoid now what is morally wrong, and not to wait until it is made legally wrong. It behooves us to see that the business world, which formerly was given so much license to deceive, is not allowed to occupy the road alone in its march toward higher and better standards of right and wrong.

BIOSOL

Dr. A. N. Lakin, State Line, Ind., writes:

> "Kindly advise me concerning Biosol. I am sending you herewith a pamphlet describing this product. On the last page note clinical report from Dr. Buchman of the Indiana Medical Association and president of the Department of Public Health, Fort Wayne, Ind."

H. Hille, once of Heidelberg, now of Oak Park, Ill., having reached the conclusion that mineral starvation is the cause of all diseases, devoted his talents to finding a remedy. He claims to have found it and calls it "Biosol." He published his discovery in a pamphlet entitled "Facts of Modern Science," and recently published an article in the *Medical Record* giving his ideas on this mineral point of view. Biosol is an indescribable mixture of alcohol, carbohydrates, and many and various mineral bodies—ranging all the way from sodium, potassium, calcium and magnesium to silicon, copper, uranium and thorium—the amount of each being in most cases extremely minute. It is said to be a valuable food as well as medicine. A dose of this food might keep a rabbit alive for several hours, and a man who could stand the expense and escape death from delirium tremens might live on three quarts of the mixture per day. Human beings have little occasion to fear mineral starvation, and may obviate whatever danger there may be with a drink of milk. Like other living creatures, we may be thankful that we are furnished in our own bodies with a living bioplasm which can use the minerals of the waters and the rocks and which has its own laboratory in which to prepare organic compounds to suit its needs.

Correspondence

The Freudians and Imaginative Literature

To the Editor:—In Dr. Isador Coriat's letter (The Journal, Feb. 8, 1913, p. 464) in reply to my letter entitled "The Excesses of the Freudian School" (The Journal, Jan. 25, 1913, p. 307), he discloses several points of view which seem to me to involve some principles so fundamental, not only for this, but also for every discussion of the subject, that I crave the indulgence of your columns once again to consider them.

Dr. Coriat first quotes a portion of a sentence of mine as if it were the whole. What I wrote was: "How much of all that we have heard lately about the sexual etiology of psychoneuroses is true, I personally am frankly not in a position to judge." This is true for several reasons, to wit: Some years ago under the inspiration of a distinguished townsman of Dr. Coriat's, I became immensely interested in the conscious application of psychic methods of treatment to functional nervous disorders. I followed, and still follow particularly the methods of Du Bois, and the isolation persuasion scheme of Dejerine. Later I naturally was stimulated by the studies of Jung on reaction-times in such subjects and in the very suggestive theories of Freud. I used them, somewhat crudely perhaps, but as best I could in the absence of any one else in my community who appeared to know any more about them than I did, on various patients with various degrees of success. I had some quite astonishing therapeutic successes; but when I examined these results critically, I became somewhat skeptical as to the connection between the cure and the treatment, just as I might be skeptical of the connection between the cure and the anchoring of a floating kidney, or Christian Science, or washing out the stomach. I therefore felt that I had a right to suggest that until I had examined a number of the cases that other men had cured I was not in a position to judge as to just how much of it all was true. I added that I was most loath to believe in many instances that a very good case had been made out in print.

Dr. Coriat says that the opinion of so ill-informed a critic would not be tolerated in any other branch of scientific medicine. His irritation is inapt. My opinion, for instance, about pityriasis rubra pilaris might not be tolerated in any group of dermatologists. But if I had pityriasis rubra pilaris I imagine that certain phases of my opinion would not only be tolerated, but would be listened to with considerable interest. When it comes to the question of psychanalysis we are dealing with mental states. And whether Dr. Coriat believes it or not, I possess mental states. I have had emotions. I have had experiences. I have had dreams. So that when he and his fellow-workers advance a hypothesis to account for the origin of certain mental states, of certain experiences and of dreams, he is talking about something for which I have a standard which is for me the most real thing in all the world—namely, my own mental life. And all that he can reasonably ask of me or of any man besides this, before we form an opinion, is a due appreciation of the issues involved and a certain critical ability to weigh facts which a common education is supposed to impart.

The real point under discussion, however, was the wisdom that Freud's disciples display in analyzing characters in imaginative literature. It may be admitted that some advantage is gained by analyzing characters so universally conspicuous as Hamlet or Lady Macbeth; and furthermore, the propriety of using some isolated action or speech of those creations to point a moral or adorn a tale may again be granted. It seems quite proper, too, that such a study as that of Wagner's "Flying Dutchman," in which it is shown that certain of Wagner's early emotional experiences creep out again in his work, should be undertaken, for here we are dealing with the actual facts of an actual human life. But it was suggested that all this advantage is doubly lost when we are confronted with the pedantic spectacle of a neurologist soberly sitting down to review Lady Macbeth's whole life and explain her somnambulism on the ground of an unconscious repressed wish for a child, because in the inevitable twisting which the words of an imaginative creation would necessarily require a suspicion might arise of the methods employed in other instances. This objection Dr. Coriat meets squarely. He says that "the psychopathologist is in a far better position to judge and interpret abnormal characters in literature than is the literary critic, who has had neither medical nor psychopathologic training. . . . Shakespeare's intuitive insight in creating these characters, so true to what is seen to-day in neurologic clinics, must ever be a source of admiration concerning the accuracy of his astonishing genius." No one who speaks the English language need pause to express his admiration for Shakespeare; but to say that Shakespeare actually anticipated the researches of the modern laboratory psychologist is on a par with saying that because Brutus tells Portia that she is as dear to him as the ruddy drops that visit his sad heart, Shakespeare anticipated the discovery of the circulation of the blood.

We must be quite clear about what is meant by this. It will not do to assert that in a sort of general way these characters show some of the symptoms we see in nervous patients to-day. It means that Shakespeare deliberately and consciously molded these symptoms on the basis of a theory of subconscious sex association. And nothing else will do. Otherwise the whole thing falls to the ground. Dr. Coriat seems to think that whether Shakespeare was conscious of the modern ideas or not makes no difference so long as psychanalytic interpretations can be read into the plays. It seems to me that he is confused. A turn, a phrase, a line of a play may arouse in me emotions or thoughts or insight into modern institutions, of which Shakespeare was certainly not conscious. But there we are dealing with emotional or esthetic life. In the present case we are dealing with science, endeavoring to ascertain the relation of cause and effect. One cannot assert that these creations are beautiful examples of the operation of a certain set of causes if their creator was unconscious of that set of causes and of its operation.

When we come to examine Macbeth in the light of this clarification of ideas, what justification do we find for the belief that Shakespeare intended Lady Macbeth's somnambulism to be the result of an unconscious repressed desire for a child? I can hardly think it unreasonable to ask that if a man starts to prove such an assertion he should at least first clear the decks by concerning himself with the question as to whether Lady Macbeth had a child or not. But this trivial matter Dr. Coriat does not trouble himself to consider. There is as a matter of fact not one single jot of positive unquestionable proof that Lady Macbeth was childless, either in the play itself or in Holinshed. There is, indeed, the negative evidence, that no child of hers walks on the stage. But in the first act we find her talking to her wavering lord, weakening in his determination to kill the king, reminding him that he is sworn and then flaring out in that burst of magnificent passion:

> I have given Sucke, and know
> How tender 'tis to love the Babe that milks me,
> I would, while it was smyling in my Face
> Have pluckt my nipple from his Boneless Gummes
> And dashed the Brains out, had I so sworn
> As you have done to this.

To a plain, blunt man not versed in that uncanny knowledge which is denied literary critics and is the common property of Freud's students, it would appear that this passage indicated that Lady Macbeth had a child. And if so, then it would appear that she would hardly suffer from a repressed desire for a child. Not so with Dr. Coriat. He quotes in his book. "The Hysteria of Lady Macbeth," this very passage. It appears to give him no trouble. He apparently does not consider that it needs explaining. He serenely informs us that "the theme of childlessness is here revealed for the first time." Did ever in the history of human thought the theme of childlessness wear so queer a garb?

It is all this which makes us wonder whether the Freudians ended with a theory or began with one—whether they examined the facts and built a hypothesis, or whether they built a hypothesis and examined the facts. For it has seemed clear for many years that in Lady Macbeth Shakespeare's intuitive insight into the human soul intended to show that the conscience of a murderess was an uneasy bedfellow, that the thing which drove her to wander while she slept was an old sin which came to haunt her slumbers. It was the blood of Duncan on that little hand which all the perfumes of Araby could not sweeten. And if there is any meaning in anything, this tragedy means that Shakespeare believed that a repressed knowledge of murder could be the cause of somnambulism and of hysteria. It is just this that is so exasperating in the Freudian school. There is a plain explanation, and they will none of it. It is this eternal harping on sex as if it were the only thing in life. It is not even the greatest thing in life. Self-preservation is the first law of Nature. We have all along been prepared to accept the principles of Freud's teaching. They have been illuminating beyond measure, and, it were presumption to add, in large part true. But they are not the key to all history or the touchstone to all life. To say that there is only one kind and quality of love in the world and that sexual love—that a son's love for his mother, a daughter's love for her father is all sexual; that if one man loves another man he loves only the womanly qualities in him, that if a man goes about his work in the world, he goes with the hope of female approbation—this is to invite an answer which by its very qualities is difficult to formulate. It is difficult to formulate because the answer to all that is the sober common sense of the average man.

Dr. Coriat makes one other final illuminating remark. "It is a proof, too, of the soundness of Freud's fundamental contributions to psychopathology, when it can be shown that the mental mechanisms of unconscious complexes, repression, dissociation and mental conflicts are the same for hysteria and the anxiety neuroses as for such purely fictitious creations as the mental disease of Hamlet and Lady Macbeth." If this be proof, he has made the most of it. But it is only proper to inform him that that kind of proof would not be tolerated in any other branch of scientific medicine.

Logan Clendening, M.D., Kansas City, Mo.

A Simple Substitute for Kuhn's Aspiration Mask

To the Editor:—Permit me to vouchsafe a bit of valuable information for the benefit of your readers in regard to Kuhn's aspiration mask. It may not be generally known that all the beneficial results of the mask can be secured in a much simpler manner by using a section of a small catheter, about No. 16F, or a straw or quill to draw the breath through, thus retarding inhalation quite as effectually as by use of the cumbersome mask; but such is the case. The only benefit of the mask is to insure a deep, full inspiration of air slowly and gradually, holding it a few seconds and then its sudden expiration, which, as you remark (The Journal, Feb. 22, 1913, p. 632), produces negative compression of the lungs, sucking the blood from the right chamber of the heart into the lungs. When the heart is weakened and tired by overexertion for instance, and there is pain from overdistention of the right chamber, if the patient will lie down for five minutes and breathe in that manner through a quill toothpick or even through his teeth, the relief experienced will be immediate and most remarkable. I have often practiced it myself for nervous excitement and insomnia, usually falling asleep before the expiration of the five minutes, when otherwise I might lie and count the strokes of the clock for hours. For many years it has been my custom to instruct anemic and nervous patients to practice the method for five or ten minutes on first lying down at night, without explaining the reason further than to say that it would expand the chest. It may also be practiced when sitting at a desk or reclining in an easy chair, and it really does oxygenate the blood and improve the breathing capacity of the chest.

T. W. WILLIAMS, M.D., Milwaukee, Wis.

Athletics and Health

To the Editor:—Permit me to commend the stand which you take in your editorial on athletics, February 8, particularly your expression with regard to the value of such sports as may be continued after a man's college course is completed. In these matters I feel sure that men engaged in physical education are glad to have the opinions and cooperation of men who are engaged in the general practice of medicine.

DUDLEY B. REED.
Medical Examiner, Division of Physical Culture and Athletics, University of Chicago.

Queries and Minor Notes

ANONYMOUS COMMUNICATIONS will not be noticed. Every letter must contain the writer's name and address, but these will be omitted, on request.

VASECTOMY; TECHNIC AND EFFECT ON SEXUAL INTERCOURSE

To the Editor:—1. Please let me know the technic of vasectomy as it is performed for the sterilization of criminals.

2. What effect does the operation have on the ability of the individual to have sexual intercourse, other than preventing the ejaculation of spermatozoa? L. W. HOWE, M.D., Coldwater, Mich.

ANSWER.—1. The technic of vasectomy was described by H. C. Sharp in THE JOURNAL, Dec. 4, 1909, p. 1897, as a means of preventing procreation in defectives. The subject was discussed in THE JOURNAL, Sept. 30, 1911, p. 1152, where a considerable bibliography is given. Sharp describes the technic as follows:

> After cleansing the scrotum with soap and water I bathe the part in alcohol, then grasp the spermatic cord between the thumb and the index-finger of the left hand, detect the vas, hold it firmly and fix it with a pair of bullet forceps, then cut down on it, draw it through the scrotal wound by means of a tenaculum hook, strip it of all membranes and the accompanying artery, ligate above and sever, cutting away any portion from the vas that may have been damaged in the manipulation. This is done in order that the end next to the testicle may not become closed. It is very important that it shall remain open, in order that the secretion of the testicle may be emptied around the vessels of the pampiniform plexus and there absorbed, for it is through this process that the economy receives the tonic effect of the secretion; also where the end closes there is likely to be cystic degeneration. The action of the muscle closes the skin wound and no stitch, collodion or adhesive plaster is needed. The patient returns to his work immediately and suffers but little inconvenience.
>
> The operation in the female is more difficult, but, if skilfully done, no more hazardous. The oviduct is reached through a median incision, the tube ligated near the uterus and severed beyond the ligature.

2. It has no other effect.

A report of a supreme court decision upholding vasectomy is given in the Medicolegal Department of this issue of THE JOURNAL.

FETAL DEFORMITIES OR DEFECTS NOT DUE TO UNSUCCESSFUL ATTEMPTS AT ABORTION

To the Editor:—If a pregnant woman injects into the gravid uterus, by means of a small rubber syringe, turpentine or other irritant which fails to produce abortion, will this attempt have any effect on the growth and development of the fetus? If the fetus is carried to full term will the child be normal or is it liable to birthmarks and deformity? Is the amniotic fluid sufficient protection?

M. F. DAUBENHEYER, M.D., Butlerville, Ill.

ANSWER.—There is still a widespread belief among both the laity and the medical profession that attempts at abortion which do not lead to the expulsion of the egg may in some way injure it so as to cause birthmarks or other deformities. Scientific clinical observation or experiment furnishes little or no basis for this belief.

The theories of the causation of monstrosities may be classified roughly as follows:

1. Supernatural and fantastic theories. These include those theories that assume as factors the influence of gods or evil spirits, hybrid unions and mental impressions.

2. Theories based on trauma and pressure. These assume that the embryo or fetus is affected by maternal traumatism or injury due to falls or blows or tight corsets, or to internal pressure from pelvic tumors or intra-uterine pressure. That some fetal injuries may be due to external violence is true, and that certain deformities may be due to pressure of the containing sac as in ectopic pregnancy there can be no doubt; but this theory cannot explain the common monstrosities like anencephalus, etc.

3. Amniotic theory. According to this theory inflammation of the amnion leads to the formation of amniotic bands that interfere with fetal development. In this group of factors might be placed placentitis, which was held by Simpson to be an important factor in causing deformity. Inflammation of the placenta might naturally spread to the chorion and amnion. Under this head could be included intra-uterine injections and other methods of inducing abortion which supposedly might cause inflammation of the placenta. The existence of placentitis is nowadays not considered well established as a specific disease, and its relation to the amniotic theory is only conjectural. Moreover, the amniotic theory is largely displaced by the fourth, or embryologic, theory.

4. This theory postulates a disordered embryology or a disturbed ontogenesis and organogenesis. According to this theory most deformities are due to arrested development of parts or organs of the embryo or of the adnexa.

In any case the common deformities date from the embryologic period; that is, from the first forty days of pregnancy, and probably more often from the first half of this period. Hence any teratogenetic effect of attempts at abortion can hardly be assumed to occur after the first four to six weeks of pregnancy.

It cannot be denied that injury to the placenta or fetus from an attempt at abortion might interfere with its growth and lead to general undevelopment. That is doubtful, however, and not in accord with general observation. As a rule a patient may be assured that if an attempt at abortion fails she need have no fear about the baby. In many thousands of instances perfect children have been born after unsuccessful attempts at abortion. The fear that the child might be deformed is unjustified and is absolutely no reason for the induction of abortion.

BOOKS GIVING TECHNIC FOR DETERMINING COAGULATION-TIME OF THE BLOOD

To the Editor:—Please give me the technic of a simple, accurate method of determining the coagulation-time of the blood.

W. H. SMITH, M.D., Goldsboro, N. C.

ANSWER.—Good methods can be found in recent works on clinical diagnosis, such as Webster's "Diagnostic Methods" published by Blakiston's Son & Co., Philadelphia, at $4.50; Wood's "Chemical and Microscopic Diagnosis" published by Appleton & Co., New York, at $5, or Simon's "Clinical Diagnosis," published by Lea & Febiger, Philadelphia, at $5. A simple instrument for determining the coagulation-time of the blood is described by W. W. Duke in the *Archives of Internal Medicine*, February, 1912, p. 258.

GUIDES TO WATER ANALYSIS

To the Editor:—Please refer me to a guide to water analysis.

DAVID L. HEDBERG, M.D., Leaf River, Ill.

ANSWER.—There are three excellent books on water-supply, two by English writers (Savage: "The Bacteriologic Examination of Water-Supplies," and Horrocks: "Bacteriologic Examination of Water"), and a third by the American investigators, Prescott and Winslow (published by John Wiley and Sons). These books discuss the interpretation as well as methods of bacterial water analysis. "The Standard Methods of Water Analysis," published by the American Public Health Association, gives both chemical and bacterial methods in detail with many references. It should be added that at least as much skill is needed in the interpretation of water analyses as in the technical execution itself, and that an inexperienced observer is liable to draw false conclusions from his analytic data.

MEDICATION BY THE RECTUM

To the Editor:—1. On page 557 of The Journal, Feb. 15, 1913, is a mention of an article "Medication by the Rectum," by A. Guérin (*Journal de médecine de Bordeaux*, November 17, xlii, No. 46). Does this article give any directions for using remedies by the rectum for systemic effect? If so, please give further details.

2. Please give references to text-books on rectal medication.

A Subscriber, Oklahoma.

Answer.—1. This article was not abstracted, as Guérin does not seem to have personal experiences to report with medicinal rectal injections except in respect to morphin. This has taught him that morphin addiction is possible by all routes. He cites a few authorities, but in a vague, general way. Sodium salicylate by the rectal route is mentioned only as having been used by Seibert, who gave in cerebrospinal meningitis 1 gm. in a tablespoonful of water to a total of from 4 to 10 gm. a day in rectal injection. The chief point which Guérin makes is the superiority of a very small injection, from 1 to 5 or 15 c.c., that is, 2 or 3 teaspoonfuls or less, injected with a syringe with a capacity of not over 6 or 15 c.c. possibly with a cannula or short rubber tube slipped over the tip. He quotes several writers who warn that mercury and quinin should never be given by the rectum. He knows of two instances of children dying after the use of suppositories containing the usual therapeutic dose of quinin. The rectal mucosa seems to be peculiarly sensitive to quinin. The lower part of the rectum seems to have the greatest absorbing power. The fluid should be tepid, injected when the intestines are at rest, some time after a cleansing enema, and the patients must be explicitly instructed anew that the medicinal injection is to be retained. Renaut found Fowler's solution irritating to the rectum and changed to sodium cacodylate, which he declares is superior to all other preparations of arsenic for rectal injection. Guérin's formula for morphin is 0.1 gm. morphin in 150 c.c. of distilled water, injecting 15 c.c., or 0.12 gm. in 60 c.c. water, injecting only 6 c.c. He advises injection of a small amount of laudanum to precede a nutrient enema instead of adding the laudanum to it.

2. We do not know of any book devoted to rectal medication. There are references in the various works on therapeutics. In general, it is believed that absorption from the rectum is less active than from the stomach and upper intestine. For this reason the doses of remedies for rectal use are usually given as somewhat greater than those administered per os.

INFLAMMATION OF THE GALL-BLADDER

To the Editor:—In March, 1912, I operated on a patient for empyema of the gall-bladder following typhoid fever. Bile flowed for a few days. A free flow of mucus continued until the sinus closed, when great pain developed in that region, relieved only by reopening of the sinus. There would be a copious discharge of mucus and no more pain until the sinus closed again. It has been noted that each time the sinus closed and pain developed, reopening of the sinus would bring away a smaller amount of mucus. There is no pain at any time except when the sinus closes. The flow of mucus being so much less now, the sinus closes much more frequently.

Will Nature eventually cause such a shrinking of the gall-bladder that the mucous fistula will heal spontaneously if the fistula is kept open? Is there any local treatment that may be used to hasten the desired end?

M. V. S.

Answer.—In this case the trouble lies in the fact that the inflammation of the gall-bladder has not subsided entirely. Therefore when the opening closes the symptoms recur. The drainage should be continued until the surface of the mucous membrane of the gall-bladder is perfectly smooth and pink in color. This is determined by a cystoscopic examination of the gall-bladder. As soon as the inflammation subsides, drainage may be dispensed with and the patient will not have pain when the opening closes. There is no local treatment which will hasten the desired end.

THE PURSUIT OF EMPTY HONORS—THE ITALIAN PHYSICO-CHEMICAL ACADEMY

To the Editor:—I enclose some printed circulars I received. The "academy" from which they come appears to me like a fake, and if such it proves to be, publication of some announcement might save many physicians from being imposed on.

F. W. Foxworthy, M.D., Indianapolis.

Answer.—One of the impressive circulars referred to would lead the innocent reader to believe that he has been nominated for the honor of being elected to membership in the Italian Physico-Chemical Academy. He is told that a handsome diploma will be forwarded to him, but first, of course, there is—ahem!—the slight incidental formality of the payment of a specified fee. This fake "scientific" organization, along with some other similar diploma-mills, was discussed in The Journal, Oct. 21, 1911, pp. 1373 and 1380.

The wish to display tokens of loyalty to an organization which actually has an aim and a work springs from a trait in human nature of which no one need feel ashamed; but it is characteristic of children and of naive grown-ups to delight in trumpery decorations like the souvenirs distributed by advertisers and the degrees and medals ground out by diploma-mills. It is often amusing to see the meaningless diplomas and absurd titles which physicians sometimes secure for a few dollars and treasure as if they were guerdons of scientific achievement, even framing them and hanging them in their offices—why? Is it to impress the unsuspecting public? Of course, a foreign diploma is especially valuable for this form of quackery.

HYDROPHOBIA AND RABIES

To the Editor:—Please print a list of articles on hydrophobia and rabies published in The Journal, and the names of any books on the same subject.

T. B. Enders, M.D., New York.

Answer.—In addition to Moore's "Pathology of Infectious Diseases of Animals," 1906, the following original articles and editorials which have appeared in The Journal may be referred to:

Rabies in 1911, editorial, The Journal, July 27, 1912, p. 282.
Cumming, J. G.: Hydrophobia, with Report of a Case, The Journal, May 18, 1912, p. 1496.
Hanson, Henry: Rabies in a Human Being, with Post-Mortem, The Journal, Dec. 23, 1911, p. 2064.
Stimson, A. M.: Controlling Hydrophobia in the Human Subject, The Journal, Sept. 30, 1911, p. 1128.
Moon, S. B.: Microscopic Diagnosis of Rabies; a Modification of Van Gieson's Method of Staining the Characteristic Nerve-Cell Inclusions, The Journal, Aug. 26, 1911, p. 735.
The Pathology of Rabies, editorial, The Journal, May 14, 1910, p. 1617.
Hydrophobia, editorial, The Journal, March 3, 1910, p. 799.
Frothingham, L.: The History, Prevalence and Prevention of Rabies and Its Relation to Animal Experimentation, The Journal, March 5, 1910, p. 780.
Stimson, A. M.: Antirabic Serum, The Journal, Jan. 22, 1910, p. 266.
Kerr, J. W., and Stimson, A. M.: The Prevalence of Rabies in the United States, The Journal, Sept. 25, 1909, p. 989.
Rucker, J. B.: The Smear Method as a Means of the Rapid Diagnosis of Rabies, The Journal, July 25, 1908, p. 288.
Rabies in Great Britain and in America, editorial, The Journal, Oct. 24, 1908, p. 1428.
The Specific Treatment of Rabies, editorial, The Journal, Feb. 29, 1908, p. 691.
The Negri Bodies in Hydrophobia, Query and Minor Note, The Journal, Jan. 11, 1908, p. 140.
Hydrophobia, editorial, The Journal, May 16, 1908, p. 1612.

LITERATURE ON ANAPHYLAXIS

To the Editor:—Please give me references to recent work on anaphylaxis.

J. R. Blackman, M.D., Hastings, Neb.

Answer.—The following may be referred to:

Schultz, W. H.: Physiologic Structures in Anaphylaxis, Hygienic Laboratory Bull. No. 80, 1912.
Anaphylaxis, editorial, The Journal, April 22, 1911, p. 1199.
Friedberger, E.: Anaphylaxis, Deutsch. med. Wchnschr., March 16, 1911; abstr., The Journal, April 22, 1911, p. 1232.
Infection and Anaphylaxis, editorial, The Journal, March 11, 1911, p. 746.
Grinnan, S. G. T.: Anaphylaxis, The Journal, Jan. 20, 1912, p. 178.
Meilliere, G.: Anaphylaxis, Med. Press and Circular, Dec. 6, 1911.
Shaw, H. B.: Anaphylaxis in Relation to Certain Clinical Manifestations, Practitioner, London, December, 1911.
Hektoen, L.: Allergy or Anaphylaxis in Experiment and Disease, The Journal, April 13, 1912, p. 1081.
Anaphylaxis, Paris Letter, The Journal, Nov. 16, 1912, p. 1807.
Gallagher, J. F.: Anaphylaxis, Jour. Tennessee State Med. Assn., October, 1912.

The volume "Infection, Immunity and Serum-Therapy" by Ricketts, published by the American Medical Association at $2, has chapters on anaphylaxis, besides taking up all the other ramifications of this general subject in detail.

HAIR-SPLITTING IN HYPERTRICHOSIS

To the Editor:—In The Journal (Feb. 22, 1913, p. 617), the question is asked about splitting of the hair in hypertrichosis. Is it possible that J. J. S. S. has a case of hypertrichosis mixed with fragilitas crinium, or has he given the disease the wrong name?

H. Schmidt, M.D., Addieville, Ill.

Answer.—The query of J. J. S. S., we understand, really refers to fragilitas crinium in hypertrichosis, and it was answered with this interpretation. We find no positive statement that fragilitas crinium is likely to occur in hypertrichosis, but we see no reason why it might not, so there is no necessity for confusion in the names of the diseases.

Medical Economics

This Department Embodies the Subjects of Post-graduate Work, Contract Practice, Legislation, Medical Defense, and Other Medicolegal and Economic Questions of Interest to Physicians

PRESIDENT'S COMMISSION FAVORS HEALTH SERVICE

One of the questions most warmly discussed before the Senate Committee on Public Health and National Quarantine was that of the advisability of organizing an independent health service. President Taft referred this question to the President's Commission on Economy and Efficiency, to consider the possibility of organizing such a service by transferring to an independent organization a number of the existing bureaus and divisions, as provided by the Owen bill. The report of this commission, recently printed as Senate Document 1002, is an endorsement of Senator Owen's plan, as an economical and efficient solution of the problem of governmental health activity. The report should be read by all interested in this subject. The substance of it is given below:

ESTABLISHMENT OF AN INDEPENDENT PUBLIC HEALTH SERVICE

The Commission on Economy and Efficiency has undertaken to investigate the various government services having to do with matters pertaining to public health, and submits the following preliminary report on the advisability of establishing a government service independent of existing executive departments, to have charge of those activities that pertain to the public health.

The recommendations of the commission on this subject are:

1. That provision be made by law for the establishment of an independent Public Health Service.

2. That provision be made in the law creating that service for the transfer to it of bureaus or divisions in the executive departments concerning which there is no doubt as to their distinct public health purpose, and among those the following: (*a*) the Bureau of Public Health and Marine-Hospital Service, now under the Department of the Treasury; (*b*) the Bureau of Chemistry, or that part of it charged with the investigation of the adulteration of foods, drugs and liquors, and with the execution and enforcement of the act of Congress entitled "an act for preventing the manufacture, sale, or transportation of adulterated or misbranded or poisonous or deleterious foods, drugs, medicines and liquors, and for regulating traffic therein, and for other purposes," approved June 30, 1906, now in the Department of Agriculture; (*c*) the Division of Vital Statistics, Bureau of the Census, now in the Department of Commerce and Labor.

3. That provision be made in the law for the grant of authority to the President to transfer to said Public Health Service the whole or any part of any bureau, division, or other branch of the government engaged in work pertaining to the public health except the Medical Department of the Army and the Bureau of Medicine and Surgery of the Navy, when on investigation he is of the opinion that it will be for the best interests of the public to make the transfer.

4. That provision be made also for certain new bureaus under said Public Health Service to take charge of lines of work not covered by other subdivisions of said services or other bureaus, divisions, or branches of the government.

5. That the director of the Public Health Service be authorized, with the approval of the President, to rearrange the organization and work of the several bureaus and divisions covered by his service in such manner as will bring about a better coordination of said subdivisions.

6. That provision be made by the law for the transfer of funds appropriated with each service transferred and for the apportionment of funds for each bureau or division rearranged by the director of the service.

The foregoing recommendations represent the conclusions which have been reached by the commission as the result of its study of the work now being done in the several executive departments in the protection and promotion of the public health. In other reports the commission has emphasized the economy and efficiency to be attained through the bringing together under the same general direction of those services whose activities fall within the same field.

The commission has studied in detail the work of the several services and branches of the government having to do with matters of public health, and has reached the conclusion that until the several bureaus and divisions are brought together under a common direction it will be impossible for the government to have a definite health program which is adapted to the needs of the people or for public health matters to receive the attention their importance deserves, nor can the existing services accomplish the results that should be obtained from the moneys expended in their maintenance and operation.

The creation of an independent Public Health Service is recommended by the commission in order to accomplish three purposes: (1) to insure that a work of such commanding importance to the people will receive the special attention that it deserves, (2) to provide an organization best adapted to doing health work, and (3) to relieve existing departments of duties in no way germane to their chief functions and which therefore detract from rather than add to their efficiency.

In respect to the first of these points the commission is influenced not only by the importance and variety of the work now being done by the government in this field, but by the certainty that public opinion will demand that the government do much more each year. It may be said that only within recent years has the country been aroused to the importance from the national standpoint of the subject of public health. That this awakened interest must lead to the assumption by the national government of new duties and responsibilities in this field is almost certain. It is not necessary, however, to base a recommendation for an independent Public Health Service on future needs. At the present time the operations of the government in this field are sufficient to warrant the creation of an independent service to care for them. In the Marine Hospital, quarantine and immigrant inspection work of the Bureau of Public Health and Marine-Hospital Service of the Treasury Department; in the scientific research work done in that bureau; in the enforcement of the pure food, drug and liquor act, through the Bureau of Chemistry of the Department of Agriculture; in the comprehensive efforts being made by the Division of Vital Statistics of the Bureau of the Census, Department of Commerce and Labor; and in the special work being done by various other subdivisions the government is now doing work pertaining directly to public health and sanitation, and that work requires the maintenance of elaborate services and the expenditure of millions of dollars annually.

The commission has considered the question as to whether the advantages to be derived from the correlation of these several services could not be secured by assembling them under some one of the existing executive departments. Such examination, however, has convinced the commission that this would not reach the end desired unless all the activities which are not directly related to health work be first transferred from such department. It believes that the attempt to group these several services under a department whose major interest would be in other fields would result in little, if any, improvement over existing conditions. At the same time the commission recognizes the inadvisability of adding to the number of executive departments if such action can be avoided. It is for this reason that it recommends the creation of a service which, while independent of other departments, will not itself have the status of a department unless after such a service has been developed and a better basis exists for judgment it is found that an additional department is needed. It may be that by redistribution of activities the same end may be reached without increasing the number of departments.

The services which the commission believes should be transferred by law as subdivisions of the proposed Public Health Service do not represent all of the bureaus, divisions and subdivisions performing work in connection with the public health and sanitation. There are a number of other services whose activities, in whole or in part, fall in this field. These other services have grown up, however, as parts of organizations created for the performance of work in fields other than that of public health and sanitation. Only a painstaking investigation of the exact nature of the work now being performed by such services and its relation to other activities performed by the bureaus and departments in which such services are located will make it possible to determine whether or not it will be in the interest of economy and efficiency to have such work performed as at present or transferred to and made a part of the Public Health Service. The commission has undertaken detailed studies of the history, organization and activities of these services. Until the results of such studies are available the commission believes that it would be a mistake to transfer the work of such services.

It is for this reason that the commission has restricted its recommendations concerning the services to be immediately made part of the Public Health Service to those few services concerning the propriety of whose incorporation in the Public Health Service there can be but little difference of opinion. It is satisfied that such further investigation of other services having to do with public health matters will establish clearly that some of these services, or certain parts of their activities, should be transferred to the proposed Public Health Service. The commission accordingly recommends that the act providing for the creation of such Public Health Service should authorize the President hereafter to transfer such other services or parts of services to the independent Public Health Service to be created as, in his opinion, is for the best interests of the public. In making this recommendation the commission has followed the precedent established by the act creating the Department of Commerce and Labor.

The commission believes that similar provision should be made in the act providing for the establishment of an independent Public Health Service.

It believes also that the director of the Public Health Service, subject to the approval of the President, should have the same power to rearrange and consolidate the subdivisions of his service that was conferred on the Secretary of Commerce and Labor to rearrange and consolidate the statistical work of the bureaus and offices confided to said department.

Medical Education and State Boards of Registration

COMING EXAMINATIONS

Connecticut: Regular, City Hall, New Haven, March 11. Sec., Dr. Charles A. Tuttle, 196 York St.; Homeopathic, New Haven, March 11. Sec., Dr. Edwin C. M. Hall, 82 Grand Ave.; Eclectic, New Haven, March 11. Sec., Dr. Thomas S. Hodge, 19 Main St., Torrington.

Maine: City Hall, Portland, March 11-12. Sec., Dr. Frank W. Searle, 776 Congress Street.

Massachusetts: State House, Boston, March 11-13. Sec., Dr. Edwin B. Harvey, Room 159, State House.

Iowa September Report

Dr. Guilford H. Sumner, secretary of the Iowa State Board of Medical Examiners, reports the written examination held at Des Moines, Sept. 11-13, 1912. The number of subjects examined in was 8; total number of questions asked, 100; percentage required to pass, 75. The total number of candidates examined was 22, of whom 20 passed and 2 failed. The following colleges were represented:

PASSED College	Year Grad.	Per Cent.
George Washington University	(1912)	92.1
Northwestern Univ. Med. School (1911) 88.7, 91.5;	(1912)	94
Rush Medical College	(1911) 89,	90.2
College of Phys. and Surg., Chicago (1910) 87, 88;	(1912) 89.2,	93.1
Hahnemann Medical College and Hospital, Chicago.	(1912) 78.5,	85.6
State University of Iowa, College of Medicine	(1897)	76
Drake University	(1912)	93.7
University of Louisville	(1912)	78.6
Cornell University Medical College	(1910)	92
St. Louis University	(1912)	88.9
Woman's Medical College of Pennsylvania	(1912)	87.5
Memphis Hospital Medical College	(1912)	79.2
Western University, London, Ontario	(1912)	88.5
FAILED		
Keokuk Medical College	(1892)	39
St. Louis College of Physicians and Surgeons	(1910)	70.1

Michigan October Report

Dr. B. D. Harison, secretary of the Michigan State Board of Registration in Medicine, reports the written and oral examination held at Lansing, Oct. 8-10, 1912. The number of subjects examined in was 14; total number of questions asked, 100; percentage required to pass, 75, and not less than 50 in any subject. The total number of candidates examined was 15, of whom 13 passed and 1 failed. For one candidate the credentials have not been completed. The following colleges were represented:

PASSED College	Year Grad.	Per Cent.
Hahnemann Medical College of Chicago	(1891)	76
Bennett Medical College	(1912)	75.1
Rush Medical College	(1912)	81.8
Harvard Medical School	(1911)	82
Baltimore Medical College	(1911)	84.6
University of Michigan, Dept. of Med. and Surg.	(1903)	79.7
University of Michigan, Homeopathic College	(1912)	79.9
Saginaw Valley Medical College	(1899)	79.5
Bellevue Hospital Medical College	(1897)	77.4
University of Pittsburgh	(1911)	83.3
Laval University, Quebec	(1902)	*80.8
University of Athens, Greece	(1893)	*91.8
Royal University of Palermo, Italy	(1902)	*87
FAILED		
Detroit Homeopathic College	(1910)	64.4

* Including allowance for years of practice.

Alabama January Report

Dr. W. H. Sanders, chairman of the Alabama State Board of Medical Examiners, reports the written examination held at Montgomery, Jan. 14-17, 1913. The number of subjects examined in was 10; total number of questions asked, 98; percentage required to pass, 75. The total number of candidates examined was 68, of whom 46 passed including 1 osteopath and 22 failed. The following colleges were represented:

PASSED College	Year Grad.	Per Cent.
Birmingham Medical College (1907) 80; (1911) 81; (1912) 75, 75, 78, 79, 79, 79, 80, 80, 82, 83.		
University of Alabama (1910) 80; (1911) 77; (1912) 75, 75, 76, 77, 78, 78, 80, 83, 93.		
Atlanta College of Physicians and Surgeons	(1912)	78
Atlanta School of Medicine	(1912)	78
Chicago College of Medicine and Surgery	(1912)	75
Rush Medical College	(1907)	88
American Medical Missionary College	(1910)	78
Kentucky School of Medicine	(1902)	75
Tulane University of Louisiana	(1912) 79, 89,	90
Columbia University, College of Phys. and Surg.	(1896)	75
Ohio-Miami Medical College	(1912)	84
University of Pennsylvania (1910) 82;	(1911)	81
Chattanooga Medical College	(1908)	78
Memphis Hosp. Med. Coll. (1910) 78; (1911) 76;	(1912) 76,	81
Vanderbilt University	(1912) 82, 83,	84
University of Virginia	(1909)	86
FAILED		
Birmingham Medical College (1907) 62; (1908) 68; (1912) 65, 69, 71, 72.		
University of Alabama (1911) 62, 72;	(1912)	68
Southern College of Medicine and Surgery, Atlanta.	(1912)	52
Atlanta School of Medicine (1908) 63; (1911) 68;	(1912) 57,	70
Tulane University of Louisiana (1910) 73;	(1911)	73
University of Maryland	(1911)	73
Memphis Hospital Medical College (1911) 73;	(1912)	62
University of Tennessee	(1912) 66,	73
University College of Medicine, Richmond	(1911)	73

Washington January Report

Dr. F. P. Witter, secretary of the Washington State Board of Medical Examiners, reports the written and oral examination held at Spokane, Jan. 11, 1913. The number of subjects examined in was 11; total number of questions asked, 110; percentage required to pass, 75 and not less than 60 in any one subject. The total number of candidates examined was 40, of whom 29 passed including 3 osteopaths and 11 failed including 1 osteopath. The following colleges were represented:

PASSED College	Year Grad.	Total No. Examined
University of Colorado	(1911)	2
Northwestern University Medical School	(1907) (1911) (1912)	3
College of Physicians and Surgeons, Chicago	(1909)	1
Bennett Medical College	(1912)	1
Drake University	(1897)	1
Tulane University of Louisiana	(1910)	1
Baltimore Medical College	(1910)	1
Detroit College of Medicine	(1906)	1
University of Michigan, Homeopathic College	(1906)	1
University of Michigan, Department of Medicine and Surgery	(1898) (1902) (1912)	3
University of Minnesota, College of Medicine and Surgery (1905, 2)	(1912)	3
University of Nebraska	(1909)	1
Columbia Univ., Coll. of Phys. and Surg. (1907)	(1910)	2
Cornell University Medical College	(1909)	1
University of Oregon	(1912)	2
Jefferson Medical College	(1909)	1
University of Munich, Germany	(1908)	1
FAILED		
Physio-Medical College of Indiana	(1889)	1
University of Louisville	(1907)	1
Tufts College Medical School	(1909)	1
Detroit Homeopathic College	(1908)	1
St. Louis University	(1904)	1
St. Louis College of Physicians and Surgeons	(1893)	1
University of Buffalo	(1888)	1
University of Pittsburgh	(1911)	1
University of Nashville	(1902)	1
University Siena, Italy	(1909)	1

Book Notices

Muscle Spasm and Degeneration in Intrathoracic Inflammation . . . and Light Touch Palpation . . . By Francis Marion Pottenger, A.M., M.D., LL.D., Medical Director of the Pottenger Sanatorium for Diseases or the Lungs and Throat, Monrovia, Cal. Cloth. Price, $2. Pp. 105, with 16 illustrations. St. Louis: C. V. Mosby Company, 1912.

This book brings together with much additional information what the author has published on the same subject in medical periodicals during the last few years. He believes that more can be inferred than is ordinarily inferred from what is seen on the exterior of the chest, as to whether or not the lungs are involved. He asserts that one properly trained in light palpation can locate organs and lesions within the thorax to an extent not appreciated by most clinicians.

The author points out that, as a result of inflammation within the thorax, muscles on the outside first become rigid through spasm just as the abdominal muscles do under similar circumstances. This spasmodic rigidity is an early sign of intrathoracic disease; in pulmonary tuberculosis at the apex of a lung, for example, it is first noticed in the sternocleidomastoid and trapezius. If muscle spasm is long maintained by chronic disease, the muscle undergoes degeneration, shrinks in volume and becomes softer but often shorter. These changes are usually ascribed to general emaciation, though the author shows that they have a local cause. He explains the mechanism of these muscular changes by the nervous relationship of parts, and describes these fully.

Attention is called to the fact that when there are old tuberculous lesions in the lungs, the patient's head is often bent to the side affected. This is due to shortening of the rectus lateralis because of degeneration. The conditions of "round shoulder" and "stoop" often seen in these patients receive a similar explanation. That a lack of pulmonary elasticity plays a part in producing "lagging" expansion on the most affected side, as generally admitted, is accepted by the author; but he believes that in early stages the spasmodic contraction of muscles which must be overcome, and the imperfect motion of the diaphragm which x-rays have revealed, play the greatest part. Flattening of the chest is ascribed first to compression of the chest by the spasm and later to contraction by the degenerated muscles. Pottenger gives a logical explanation of careful observations of the chest in disease, and the book will be of value to all who are keenly interested in physical diagnosis.

The Prognosis and Treatment of Diseases of the Heart. By R. O. Moon, M.A., M.D., F.R.C.P., Physician to the National Hospital for Diseases of the Heart: Assistant Physician to the Royal Waterloo Hospital. Cloth. Price, $1.25 net. Pp. 111. New York: Longmans, Green & Co., 1912.

This volume embraces in small space the essential features concerning the prognosis and therapy of diseases of the heart. Most of what is written is to be found in the standard works on practice or in the special works on heart disease. While there is little of the new, the old and tried are clearly set forth, systematically arranged in nine chapters dealing with such topics as aortic disease, mitral and tricuspid disease, myocarditis, angina pectoris, functional affections and heart strain, paroxysmal tachycardia and Stokes-Adams disease, pericarditis, the treatment of special symptoms. This grouping makes for ease of reference. Little is to be found concerning the aids to prognosis and the hints as to treatment afforded by the galvanometer.

Der endemische Kropf. Mit besonderer Berücksichtigung des Vorkommens im Königreich Bayern. Von Dr. A. Schittenhelm und Dr. W. Weichardt. Paper. Price, 9 marks. Pp. 128, with 19 illustrations. Berlin: Julius Springer, 1912.

This monograph contains the results of a collective investigation of endemic goiter in Bavaria. Careful and systematic studies of these cases, particularly as seen in school children, were made by district physicians in the different Bavarian districts and have been worked over into this report. The methods employed, statistical details, maps, etc., make the report convincing as to accuracy. While of greater interest to the German physician because of its local coloring, many of the results have a more general bearing. Thus the investigators find a greater prevalence of goiter in the mountainous districts of Bavaria but cannot trace any very close relationship to the geologic formation of the land furnishing the water supply. Cretinism they found oftener in the goitrous districts; exophthalmic goiter did not impress them as unusually frequent. Spontaneous disappearance of cretinism was occasionally noted.

The authors feel that the drinking-water does not contain any preformed toxin due to contamination from some special geologic formation. Nevertheless, in the water, especially the water of mountainous districts, is to be sought the causative agent of production of endemic goiter. This agent is regarded as a parasite that up to the present has escaped detection.

Hundert Totalexstirpationen bei Myoma Uteri ohne Todesfall. Zugleich ein Beitrag zur Technik der Gynäkologischen Laparotomie. Von Hofrat Dr. S. Flatau. Paper. Price, 2.40 marks. Pp. 92, with illustrations. Berlin: S. Karger, 1913.

The rather unusual results of no mortality following 107 total hysterectomies for uterine myoma is the basis for this monograph. As a result, too, of such an excellent outcome, a considerable portion of the report is devoted to the technical features of the operation. The case reports are given briefly, being arranged in a series of charts covering but twenty pages. The patients ranged in age from 24 to 62 years, though only one was over 55, a factor which may go far in explaining the absence of mortality. Twenty-five of the women were single and thirty-six of the married had never borne children. Of those who were mothers, seven had had three children, two had had five each and not more than one had given birth to six children. The hemoglobin estimation varied from 55 to 85 per cent. The heart was affected to any considerable extent in ten cases. Pain and hemorrhage were the chief symptoms. The appendages were involved thirty times, carcinoma coexisted four times, and sarcoma four. In but one of the sarcomatous involvements was there ascites. One uterine and one tubal gestation were found. Aside from the malignant changes, other degenerative processes were observed in eight cases. But eight of the myomas involved the cervix.

A Text-Book of Gynecology. By William Sisson Gardner, M.D., Professor of Gynecology, College of Physicians and Surgeons, Baltimore. Cloth. Price, $3. Pp. 286, with 138 illustrations. New York: D. Appleton and Company, 1912.

As stated by the author in his preface, this volume is designed especially to fill the needs of the busy medical student, and hence does not enter deeply into the various subjects, but treats of each as briefly and concisely as possible, paying especial attention to the more common ailments. The illustrations are line drawings, with some photomicrographs and several photographs of gross specimens. Chapters on examination, technic, postoperative treatment and complications are valuable to the student.

Die Methoden der künstlichen Atmung und ihre Anwendung in historischkritischer Beleuchtung mit besonderer Berücksichtigung der Wiederbelebungsmethoden von Ertrunkenen und Erstickten. Von Dr. G. van Eysselsteijn, Direktor des Universitäts-Krankenhauses in Groningen. Mit einem Vorwort von Prof. K. F. Wenckebach, in Strassburg. Paper. Price, 3.20 marks. Pp. 122. Berlin: Julius Springer, 1912.

This little treatise on methods for restoring those who are apparently drowned or suffocated is interesting because of the full historical review of all methods proposed for this purpose from earliest times to the present.

Urologischer Jahresbericht. Einschliesslich der Erkrankungen des männlichen Genitalapparates. Herausgegeben von Prof Dr. R. du Bois-Reymond and Others. Redigiert von Prof. Dr. A Kollmann und Dr. S. Jacoby. Literatur 1911. Paper. Price, 21 marks. Pp. 499. Leipzig: Dr. Werner Klinkhardt, 1912.

This volume contains references to the literature of 1911, grouped in a general way according to subjects. Many of the more important articles are abstracted. An index of authors and one of subjects add greatly to the value of the work.

Society Proceedings

COMING MEETINGS

Alabama State Medical Association, Mobile, April 15-18.
California State Medical Society, Oakland, April 15-17.
Georgia State Medical Association, Savannah, April 16-18.
Maryland Medical and Chirurgical Faculty, Baltimore, April 22-24.
Mississippi State Medical Association, Vicksburg, April 8-10.
Missouri Valley Medical Society, Kansas City, March 20-21.
South Carolina State Medical Association, Rock Hill, April 15-17.
Tennessee State Medical Association, Nashville, April 8-10.

CONFERENCE OF THE AMERICAN MEDICAL ASSOCIATION ON MEDICAL EDUCATION AND MEDICAL LEGISLATION

Held in Chicago, Feb. 24 and 25, 1913

(Concluded from page 691)

Necessity of a Readjustment of Preliminary and Collegiate Education

President Harry Pratt Judson, University of Chicago: There are two conflicting forces at work in training for any profession. The first is, in a profession like medicine the young man must learn the manipulative processes when his fingers and body are flexible, and this involves getting the student early. On the other hand, he has not the breadth and intellectual development which comes from years of study in many things besides the immediate sciences which lead to medicine. On the one hand, we are apt to take a student when he is young, and when his mind is not highly developed and turn him loose in the world as a practicing physician without the proper breadth of training a physician should have. On the other hand, we take him through the secondary school, the college and the medical school, make him an intern, and by the time he is ready to settle down he is pretty far advanced in life.

I have been studying college curriculums of late years, and I find that a large percentage of the contents of these curriculums are nothing but high-school courses. I distinguish between the high-school and secondary work thus: high-school work is essentially elementary in character, and the secondary subjects essentially advanced in character belong to colleges. Colleges teaching elementary French and German are doing the identical thing that is done just as well in good high schools; yet a boy in taking French or German spends two years of elementary work in either of those languages as a part of the course for the bachelor degree. It is high-school work and nothing else. History, English, civics, political science and a lot of other things, as well as elementary courses in physics, chemistry, etc., can be taught in high schools as well as in colleges.

I believe that it is possible to shorten the preliminary and secondary courses of study in such a way that when a man recives his M.D. degree he will not be so old as the average man is to-day when he enters on the practice of medicine. If we open the door of opportunity, I have no fear that our young men will not enter it and make of themselves what they ought to make.

Organization of the Medical School

Dr. Edward H. Bradford, Dean of the Harvard Medical School: The faculty of medicine of the Harvard Medical School, acting under the authority of the university, is grouped into three faculties. It has an academic organization, a medical school, a postgraduate school and a dental school. All of these work under one dean. The school is organized for the purpose of research, for instruction, for clinical teaching, and for what we may call clinical research. In order to do that, it is necessary to have hospital affiliations, and laboratories for research and teaching. Then come the allied hospitals. There are a number of institutions that have been organized for many years with different governing boards and different traditions, and it was necessary to associate them with the Harvard Medical School in such a way that they would work in harmony, giving clinical opportunities for teaching and research. We have been able to make an alliance with these various institutions. The trustees of the hospital recognize that in order to secure proper surgeons and physicians it was necessary to appeal to the whole country. In order to do that, it was necessary to have the stamp which a Harvard University professorship gives. For that reason they have united and have chosen Dr. Christian and Dr. Cushing to take charge of the hospitals. Harvard University has appointed them as professors with salaries, and a hospital has been organized, to be opened within a month or two, which will combine the teaching and clinical research and the care of the patients in the wards. It is within a stone's throw of the medical school. Then there is the Children's Hospital, which has made an alliance with the Harvard Medical School, and is being built close by. The physician and surgeon of that institution cannot be appointed by the trustees of the institution unless he is nominated by the Harvard Medical School. The Samaritan Hospital for chronic cases and the Cancer Hospital are close to the medical school. The Psychopathic Institute, a state-endowed institution for the study of insanity and allied diseases, is under a professor of the Harvard Medical School. The Lying-In Hospital, also closely allied, will soon come within the vicinity of the medical school. The Dental Infirmary is near the medical school. A female hospital is planned, and the land has been purchased within a short distance of the school. A Woman's Hospital is a quarter of a mile away and closely allied, so that within a pistol-shot of the medical school there are these institutions with 680 or 700 beds, and there are other institutions allied to the medical school. The medical profession in Boston is a well-united and harmonious body. If we differ, we differ as men do differ, but we are all united in a desire to advance medical education in the highest and best way.

The Organization of Medical Schools

Mr. Charles F. Thwing, President of Western Reserve University, Cleveland: In the organization of medical schools, two official boards are required and are sufficient. One board, usually called a faculty, is to be concerned with the teaching and scholastic affairs; the other usually called the trustees, is to be concerned with the financial and the non-academic administration. It is not well for those engaged on the medical side to be directly responsible for the financial. The investing of funds, a chief duty on the financial side, is a delicate and difficult undertaking. This duty should be entrusted to men trained in this service and fitted for it. Members of a faculty are not usually so trained and so gifted. The advantage of two boards is found in the ease of making changes; the disadvantages are found in the far too great ease of radicalism. The government consisting of a faculty and one board of trustees seems to promise the best type of wise efficiency and of efficient wisdom. A faculty is to be constituted of the heads of departments. Such officers belong to this body by reason of their official relations. Membership should not usually be extended beyond such a condition. In this organization of the school with its two bodies, a distinction between legislative and executive functions is ever to be laid. The failure to observe this distinction is liable to result in disorder.

In the most important matter of selecting members of the teaching staff, I believe that the most effective method is for the faculty, through a committee, to make nominations. These should be presented by the president to the board of trustees, who, of course, will usually accept and confirm them. In making such nominations and elections the president by virtue of his office is a member of each committee. With him each committee should confer and he should cooperate with each committee, but the president should always be solicitous that the primary responsibility should rest on the committee of the faculty or the board of trustees.

Mr. George Edgar Vincent, President of the University of Minnesota, described the reorganization of the school of medicine in the University of Minnesota. He said: Medical education in that state is now unified as there is only one school of medicine. This unification was brought about by absorbing two or three other medical colleges which in the past might be regarded as rivals. Minnesota will do its share in building up ideals and in upholding the standards by cooperating with other states in so doing.

Mr. Kendric C. Babcock, Washington, D. C.: I agree with President Judson that we should shorten the time that is spent in the earlier years of education, if possible. There is one serious thing, however, that confronts those who are trying to raise the standards of medical education according to the plan in the announcement made by the Association of American Medical Colleges of establishing a four-year high-school course based on eight years in the elementary schools. Some sections of the country are not able to meet that situation. I am much more concerned about the process of selection of material that shall be admitted to colleges than I am with the actual time or unit value.

Dr W. B. Cannon, Boston: The method of reducing the years of training has been suggested before. I would like to ask President Judson whether he sees any way by which the medical profession can bring influence to bear which would result in a reduction in the number of years of study of which he speaks.

President Judson: I know of no way except that each man exert his influence on the community in which he lives. My previous remarks had reference to medicine particularly, as this is a medical meeting. With a reorganization of the curriculums, I believe it would be of benefit not only to the medical profession but to all professions and schools.

Hospitals and Their Relationship to Clinical and Postgraduate Medical Teaching

Dr. Horace D. Arnold, Boston: There are hospitals which make no real provision for the scientific study of cases. It is impossible to give the patients in such an institution the advantage of modern scientific investigation and treatment; the better grades of physicians cannot be secured for positions on the staff, and the nursing must be on a correspondingly low plane. Such a hospital is neglecting its duty to its patients. On the other hand, there are medical schools which are practically without clinical opportunities. Another essential feature is that the teaching force of the school and the staff of the hospital should be identical. Appointments should be made on the ground of merit alone and should not be limited by local conditions. A strong institution cannot always be built from the men who happen to be located at one particular place. Freedom of choice of the best men, wherever they may be found, conduces to strength in the institution. It is clear that adequate salaries must be paid for such eminent men, who must necessarily devote the greater part, if not the whole, of their time to the service of the combined institutions. Another matter of considerable importance is that such a combination of medical school and hospital should be located in a large center of population. Only here can adequate clinical opportunities be obtained for a good-sized medical school. Close proximity of the buildings of the two institutions is very important. Only in this way can the two institutions work in the fullest cooperation.

The problem of the fifth "hospital" year was ably discussed at this conference a year ago. The consensus of opinion was that it is desirable but not yet practicable. It will be practicable, however, as soon as the hospitals and the medical schools can enter into closer relations. This movement will be greatly stimulated by the investigation of the hospitals which the Council on Medical Education has been authorized to make, with reference to the ability of the hospitals to give systematic training to interns. The fifth "hospital" year will, in my opinion, become a reality in the near future in the best medical schools. As compared with the undergraduate medical school, the graduate medical school must be much more complex and more elastic. The graduate medical school should be open to any licensed practitioner of medicine, for it has a duty to perform to the public. It should extend to any one who is legally permitted to treat the public a chance to improve his medical knowledge. The students then will differ widely, as their medical training and experience have varied. They may be divided roughly into four classes. 1. Well-trained physicians who wish to pursue more advanced studies than are given in the medical school proper, including research. 2. Well-trained physicians who have recently graduated and wish to study new fields, which they did not have time to take up during their undergraduate course. 3. Physicians who have been out of the medical school for some time and wish to get abreast of the progress that has taken place in medicine since they graduated. 4. Poorly-trained physicians who have become aware of deficiencies and wish to have them corrected.

However much we may raise the standards of our medical schools, it will affect directly only those who are yet to be trained—the future doctors. It does not offer a remedy for the recognized condition that we now have an immense number of poorly trained physicians who received their degrees from poor schools in the past. These can be reached best through the graduate schools. Hence the problem of graduate medical instruction well deserves the serious consideration of the Council on Medical Education in its efforts to raise the standards of efficiency of the profession by educational methods.

DISCUSSION

Dr. Victor C. Vaughan, Ann Arbor, Mich.: We have come to the time when preventive medicine must offer itself to the public. This year a bill which is practically the same in its essentials has been introduced into the legislatures of three states. As introduced into the Michigan legislature, this bill provides that in every county in Michigan with a population of 20,000 or more, exclusive of the cities of 20,000 or more, there shall be appointed a commissioner of health. In every city of 20,000 or more there shall be appointed a commissioner of health. The State Board of Health is authorized to group the less densely populated counties together, making them sanitary districts, and in every one of these sanitary districts, whether it be a city, a county or a number of counties together, the law, if it is passed, will be mandatory that there shall be appointed by Jan. 15, 1914, a commissioner of health from an eligible list furnished by the State Board of Health, and the eligibility to that list will be secured by passing a special examination on preventive medicine before the State Board of Health. He shall be a legally qualified physician. He must have passed the State Board of Examiners. In addition to this, he must have passed a special examination before the State Board of Health, and the State Board of Health will furnish every sanitary district in the state with a list of eligible men, and these men shall be appointed by a certain date in January, 1914. If this bill does not pass, it will be on account of the opposition to it by members of the medical profession. This thing is coming about whether the medical profession wants it or not.

Dr. J. S. McLester, Birmingham, Ala., spoke of the reorganization of the old Birmingham Medical College during the past summer. He said that its property and hospital franchise have been offered to the trustees of the University of Alabama without any obligation being imposed on the trustees by this action beyond the provision that they are to use this property and hospital equipment for such medical instruction as they may deem fit as a graduate school of medicine.

Dr. J. N. McCormack, Bowling Green, Ky.: I have had an idea that much of the postgraduate work, if it be made effective, must be conducted in a much broader way than can be done within the walls of colleges. For a good many years I have led a movement for a course of postgraduate instruction in every county in the United States. This work may not be done so well as in many of the medical schools of the country, but a successful effort has already been made in many counties to reach almost every physician within the county by putting the influence of the profession under him and lifting him up to the light. This movement has reached men in the country districts, the family physicians. For four years physicians have met every week, with simple laboratories, and for the demonstration of methods that were elementary in a way, but this postgraduate work has brought the ordinary physician up to a standard which a few years ago did not seem possible, and the highest function which a postgraduate school can perform is to qualify men in the counties to go out as lecturers in their respective communities and carry the blessings and benefactions of these schools to the rank and file of the profession who are not financially able to attend graduate schools.

The Importance of Harmony and Uniformity in the Work of State Examining Boards

Dr. Herbert Harlan, President of the Maryland State Board of Medical Examiners, Baltimore: I think I am safe in saying that few even of the officers of the state boards know well the laws of other states, and still fewer know the actual work of other boards than their own. How examination questions are prepared, what precautions are taken to maintain secrecy in reference to the questions, what precautions to prevent cheating in conducting examinations, how carefully and intelligently examination papers are read and graded, how the records in the secretary's office are kept, what detailed information can be readily and promptly furnished in regard to any man who has been an applicant, whether successful or unsuccessful before any board, or in reference to any practitioner within the bounds of the secretary's state. Let information in reference to such matters once be made public, and I predict that there will come the same marked improvement in the medical practice laws, in the personnel of examining boards and in the carrying out of these laws by these boards as will compare favorably with the improvement in the medical colleges of the country.

How can this improvement be brought about? I should say, let every effort be made to have a single association of state boards, or let all the good boards join the federation, let that body arrange for a real inspection and detailed report on all boards and their work, including the secretary's office and record, let reasonable minimum requirements be fixed and adhered to, and let membership and reciprocal relations be refused to any board not coming up to these requirements.

DISCUSSION

Dr. Herbert Old, Norfolk, Va.: Our board was able in 1912 to have the general assembly enact a law which is a combination of the model law, as advocated by the Council on Medical Education, and some of the features suggested by the Board of Regents of New York State and the recent registration laws of Texas. The result has been that our position is now far in advance of what it was in 1911.

Dr. W. S. Leathers, representing the Mississippi State Board of Health, University, Miss.: The State Board of Health supplements the work done by the Council on Medical Education relative to raising medical standards. If there should be a weak medical college, the purpose of the State Board of Health is to put a check on the men who are turned out by that college. The graduates of first-class medical schools should be given licenses. If boards of health are to supplement the work done by the Council on Medical Education, they ought to work in harmony with the Council. During the past year our legislature passed a medical practice act, and our board last spring passed a resolution which supports the work of the Council, namely, the board will not recognize students who come from colleges of the Class C group.

Dr. B. D. Harison, Detroit: Dr. Harlan drew attention to the fact that a man who is rejected by his board may go to another state, obtain a license, and then come back again. This can be prevented by a proper form of agreement. If the act is administered properly, no man can do that sort of thing. It is simply a question of administration. Harmony and uniformity of state licensing boards can and should be accomplished through a national association. While the boards may have their differences, or there may be a diversity of state medical laws, I think they can all agree to harmonize which will tend to uniformity.

Dr. J. M. Baldy, Philadelphia, spoke at length on reciprocity between state boards. He agrees with Dr. Harison that a man who has failed in one state, goes to another and secures a license, and then returns to the state he formerly left, ought not to be eligible for reciprocity, and that if any state board were to allow that type of man to get back, it should reorganize.

The Medical Profession and Medical Education

Dr. John A. Witherspoon, Nashville, Tenn.: A few years ago when medical education in this country was chaotic, when any man who possessed any information or ability to alleviate human suffering was welcome, and sometimes was a great public benefactor to his race, those men, many of whom had not the advantage of medical education, did their duty in a time when their services were sorely needed. That condition and the new condition surrounding the development of this country made the development of the so-called preparatory schools a possibility. Many of these schools depended on the individuality of one person. We all know in olden times when men went to Transylvania largely because of Dudley; when men went to various medical colleges on account of one individual who possessed the ability, the power, the leadership over men that made it possible for him to organize and to educate people in that day of empiricism and superstition. Who can say that those men did not do well? Any man in my judgment who loves the traditions of his country is bound to recognize that those men stood out as giants, wrought well, and made it possible by paving the way for us to have the privileges of higher education which we are receiving to-day. From the labors of these men who did this work we are public benefactors and are the teachers of the present day, and for them I have the greatest reverence.

In that etiologic period between 1880 and the nineties, when the causes of so many infectious diseases were known for the first time, it became evident that the whole trend of medical thought and medical teaching must change. We are coming to an age of prevention rather than cure; an age in which the laboratory must be brought as a strong handmaid to clinical experience. With the coming of that age, the necessity for a better-educated profession, the necessity for a more widely grounded and better-prepared and better-trained mind to study medicine became apparent. If the American Medical Association had no other use for its existence than to offer an opportunity of meeting socially, for the purpose of exchanging ideas and experiences, it might be sufficient, but when it had grown to such gigantic proportions, the master minds who had it in charge realized that they owed a much greater duty to the people among whom they lived, and that it was absolutely necessary for them to broaden the scope of usefulness, and the only way they could start the ball rolling, as it were, was to insist on a higher-class profession; hence the organization of the Council on Medical Education. When, eleven years ago, the American Medical Association organized the Council and the work was begun, it looked as if it was not only a stupendous task, but almost an impossibility to accomplish anything like practical results within our lives. I remember very well, and my colleagues will remember it, when we met for the first time and received the information that in the United States we lacked only four medical schools of having as many as the combined countries of the world. We realized what a task was before us, and yet look at the results! I want to say to you, if anything was required to show the greatness, the elasticity of power, the determination of the American character, no better illustration can be had than the response almost universally made to the demands of the national Association through its Council for better things educationally in medicine in this country. I can imagine nothing grander, nothing that will bring greater applause and add greater credit to our profession than that we shall have in a short time produced a condition in our country by which we can turn out to the world professional men with the high ideals that belong to the profession naturally, inculcating into their minds the higher elements necessary to understand all that is meant by preventive medicine, inculcating into them those principles that make each man his brother's keeper. Naturally, the future physician will not only be prepared to practice medicine in its fulness and its usefulness, but he will also be prepared to take a better view of life and become a better citizen and a better man for having been a better doctor. Then he will have reached the position the medical profession has aspired to so long, which is its natural place, at the head of the learned professions of this country.

CONFERENCE ON MEDICAL LEGISLATION

The Ninth Annual Conference on Medical Legislation met Tuesday, February 25, at 9:30 a. m., with the Chairman, Dr. Henry B. Favill, Chicago, in the Chair.

The Public and the Profession

Dr. Henry B. Favill, Chicago: We have had a number of these conferences. Every year the question has arisen as to whether they were profitable. Every year has answered that question increasingly in the affirmative. I think that every session has justified itself more than its predecessors, and I believe for excellent and permanent results. The program this year is better than any hitherto. The ease and facility with which it has been formulated have been noticeably greater this year, and it is obvious that the men from all over the country, who are willing to come here and devote their time and thought to this matter, are doing so with a keener appreciation of attendance on the conference as a privilege rather than as a duty.

The situation is encouraging not only from the point of view of our organic activity, but also from the point of view of the public and the reception of our offerings by the public. There has been no time in the history of medicine when the utterances of the medical profession have been received with so much cordiality and with so much dignity as now. I am conscious from my relations to the Council (of which I am a member) of a phenomenal change in the attitude of the sociologic public, the press, and even the political public toward the subjects with which we deal, and I believe that this is but the beginning. Our program marks a triumph toward the things which we are striving to accomplish. Every improvement brings with it an impetus; and as we realize that the contest is not futile, but that we have entered the field of achievement, we are encouraged to redouble our efforts for the measures for the public weal. The prospect of national legislation has never been so encouraging as now. The new administration is more favorably disposed toward health legislation than has been the case heretofore, and I believe we are on the threshold of achievements. However long they may be delayed, they are steadily approaching, not on the basis of pressure, but of a receptive understanding on the part of the people who are ultimately responsible for our administrative advances. The feeling is growing for a real national department of health. On the whole, I regard the present situation with the utmost optimism.

Following the remarks of the Chairman, the Secretary, Dr. Frederick R. Green, made a brief informal statement of the work of the Secretary, after which he called the roll of the states so that the representatives could make such reports as they saw fit relative to legislative matters in their respective states.

Report of the Committee on Revision of the Model Law on Vital Statistics

Dr. Cressy L. Wilbur, Washington, D. C., Acting Chairman: The circulation of the model bill and the active interest taken in the extension of adequate registration methods by the Council have been of great service in promoting the more efficient registration of vital statistics in the United States. Experience has proved that it may be relied on to give good results, if proper provision be made for its support, and that the effectiveness of state laws now in existence may be measured by their degree of compliance with its principles. The bill has been introduced in the present sessions of the legislatures of Illinois, Iowa, North Carolina and Tennessee. While vital statistics are fundamental to public health work, their collection cannot be prosecuted successfully until the general sanitary administration of the state is provided for. A weak, half-starved state board of health will fail in the administration of any law; but once fairly equipped for work, a board can strengthen itself and promote the extension of its activities in all directions by no other means more effectively than by enforcing and utilizing the results of a good law for the registration of vital statistics.

Report of the Committee on Expert Medical Testimony

Dr. Harold N. Moyer, Chicago, Chairman: From a consideration of all the facts, the committee feels justified in advancing the following conclusions: 1. The present system of introducing expert medical evidence is admittedly faulty. 2. Any change, if made, should be done with great caution and only after mature deliberation. 3. The present inexact state of medical science does not warrant the invasion of the province of the jury or the abridgment of cross-examination. 4. The only change at present justified is one altering the manner in which experts are to be summoned. 5. The appointment of official experts is not advisable. 6. The hypothetical question as commonly used in our courts should be simplified.

DISCUSSION

Dr. E. J. McKnight, Hartford, Conn.: It would not be a bad idea for the Council to pass a resolution recommending that physicians in different localities adopt the so-called Leeds system. In Leeds, England, physicians will not testify in any case until they bring together the experts on both sides and try to come to some conclusion, as in the consultation of a private case. This simplifies matters very much, and I believe it is the solution of this trouble. We must hold consultations and get rid of the farce of expert medical testimony. If such a sentiment could go out from this Council or Conference it would be of great value.

The Chairman appointed as a Committee on Resolutions Dr. E. J. McKnight, Connecticut; Dr. James F. Percy, Illinois; Dr. S. S. Crockett, Tennessee; Dr. Ben R. McClellan, Ohio; Dr. J. W. Kerr, United States Public Health Service, and Dr. Frederick R. Green, Chicago, ex officio.

The Police Power of the State and the Practice of Medicine

Mr. A. C. Umbreit, Attorney for the Wisconsin State Board of Medical Examiners: The one great purpose of the proposed new medical practice act pending before the legislature of Wisconsin is to eliminate from the legal requirements for the practice of the healing art all sectarianism, schools or systems of practice, and base such requirements entirely on educational and professional training and fitness. This is the underlying and all-embracing purpose of the whole act. Another purpose is to give everybody who has the necessary preliminary and professional education and training an opportunity to practice the healing art in any form he chooses. If a person has the necessary educational qualifications demanded by this bill, he may practice the art and science of health in any way he sees fit; but this fundamental knowledge is absolutely required and necessary for the protection of the public. Another purpose is to place all practitioners of the healing art, as far as legal authority so to practice is concerned, on an absolutely equal basis in order that it cannot be justly charged that any favoritism is shown for any particular system or school of practice; and further to eliminate the alleged defense of persons prosecuted for violating the medical practice act that they could not obtain a license and thus legally follow their profession, even if they had the necessary qualifications, on the ground that their special school or system of practice is not recognized by the law or an examination therein permitted. Another general purpose is to give those who have no license to practice, and who may not have the necessary preliminary and professional education to pass the required examination and thus obtain a license, but nevertheless claim that they have a system of healing which possesses merit, permission to practice such system under certain well-defined limitations in order to demonstrate any merit in their contention.

Coming now to the distinctive features of the bill, the first is the fact that the words "practice of medicine," "physician," "surgeon," "osteopath" and like words do not appear in the bill at all, except in one place where it was necessary to employ these words in order to continue the legality of the licenses heretofore granted and to preserve the authority of the licensed practitioners. The practice of medicine is called "the art and science of health," a title sufficiently comprehensive to include everybody who has the ability and knowledge to treat the afflicted. There are but seven fundamental branches of subjects in which those who desire to practice the art and science of health in Wisconsin must show sufficient knowledge in order to be recognized as licensed practitioners. These are anatomy, physiology, histology, pathology, chemistry, general diagnosis and hygiene. No one will have the hardihood to assert that persons who are not thoroughly grounded in the knowledge of the structure of the human body, of the functions of the organs and of the structure of the various tissues of the human body, of the origin and physiologic and anatomic features of disease, and its causative relations, of the science of the composition of material things and the changes they undergo in their ultimate composition, of the recognition of a disease from its symptoms and the determination of the nature of a diseased condition, and of the preservation of health and the rules and principles for the promotion of health, are fit persons to treat a human being for any ailment.

DISCUSSION

Dr. M. L. Harris, Chicago: I am a firm believer in the police power of the state. I am a believer in higher education and higher standards for the doctor. I am a believer in the duty of the state to protect the people. I maintain that the licensing system as contained in the present medical practice acts is a failure, in that in its practical application it does not accomplish what these acts were intended for, namely, to protect the people. They do not protect the people. Nearly every medical practice act contains so many exceptions that the act itself becomes a farce. In place of protecting the public, it places a penalty on the honest educated doctor. Only one of a few illustrations need be given. For instance, take Massachusetts. Almost anybody can practice in Massachusetts anything he wants to, unrestricted, except the honest doctor. He must have all the qualifications of a high education. He must have an examination to be licensed. For what? To practice honest medicine; but any faker can practice anything he wants to without license or restriction, there are so many exceptions to the law. Other states are the same. The exceptions kill the law. In other states, where the exceptions are not specifically mentioned in the law, the decisions of the courts almost emasculate the law. That is so in a number of states.

As to the remedy, I was much pleased to see that the new Wisconsin bill includes most of the features that I recommended here two years ago, namely, that anybody should be allowed to practice medicine or any thing he wanted to without a license. What the state should do is to protect the individual in the sense of defining to him those who are qualified to practice medicine so that he cannot make a mistake. If there is a medical science, and we think that there is, we ought to be able to demonstrate it to the people, and we ought to have it so plain that any person can find a qualified practitioner if he wants to. It is the duty of the state to designate to the public in unmistakable terms those who are qualified by educational qualifications to treat the sick

Dr. Edward Evans, La Crosse, Wis.: The trouble with all legislation is that it has been fundamentally wrong, that medical men and medical schools are only incidents in this whole business. The people of the community are fundamentally concerned, and until we so frame legislation as to have that in view, we shall be wrong all the time.

Dr. C. A. Harper, Madison, Wis.: I fully agree with the speakers that the medical practice act as we have it does not accomplish the purpose for which it is intended. It holds certain medical men up to certain standards, and in Wisconsin, and I believe in many other states, permits a great many people without any standards to come in and practice or work about as they please. People of that class are shrewd; they have a way of avoiding the definition of the medical practice act, and conviction in the courts is practically impossible. The bill introduced by Mr. Umbreit has a great deal of merit, and it is to be hoped it will pass the legislature.

Dr. J. N. McCormack, Bowling Green, Ky.: It would be unfortunate for it to go out as the sense of this body that we should undo the work which has been done in the last generation on medical legislation, and it has been based on educational reform which has been brought about. What has been done in raising the standard of medical education has been based on medical legislation of the various states, and to go back to the chaotic condition of thirty years ago would be distinctly a step backward, and it would be a false premise, I believe, on which to base opinions. Simply because the law has failed in Illinois or some other states, we should not jump to the conclusion that it has been a universal failure. We have not had a quack in the state of Kentucky for twenty or more years. It is true, they have come into our state, but we soon drove them out. We seek to secure competent men: men who are well grounded in the fundamental branches, and we believe that we are able to secure them through our system of examination, which is so impartial that we have the cordial support of the homeopaths and eclectics in my state, the same as we have it from the regular profession. I should not like to see the statement made by Dr. Harris, for whom I have the greatest respect, go out as the sentiment of this Conference as representing the opinions of the great American Medical Association. The fault is not with the underlying principles, but it is with the details of your legislation and the creation of proper public and professional sentiment which will support the legislators.

Dr. C. E. Cantrell, Greenville, Tex.: The burden is that we have to reach the people who were licensed when I was licensed. We cannot under our constitutions make the laws retroactive and impose a general examination every two or five years. If this could be done, we would solve the problem in licensing. Until we can we must bear that burden. We are not making it any worse. Let us make it better.

Progress in Vital Statistics Legislation

Dr. Cressy L. Wilbur, Washington, D. C.: The local registrar and the primary registration districts are the bases of successful registration. The local registrar should be a careful, conscientious person, aware of the importance of his duties, and prompt in fulfilling them. His district should not be so large that he cannot exercise supervision over all of it, but of such a size that the occurrence of a birth or death without proper registration may reasonably be expected to come to his attention. This will require perhaps from 1,000 to 1,500 local registrars in the average state. City and village clerks make good local registrars. Of course, health officers already conducting registration in cities may be retained. For the country, the township clerk may be employed, and in the absence of township organization, local registrars may be designated by a county board, or, preferably, as suggested by the model bill, by the state registrar. The practical objection to the latter method is the fear of building up a political machine or of creating new offices. In any event the local registrar should be liable to removal for neglect, and should receive a reasonable compensation (25 cents) for all certificates of births and deaths properly registered and promptly returned. The corps of local registrars, in addition to its usefulness in securing prompt and complete records of births and deaths, may also become an important factor in the general sanitary improvement of the state. The choice of a state registrar is important, and it goes without saying that sufficient compensation should be provided, and also the requisite degree of independence of action, to secure the services of a well-qualified man.

The model bill has never included any provision for the compensation of physicians or midwives. The committee of revision was practically unanimous in the belief that it would be undesirable and inexpedient to make such change in the bill; nevertheless a footnote was inserted calling attention to the fact that provision might be made for payment of physicians and midwives as in the Kentucky law. The registration of births has been much neglected in this country, and a much smaller proportion of the population is represented by adequate returns of births than of deaths. The enforcement of such laws is generally in the hands of physicians, and as the laws must be enforced against those physicians who neglect or fail to comply with them, failure to proceed promptly in cases of delinquency, or entire failure to act in such cases, must be considered discreditable to the profession. We are making progress, and the condition to-day is more hopeful for complete and effective registration in the United States than ever before.

DISCUSSION

Dr. George W. Webster, Chicago: The most important single feature of this bill is that it provides for the immediate transmission of information from the local to the central registrar, from the local health official to the state official, where this information may be utilized. It eliminates what has been a stumbling-block in carrying on successful registration hitherto by the county official. The next strong point is that it provides for violation of the law. As an example, hitherto the Illinois law has provided that the state's attorneys in the counties shall prosecute violators of the law; but no one is charged with lodging information against these officials for violation of the law, and for the twelve or more years I have been president of the Illinois State Board of Health I have heard of only one single prosecution by the state's attorneys in any county in the state. The new model law makes provision for the state board of health to lodge information against the attorney who fails to report such a violation. It provides for uniformity and comparability of data.

The Control of Ophthalmia Neonatorum in Massachusetts

Dr. Mark W. Richardson, Secretary State Board of Health, Boston: In the year 1910 there were 257 cases of ophthalmia neonatorum reported; in 1911 there were 1,364 cases, and in 1912 there were 1,173. The activities of the board, especially through its prosecutions of offending practitioners, has brought the number of reported cases from 16 in 1905 up to 1,173 in 1912. The efforts of our inspectors are often of great value, as shown by some typical instances. 1. An infant was found with badly inflamed eyes. He was not receiving the proper care. Two days had elapsed between the visit of the physician and the report of the case to the local board of health. The attention of the local board of health was directed to the case, and the child was sent to the hospital where it received proper treatment. If the conditions which were found at the time of the visit had been allowed to continue there is reason to believe that the child's sight would have been destroyed. 2. A patient was found improperly treated by a private physician. The disease was progressing unfavorably, and at the advice of the state inspector of health expert treatment was obtained. The child completely recovered. 3. A case was found in which the disease originally affecting one eye had spread to the other eye, in consequence of improper care. The conditions were immediately brought to the attention of the local board of health. The child was removed to the hospital, where, under proper treatment, the sight of one eye was saved. Unfortunately, a corneal ulcer had destroyed the sight of the other eye. In another case no prophylactic had been used at the time of birth by the physician, and four days had been allowed to elapse before reporting the case to the local board of health. The child's eyes were found to be badly inflamed, with a heavy purulent discharge. The conditions were brought to the attention of the local board of health, proper treatment was instituted, and the child's eyes were saved.

In any campaign against ophthalmia neonatorum early birth returns are of the greatest importance. The legislature of 1912 helped our campaign along by requiring a preliminary birth return within forty-eight hours, and by empowering the secretary of the commonwealth to place information concerning ophthalmia neonatorum on the birth certificate. At the top of this certificate in red ink the physician or midwife is warned that inflammation of the eyes must be reported immediately to the board of health. Although midwives have no legal status, they exist in our community. Investigation shows, however, that they have played little part in the bad cases of ophthalmia neonatorum. The chief offenders seem rather to be physicians, often in good standing.

Health Organization in Schools

Dr. E. B. Hoag, Minneapolis: Dr. Hoag's paper was read by title, owing to the lateness of the hour. An abstract is as follows: In my paper I outline the general procedure for a director of school hygiene at each place visited. 1. A general meeting with all the teachers of the local school system, at which are explained methods for the physical observation of school children. At these meetings practical demonstrations or clinics are held with one or more grades of school children present, usually a fourth or fifth grade. 2. Individual demonstrations to the teachers at the various grades in different schools. 3. Examination of special cases. 4. A second meeting with all the teachers for the purpose of discussion of the results of observations in the grades. 5. An open meeting devoted to the interests of parents of school children. 6. Inspection of school buildings and premises. 7. Organization of the study of mentally deficient children. 8. Recommendations for health promotion addressed to the board of education, and adapted to the conditions discovered. 9. Aid furnished in organizing school health departments according to one of the three or four standards which have been adopted. 10. Short courses in child hygiene at normal schools, and demonstrations in the training schools.

Whether local school health work should be conducted under boards of health or boards of education or with the cooperation of both depends almost entirely on local conditions, and no dogmatic answer can be given. At present, 75 per cent. of the school health work in the United States is directed and controlled by the boards of education.

Dr. H. M. Bracken, Chairman, St. Paul, Minn., presented the report of the Committee on Railway Sanitation; Dr. S. Park Lewis, Chairman, Buffalo, New York, read a report of the Committee on Conservation of Vision; Professor E. O. Jordan, Chicago, read a paper on "The Municipal Regulation of the Milk-Supply," and Dr. W. B. Cannon, Boston, read a paper on "Antivivisection Agitation and the Forces Behind It."

Dr. W. B. Cannon, Boston, offered the following resolution, which was referred to the Committee on Resolutions:

> Whereas, Several bills introduced to regulate interstate commerce in habit-forming narcotic drugs have been introduced in Congress;
>
> *Resolved*, That the Council on Health and Public Instruction and the members of the Annual Conference on Medical Legislation of the American Medical Association hereby express their approval of all legislative efforts which may be necessary to restrict the employment of habit-forming drugs to proper and legitimate uses.

The Committee on Resolutions reported that one matter only had been referred to it, namely, Dr. Cannon's resolution regarding the federal regulation of traffic in habit-forming drugs. The committee unanimously recommends the passage of the resolution.

On motion, the recommendation of the committee was concurred in.

As there was no further business to come before the conference, on motion of Dr. Crockett, the meeting adjourned *sine die*.

Medicolegal

Operation for Prevention of Procreation as Part of Penalty for Crime

(State vs. Feilen (Wash.), 126 Pac. R 75)

The Supreme Court of Washington says that, guided by the rule that, in the matter of penalties for criminal offenses, the courts will not disturb the discretion of the legislature, save in extreme cases, it cannot hold that vasectomy is such a cruel punishment as cannot be inflicted on the defendant for the horrible and brutal crime of which he was convicted, namely statutory rape committed on the person of a female child under the age of 10 years. He was sentenced to imprisonment for life in the state penitentiary, the final judgment and sentence further ordering that "an operation be performed on said Peter

Feilen for the prevention of procreation, and the warden of the penitentiary of the state of Washington is hereby directed to have this order carried into effect at the said penitentiary by some qualified and capable surgeon by the operation known as vasectomy; said operation to be carefully and scientifically performed." That judgment is affirmed.

The defendant was prosecuted under section 2436, Rem. & Bal. Code, and the penalty of life imprisonment was properly imposed. Section 2287 provides that: "Whenever any person shall be adjudged guilty of carnal abuse of a female person under the age of ten years, or of rape, or shall be adjudged to be an habitual criminal, the court may, in addition to such punishment or confinement as may be imposed, direct an operation to be performed on such person, for the prevention of procreation." It was under the authority of this section that the trial judge ordered the operation of vasectomy, and the defendant contended that it was unconstitutional in that an operation for the prevention of procreation is a cruel punishment. As the statute does not prescribe any particular operation for the prevention of procreation, the trial judge ordered that the operation known as vasectomy be carefully and skilfully performed. The question then presented was whether the operation of vasectomy, carefully and skilfully performed, must be judicially declared a cruel punishment forbidden by the constitution. No showing was made to the effect that it would in fact subject the defendant to any marked degree of physical torture, suffering or pain. That question was doubtless considered and passed on by the legislature when it enacted the statute.

The crime of which the defendant was convicted is brutal, heinous and revolting, and one for which, if the legislature so determined, the death penalty might be inflicted without infringement of any constitutional inhibition. It is a crime for which in some jurisdictions the death penalty has been imposed. If for such a crime death would not be held a cruel punishment, then certainly any penalty less than death, devoid of physical torture, might also be inflicted.

On the theory that modern scientific investigation shows that idiocy, insanity, imbecility and criminality are congenital and hereditary, the legislatures of California, Connecticut, Indiana, Iowa, New Jersey, and perhaps other states, in the exercise of the police power, have enacted laws providing for the sterilization of idiots, insane, imbeciles and habitual criminals. In the enforcement of these statutes vasectomy seems to be a common operation.

Dr. Clark Bell, in an article on hereditary criminality and the asexualization of criminals, found at page 134, vol. 27, *Medico-Legal Journal*, quotes with approval the following language from an article contributed to *Pearson's Magazine* for November, 1909, by Warren W. Foster, senior judge of the Court of General Sessions of the Peace of the county of New York: "Vasectomy is known to the medical profession as 'an office operation,' painlessly performed in a few minutes, under an anesthetic (cocain), through a skin-cut half an inch long, and entailing no wound infection, no confinement to bed. 'It is less serious than the extraction of a tooth,' to quote from Dr. William D. Belfield of Chicago, one of the pioneers in the movement for the sterilization of criminals by vasectomy, an opinion that finds ample corroboration among practitioners. . . . There appears to be a wonderful unanimity of favoring opinion as to the advisability of the sterilization of criminals and the prevention of their further propagation. The Journal of the American Medical Association recommends it, as does the Chicago Physicians' Club, the Southern District Medical Society and the Chicago Society of Social Hygiene. . . ."

Must the operation of vasectomy, thus approved by eminent scientific and legal writers, be necessarily held a cruel punishment under the constitutional restriction, when applied to one guilty of the crime of which the defendant was convicted? Cruel punishments, in contemplation of such a constitutional restriction, have been repeatedly discussed and defined, although this court has not been cited to, nor has it been able to find, any case in which the operation of vasectomy has been discussed. In State vs. Woodard, 68 Va. 66, a recent and well-considered case which may be consulted with much profit, Brannon, Justice, said: "The legislature is clothed with power well-nigh unlimited to define crimes and fix their punishment. So its enactments do not deprive of life, liberty or property without due process of law and the judgment of a man's peers, its will is absolute. . . . What is meant by the provision against cruel and unusual punishment? . . . In short, the text-writers and cases say that the clause is aimed at those ancient punishments, those horrible, inhuman, barbarous inflictions."

Current Medical Literature

AMERICAN

Titles marked with an asterisk (*) are abstracted below.

Annals of Ophthalmology, St. Louis

January, XXII, No. 1, pp. 1-212

1 Results of Established Treatment of Detachment of Retina, and New Theory. D. T. Vail, Cincinnati.
2 Simple Method and Equipment for Quickly and Accurately Determining Lenses to Correct Astigmatism. D. E. Sulzer, Paris.
3 Neurotic Case of Keratitis Punctata Superficialis. W. L. Phillips, Buffalo, N. Y.
4 Syphilitic Pseudohypopyon. Rollet, Lyon, France.
5 An Accessory to Ophthalmometer Forming a Corneal Microscope. H. S. Gradle, Chicago.
6 Sociologic Aspect of Errors of Refraction. W. Zentmayer, Philadelphia.

Bulletin of American Academy of Medicine, Easton, Pa.

February, XIV, No. 1, pp. 1-112

7 Women in Industry in United States. J. H. McBride, Pasadena, Cal.
8 Relation of Foreign Population to Mortality Rates of Boston. W. H. Davis, Boston.
9 Education for Parenthood. H. C. Putnam, Providence, R. I.
10 Colorado Method for Examination and Care of Public School Children. M. E. Bates, Denver, Colo.
11 Subnormal School Child. L. T Royster, Norfolk, Va.
12 Management, Maintenance and Efficiency of School for Cripples in Cleveland. J. E. Tuckerman, Cleveland.

Colorado Medicine, Denver

February, X, No. 2, pp. 33-70

13 Functional Tests of Heart. C. T. Burnett, Boulder.
14 Functional Tests of Liver. P. Hillkowitz, Denver.
15 Anaphylaxis. R. C. Whitman, Denver.
16 Management of Acute and Chronic Suppuration of Middle Ear. J. J. Pattee, Pueblo.
17 Case of Eclampsia. F. N. Cochems, Salida.
18 Tests of Kidney Function. C. Giffin, Boulder.

Indiana State Medical Association Journal, Ft. Wayne

February, VI, No. 2, pp. 55-98

19 *Case of Diaphragmatic Hernia. J. C. Sexton, Rushville.
20 Physical Insolvency. H. O. Pantzer, Indianapolis.
21 Some Clinics of Europe. J. O. Stillson, Indianapolis.
22 True Physician. C. A. White, Danville.
23 Relations of Specialist to Practitioner. A. Carter, Plainfield.

19. **Diaphragmatic Hernia.**—Aug. 23, 1912, Sexton's patient, male, 36 years old, had performed on him a posterior gastro-enterostomy, with anterior gastro-plication and fixation two weeks before. The conditions to be corrected by such surgical procedure were found to be a dilated stomach and duodenum, and hernia of the stomach through the diaphragm into the thoracic cavity, the esophageal opening having become dilated into a large arched abnormal passage through which the entire hand could readily be passed. At the time of operation almost the entire stomach was found within the thoracic cavity. The pull of the stomach to the left had produced considerable displacement of the peritoneum of the right upper abdomen. The layer of peritoneum covering the second portion of the duodenum was carried forward and to the left in such a manner as to present a triangular fold or layer of peritoneum abnormally thick, the division of which disclosed the dilated duodenum. During the 1910 harvest he suddenly felt something give way in his left side, or back—or "clear through him," as he said—which was attended with some pain and

faintness. He had not been able to do any heavy work since that time. He had had in this last two years many attacks of vomiting, sometimes lasting a week, many attacks of so-called neuralgia of the stomach, or stomach pain—some of them sufficiently severe to require the attendance of a physician and the hypodermic injection of morphin. Later on he was educated to the use of the stomach-tube, and by the prompt application of stomach washing could always bring relief to his discomfort.

Journal-Lancet, Minneapolis

February 15, XXXIII, No. 4, pp. 97-126

24 *Diagnosis of Diseases Associated with Enlargement of Spleen. H. Z. Giffin, Rochester, Minn.
25 Oral Infection in Relation to Constitutional Infection. T. B. Hartzell, Minneapolis.
26 *Splint for Fractured Clavicle. J. T. Leland, Herman, Minn.
27 *Conservation in Some Conditions of Surgery of Intestines. G. R. Curran, Mankato, Minn.
28 *Bacteriology of Epidemic of Paratyphoid Fever. E. T. F. Richards, St. Paul.

24. **Diseases Associated with Enlargement of Spleen.**—Two cases of wandering spleen have been operated at St. Mary's Hospital. Another patient had been operated on elsewhere for movable kidney apparently as the result of a mistaken diagnosis. The kidney had been stitched up but the tumor, which, on palpation, showed all the characteristics of spleen, remained as movable as before. One patient with tuberculous enlargement of spleen was operated on in 1904 and made a good recovery, but died four months later. One patient on whom splenectomy was done for what was morphologically lymphosarcoma has remained well for seven years. In another case a diagnosis of lymphoma was made, and the patient has remained well for a year and a half. Clinically these two cases presented the syndrome of splenic anemia.

Three spleens of the Gaucher type of endothelioma have been removed at St. Mary's Hospital. The clinical histories were those of splenic anemia. In all, twenty-seven splenectomies have been done at the Mayo Clinic, from April, 1904, to July, 1912. Of these cases, eighteen conformed most nearly to the group commonly regarded from a clinical standpoint as splenic anemia.

26. **Splint for Fractured Clavicle.**—The splint devised by Leland is made of iron wire (¼ inch) after the manner of the Cabot splint, bent in half, the two extremities bent again to the border of the axilla, then downward and forward beneath the axilla with a final upward turn grasping the shoulder. The fulcrum is between the scapulas, the lever extending down the spine, padded with sheet-wadding, and bound with a flannel bandage. The axilla and seat of the fulcrum are padded while retraction is maintained by a three-inch roller bandage passing about the chest, first having made several turns about the extremity of the leverage. Retraction is most assuredly produced, and no advantage can be taken of it later by any slipping, etc. Applied under the clothing, the shoulder is exposed to inspection, and there are no adhesive plaster attachments. It is said to be as comfortable as any retentive dressing can be, consistent with results demanded. The arm is put in repose by the aid of two roller-bandages (2 inch) applied over sheet-wadding, one beginning at the wrist and applied to the elbow, while the remainder begins at the shoulder and also terminates at the elbow. The forearm bandage leaves an extremity 6 inches long at the wrist, which is split down its middle tied in a knot, then circles wrist. The two ends resulting are left to support the hand at opposite the shoulder. At the elbow this bandage passes in at the flexed elbow and is brought out and over the external border of the arm above the elbow. The arm bandage then passes back of the neck to the uninvolved shoulder, and the forearm bandage in front of the neck to the same shoulder, where they are tied in a knot, encircling that portion of the splint in the axilla when the final knot is secured. Then the arm is supported by pinning the wrist-piece to the shoulder-knot, without pulling on the neck.

27. **Surgery of Intestines.**—One conservation method to which Curran calls attention is invagination of intestines, when the vitality of the lumen, up to 6 inches, is impaired, instead of resection of the injured bowel and anastomosis. He says that if invagination is used in cases in which resection has occurred, how much more, then, should it be used when the septic lumen of the bowel does not need to be opened? It can be used in many cases, not malignant, in which the pathologic condition of the intestine will lead to necrosis, or in which the serous coat has been destroyed, which would eventually lead to many adhesions. He has used this method in over a dozen cases, both of traumatic and pathologic origin, turning in as much as 6 inches of the lumen of the intestine without any untoward result whatever. In one case of traumatic shock he felt that the patient might not have withstood a resection.

The technic is described as follows: Find the center of the part to be invaginated and then with a pair of forceps push this part into the lower segment of the intestine. Insert three stay-sutures to bring the healthy bowel above and below together, one at the mesentery at each side, the other in the center of the intestine, and then with a needle and linen thread and the Glover stitch rapidly turn in the serous coat, going deep enough to take in the muscularis mucosa or even the mucous membrane itself.

28. **Bacteriology of Epidemic of Paratyphoid Fever.**—In a series of thirty cases presenting a somewhat varied clinical picture, blood cultures performed by Richards in seven yielded in each instance a pure growth of an actively motile, gram-negative bacillus. This bacillus differed essentially in its cultural properties from *Bacillus typhosus* and *Bacillus coli*. In its growth on carbohydrates it conformed with the paratyphoid organisms. Both from its behavior in litmus milk and its reaction to certain submitted agglutination tests, the bacillus isolated in this epidemic is believed to be *Bacillus paratyphosus*. Among the individuals from whom the organism was obtained were two who assisted in the preparation and serving of food. This, together with the peculiarly limited distribution of the epidemic, is believed to justify the conclusion that the disease was due to an infected food-supply. Richards emphasizes that a positive Widal reaction does not exclude the diagnosis of paratyphoid. An accurate diagnosis of paratyphoid infection can with certainty be made only by the isolation of the paratyphoid organism from the blood.

Kentucky Medical Journal, Bowling Green

February 15, XI, No. 4, pp. 145-176

29 Treatment of Tight and Complicated Strictures of Urethra. H. C. Weber, Louisville.
30 Scleral Decompression in Treatment of Intra-Ocular Tension. J. M. Ray, Louisville.
31 Brill's Disease. L. P. Durrett, Louisville.
32 Sinus Thrombosis with Purulent Meningitis. I. Lederman, Louisville.
33 Bilateral Tuberculosis of Testicles. C. B. Spalding, Louisville

Missouri State Medical Association Journal, St. Louis

February, IX, No. 8, pp. 253-292

34 *Quadriceps Transplantation in Paralysis. A. E. Hertzler, Kansas City.
35 Dangers of Specialties. E. H. Miller, Liberty.
36 Kidney Function Tests. F. M. Denslow, Kansas City.
37 *Possible Interrelationship of Infectious Eczematoid Dermatitis, Dermatitis Repens and Acrodermatitis Perstans. R. L. Sutton, Kansas City.
38 *New Urethrotome. H. M. Young, St. Louis.
39 Nasal Obstruction as Causative Factor in Diseases of Throat and Ear. D. C. Adcock, Warrensburg.

34. **Quadriceps Transplantation in Paralysis.** In a case of quadriceps extensor paralysis, Hertzler transplanted the biceps and semi-membranosus into the patella. The semi-membranosus was not made to perforate the vastus internus because it was thought, on account of the atrophied condition of the muscle, the tendon would pass over it without loss of mechanical power. The result was satisfactory so far as the operation itself was concerned inasmuch as the patient had the power of extending her leg. Because of a total paralysis of the left leg a splint was necessary to stiffen it. With this aid the patient was able to stand unaided. Because of extensive involvement of the arm muscles crutches can, up to the present time, be managed with difficulty and walking unaided is not possible. It is hoped that with exercise the arms may gain additional power and enable the patient to use her crutches with better advantage.

37. **Dermatitis.**—Infectious eczematoid dermatitis is a well-defined clinical and pathologic entity, and, Sutton says, should be separated from the group of pustular eczemas in which it has heretofore been included. It is very probably due to the yellow or white staphylococcus. Histologically, infectious eczematoid dermatitis differs from dermatitis repens (a term which also includes the so-called acrodermatitis perstans of Hallopeau) principally in the location of the inflammatory process, and the cutaneous structures involved. In the first named, the pathologic changes are confined almost wholly to that portion of the corneous layer which overlies the stratum lucidum, while in the last, the infection is more deeply seated and the prickle cell layer bears the brunt of the attack. The histologic findings readily account for the difference with which the two diseases respond to treatment. Infectious eczematoid dermatitis is quickly and favorably influenced by the simpler and milder antiparasitic applications, and, when properly treated, an attack seldom extends over a fortnight. In dermatitis repens, on the other hand, it is usually very difficult to bring about a cure, and the disease often persists for months in spite of the most vigorous treatment. Vaccine therapy properly employed, is of great value in combating both infectious eczematoid dermatitis and dermatitis repens.

38. Published in The Journal, Sept. 21, 1912, p. 937.

New York Medical Journal

February 15, XCVII, No. 7, pp. 321-372

40 Asellius and Discovery of Lymphatic Circulation. F. P. Henry, Philadelphia.
41 Friedmann's New Tuberculosis Remedy. H. J. Achard, Chicago.
42 Acute Gonococcal Urethritis in Male. V. C. Pedersen, New York.
43 Multiple Professional Cramps in a Psychasthenic. T. A. Williams, Washington, D. C.
44 Relation of Scoliosis to School Seating. J. W. Sever, Boston.
45 Routine Disinfection of Schools. J. T. A. Walker, New York.
46 Ether, Hot or Cold? C. R. Hervey, Oswego, N. Y.
47 Relation of Eustachian Tube to Chronic Catarrhal Otitis Media. H. Hays, New York.
48 Epidemic Meningitis. F. J. Slataper, Houston, Texas.
49 The Wrosted Truss. W. B. Jennings, New York.
50 Carcinoma of Lung. M. Freiman, New York.

New York State Journal of Medicine, New York

February, XIII, No. 2, pp. 61-116

51 Operative Treatment of Fractures. J. B. Walker, New York.
52 Radical Abdominal Operation for Cancer of Cervix. L. Broun, New York.
53 Plan for Betterment of Economic Condition of Medicine. E. E. Harris, New York.
54 *Dementia Praecox Without Delusions or Hallucinations, a Type Most Frequent Outside of Hospital. G. H. Kirby, New York.
55 Problem of Toxic-Infectious Psychoses. A. Hoch, New York.
56 *Hospital Treatment of Communicable Diseases. W. S. Goodale, Buffalo.
57 Small-Pox and Vaccination. F. C. Curtis, Albany.
58 *Use of Bouillon Culture of Staphylococcus Pyogenes Aureus in Diphtheria Convalescents and Bacillus Carriers R. G. Wiener, New York.
59 Prevention of Occupational Diseases. W. G. Thompson, New York.
60 The Social Evil. J. Pedersen, New York.
61 Relation of General Practitioner to Prevention of Venereal Diseases. P. B. Brooks, Norwich.

54. **Dementia Praecox.**—Three cases are cited by Kirby as illustrating this condition. 1. Male, aged 20, in childhood was noticeably deficient in social and altruistic feelings; a seclusive personality without wholesome companionship in the family or outside of it; fairly well endowed intellectually but deficient in application and lacking in interest. In dealing with the sexual instincts of puberty he was apparently without sufficient healthy balancing interests; with excessive masturbation and absorption in sexual topics he lived more and more within himself and deteriorated into a state of grave apathy, showing also constrained behavior, mannerisms, silly smiling and diminished power of attention. No incoherence in the stream of thought. No delusions or hallucinations. 2. Male, aged 22, whose make-up was plainly of the shut-in type. Stubbornness and absence of strong emotional attachments were also prominent traits. Backwardness at school, partially accounted for by myopia. Masturbation from the age of 12. Gradual deterioration in interests, loss of energy, finally an idle apathetic state. No distortion in the stream of thought. Delusions absent; on one occasion he imagined that he heard his dead mother whisper that he should stop masturbating. 3. Male, aged 44, physician, from early youth presented many signs of a seclusive personality. He was, however, ambitious and energetic and later his professional work served to bring about considerable contact with the external world. As to his inner mental life little is known; the patient claims there is nothing to reveal. He appeared always sexually indifferent; denies masturbation. A falling off of interest and energy began at about the age of 32; the shut-in tendency became markedly accentuated; the patient gradually severed all connection with the outside world and settled into a secluded, apathetic existence without ever giving utterance to any trend of delusions. The personality remains well preserved; there is no oddity in behavior and no thought distortion. The outstanding features in this group of cases appear to be the following: The appearance in childhood of signs of a shut-in type of personality. This is probably a very deeply rooted tendency and has much to do with later developments. In fact, what we call the deterioration in these cases is, in its broadest aspect, nothing more than "a growing inward," a tendency to ignore the external world, a living apart without further interests in the affairs of life. Standing in close relation to this shut-in disposition is the difficulty in sexual adaptation, the auto-erotic traits appearing early, and masturbation becoming a fixed habit. The deterioration seems to begin in most cases at about the age of puberty when the difficulties in dealing with the sexual instinct are most acute. The decline may, however, begin much later. Kirby feels that dementia praecox of this type may be much more prevalent than we are aware of because most of the cases are likely to remain outside of the hospital. The recognition and further investigation of these cases is of practical importance, as many children who fail at school or who "break down" at about the age of puberty belong in this group; among abnormal characters and the dependent classes generally many cases of this kind of deterioration are probably to be found. In the clinical analysis of these cases we find no indication of the mechanisms usually found in dementia praecox, and therefore absence of all symptoms and trends which ordinarily come about in reaction to disturbing complexes. These cases serve to emphasize the fundamental defects in make-up and faulty mental habits as the chief factors in bringing about the deterioration. Above all there stands out the tendency to live a shut-in existence with inadequate sexual adaptation.

56. **Communicable Diseases.**—In Goodale's opinion, communicable diseases, including acute and chronic pulmonary tuberculosis should be treated in proper institutions and commitment to the same made mandatory. It necessarily follows that in order to make this procedure popular and practical, every municipality must maintain such an institution in a fitting manner. The building should be of the best, both in architecture and equipment. The grounds ample as well as beautiful and the location accessible. The interior workings of a contagious disease hospital must be made attractive to the public and the physician. In providing good food, and the best nursing and resident medical care obtainable, together with arranging proper diversions for convalescent patients, including suitably controlled visits from parents and friends, the first mentioned condition will have been complied with. The second condition, that of catering to the family physician, can only be met by putting these institutions under the control of the local department of health to be governed by a well-equipped superintendent and a sufficient number of well-paid resident physicians and other employees. The policy of the house must be "wide open" in reference to methods of treatment and the various accepted schools of medicine. In other words, every physician of the community holding a diploma entitling him to practice medicine should be accorded the privileges of the house at all times regardless of the fact whether or not his patients are pay, city or county cases. No one person in a community can do more toward popularizing an institution of this sort than a physician. Hospitals for communicable diseases

should be considered nothing more nor less than huge quarantine stations, and if a doctor is competent to treat a patient in a home, surely he is competent to treat the same patient in a hospital. As a matter of fact this system works out in a very practical way, for at the Ernest Wende Hospital, Buffalo, where this method has always been in vogue, 98 per cent. of the physicians turn their cases over to the house and merely make occasional visits for the purpose of satisfying the family and friends on the outside.

58. **Staphylococcus Pyogenes Aureus.**—Wiener endorses the use of the staphylococcus spray and urges that it be employed more widely than it is at present.

Northwest Medicine, Seattle, Wash.

February, V, No. 2, pp. 29-58

62 Cerebral Localization from Ophthalmic Standpoint, with Report of Illustrative Cases. C. A. Veasey, Spokane, Wash.
63 Treatment of Infected Wounds at Time of Injury, Including Use of Iodin and Serums. E. VanCott, Salt Lake City, Utah.
64 Treatment of Prolapsus of Bladder. E. C. Rich, Ogden, Utah.
65 Cancer of Stomach. E. F. Root, Salt Lake City, Utah.
66 Four Cases of Lymphatic Leukemia. F. Hinman, Spokane, Wash.
67 Vienna as Clinical Center. J. E. Else, Pullman, Wash.
68 Use of Typhoid Vaccine. G. A. Gray, Spokane, Wash.

Southern Medical Journal, Nashville

February, VI, No. 2, pp. 73-146

69 Historic Rambles in Southern Fields. R. Wilson, Charleston, S. C.
70 Pathogenesis of Relapses in Malarial Fevers. A. Bignami, Rome.
71 Nitrous-Oxid Oxygen Anesthesia. E. M. Prince, Birmingham, Ala.
72 Idem. T. O. Burger and J. L. Ross, McMinnville, Tenn.
73 Epidemic Cerebrospinal Meningitis. A. E. Thayer, Mobile, Ala.
74 *Serum Treatment of Cerebrospinal Meningitis. C. C. Green, Houston, Texas.
75 Operative Versus Non-Operative Treatment of Fractures. G. J. Winthrop, Mobile, Ala.
76 Operative Treatment of Fractures. J. Graham, Durham, N. C.
77 Some Things That People Should and Should Not Forget. J. Y. Porter, Jacksonville, Fla.
78 *Sanitary Inspection: Remedial and Constructive. O. Dowling, New Orleans.
79 Open-Air Treatment of Pneumonia. J. D. Heacock, Birmingham, Ala.
80 Therapeutic Comparison, Medicinal and Otherwise as Between Caucasian and Afro-American. G. M. Niles, Atlanta, Ga.
81 Appendicitis, with Lime Water as Probable Cause. J. M. Wilson, Mobile, Ala., and W. J. Blount, Healing Springs, Ala.

74. Abstracted in THE JOURNAL, December 14, p. 2181.

78. Abstracted in THE JOURNAL, December 7, p. 2090.

Surgery, Gynecology and Obstetrics, Chicago

February, XVI, No. 2, pp. 117-232

82 *Experiences in Spinal Surgery. C. A. Elsberg, New York.
83 *Subcutaneous Rupture of Diaphragm and Positive Pressure (Meltzer). E. C. Riebel, Chicago.
84 Do Parathyroids Functionate in Intra-Uterine Life? A. Werelius, Chicago.
85 *Influence of Myomata on Blood-Supply of Uterus, with Special Reference to Abnormal Uterine Bleeding. J. A. Sampson, Albany, N. Y.
86 *Typhotuberculous Tubo-Ovarian Abscess. W. D. Fullerton, Cleveland.
87 How Can We Improve Results of Our Operations for Cancer? T. Abbe, Washington, D. C.
88 *Possible Factor in Causation of Cancer. H. Packard, Boston.
89 Meckel's Diverticulum and Complications. H. A. Brennecke, Aurora, Ill.
90 Extensive Subcutaneous Emphysema Following Intratracheal Anesthesia, with Recovery. H. C. Luke, New York.
91 *Suggestion Tending to Simplify and Make More Accurate the the Closure of Posterior Edges of Wound Margin After Excision of Saddle Ulcer of Stomach. E. M. Williams, Patterson, La.
92 Experiences with Intravenous Anesthesia. W. F. Honan and J. W. Hassler, New York.
93 Plastic Surgery-Z Incision. S. L. McCurdy, Pittsburgh.
94 Whitehead Operation for Hemorrhoids; Report of Two Hundred Cases. L. Noland, Cristobal, Canal Zone.
95 *Cure of Procidentia Uteri in Elderly Women. New Intra-Abdominal Technic. F. Fletcher, Columbus, Ohio.
96 Securing Ends of a Subcuticular Suture by Knots. F Reder, St. Louis.
97 Obstetrical and Surgical Treatment of Puerperal Eclampsia. J. F. Moran, Washington, D. C.
98 Dilatation of Tight Urethral Strictures Causing Retention W. S. Schley, New York.

82. **Spinal Surgery.**—Elsberg's observations were made on seventy consecutive operations for spinal disease. There were sixty primary laminectomies and ten secondary operations. Laminectomy was performed twenty-two times for tumor, nine times for section of posterior roots for pain or spasticity, four times for inflammatory bone disease, five times for old fracture of the spine, twice for syringomyelia and hydromyelia, once for intramedullary cyst, once for an arteriovenous aneurysm of the posterior spinal vessels and three times for a peculiar disease of the roots of the cauda equina. In thirteen patients not enough was found to explain the symptoms. As the improvement in most of the patients is of necessity slow and gradual, he says, years must pass before any definite statements of the end results can be made. He puts emphasis on the fact that the mortality of the operation of laminectomy should be a small one. He recently operated on the fortieth successive laminectomy for spinal disease without fatality from the operation. In experienced hands, a laminectomy is neither a particularly hazardous nor a trying operation. The surgeon who desires to have the best results in his spinal operations must have a good working knowledge of spinal physiology and pathology, he must be able to determine for himself the level and relations of a spinal lesion and should be able to recognize, as far as present knowledge will permit, its nature. Then he will be able to construct in his own mind a picture of the condition of affairs in the spinal canal and thoroughly to understand the manner in which the disease is interfering with the cord's functions. The spinal surgeon will surely be required, more and more often, to invade the tissues of the spinal cord itself, and to attack the cord on its anterior as well as on its posterior aspect. The operative procedures must be planned to meet the indications in each individual case. The incision of the skin, the separation of the fascia and muscles from the bones and the removal of the spinous processes and laminae so as to lay the spinal canal wide open, is a purely mechanical part of the operation and should be accomplished with very little expenditure of time so that the strength of the patient is little taxed before the actual manipulations around the spinal cord are begun. Osteoplastic flap operations are inadvisable and unnecessary, because they are more time-consuming and more bloody and do not give as free access to all sides of the cord. The operation of hemilaminectomy is appropriate, Elsberg thinks, for only very few cases. A wide exposure of the spinal canal is usually necessary, both for the purpose of exploration and in order that there shall be as little handling of the cord as possible. The operator should consider that every time he touches the cord he is doing harm; only then will he have the proper respect for the delicate spinal tissues. For ordinary purposes, at least two or three spines and laminae have to be removed, but Elsberg has removed as many as five to seven before the entire lesion was exposed. The support of the spinal column depends mainly on the bodies of the vertebrae, and the functions of the spine are well preserved even after seven spinous processes and laminae have been removed. The dura mater should always be tightly closed after the completion of a spinal operation (excepting in the cases to which reference will be made later), and the muscles, fascia and skin very carefully closed by interrupted sutures. The careful layer suture of the paravertebral muscles will contribute much to the perfect recovery of the mobility of the spinal column after a laminectomy. Oozing from the muscles should always be carefully controlled before the dura is incised. The pia-arachnoid can usually be opened separately, so that even if there is a little blood within the dural sac it will not come into direct contact with the cord; and hence those paresthesias and root pains can be prevented which sometimes follow spinal operations and are due to bleeding into the subarachnoid space. A laminectomy wound should never be drained; the careful closure of the dura, muscles, fascia and skin will be the surest preventive of cerebrospinal fluid leakage and the greatest safeguard against meningeal infection. Even when the dura is left open, leakage of cerebrospinal fluid should practically never occur if muscles, fascia and skin have been well sutured. When the laminectomy has been done in the cervical region, it is advisable to immobilize the cervical

and upper dorsal spine by means of a large posterior splint, but in the dorsal and lumbar regions, no immobilization of the spine is necessary. The patients should be kept flat on the back for the first few days, and they usually prefer that position as the most comfortable. When the laminectomy has been done in the lowermost dorsal or lumbar and sacral regions, great care should be taken that the dressings are applied so as to guard against soiling of the wound with urine or feces. This is, of course, very important, for so many of the patients who require a spinal operation in one of these regions are, from the nature of their disease, more or less incontinent of urine and feces. Soiled dressings must be replaced by clean ones at once, not only for hygienic and esthetic reasons but to avoid infection, as with *B. coli.*

83. **Subcutaneous Rupture of Diaphragm.**—Riebel's paper is summarized as follows: The diaphragm in man has an important influence on the heart's action, by its anatomic relation to the heart and pericardium. It is an important factor in the circulation by aiding venous return, especially from the abdominal cavity. It plays an important part in maintaining equilibrium in the thoracic cavity. Rupture of the diaphragm must needs be followed by serious disturbances in internal respiration and in the equilibrium within the thoracic cavity. The inevitable prolapse of abdominal organs following subcutaneous rupture still increases this condition, frequently producing a state of positive pressure in the thoracic cavity. The use of differential pressure is absolutely necessary to overcome these factors. It will insure better results, in these cases, permitting, furthermore, the choice of abdominal or transpleural route or both as the occasion requires. The character of pressure, whether positive or negative, is of little consequence, but the method of Meltzer is simple and can be used anywhere. In cases of suspected subcutaneous rupture of the diaphragm, insufflation should be employed with low pressure (10 to 15 mm.) before operation, to overcome the deleterious effects of disturbed intrathoracic equilibrium.

85. **Influence of Myomata on Blood-Supply of Uterus.**—The material for this study consisted of 150 injected uteri containing one or more of these tumors. The material for this study may be grouped according to the clinical diagnoses made before the operation, as follows: myomata, 79; pelvic inflammatory conditions, 20; uterine bleeding of obscure origin, 16; ovarian cysts, 12; carcinoma of the cervix, 8; carcinoma of the body, 5; descensus and retrodisplacements of uterus, 5; ectopic pregnancy, 3; hydatidiform mole, 1; sarcoma, 1. This shows how frequently myomata are encountered when operating for other conditions; i. e., over 47 per cent. of the material was obtained at operations which were undertaken for other conditions than myomata. Sampson's examination revealed the following: Small subserous myomata are relatively anemic and do not have any appreciable influence on the uterine circulation. Large subserous myomata are very vascular (arterial), and cause a hypertrophy of the uterine artery from which their nutrient artery arises, and thus more blood is carried to the uterus and tumor, the excess over the normal being diverted to the tumor. More venous blood is carried back to the uterine and ovarian veins. The chief arterial and venous changes are in the peripheral zone of the uterus; the radial zone and endometrium are but very little affected, and menstruation is usually not altered. Small intramural myomata are less vascular than the myometrium and apparently have very little influence on the circulation of the uterus, and usually menstruation is not altered. As cases sometimes occur with a history of menorrhagia or metrorrhagia in which small intramural myomata are found, these cases suggest that those tumors may in some way lead to uterine inefficiency, especially muscular inefficiency, with a resulting loss of control of the venous circulation of the uterus. Intramural myomata over 2.5 cm. in diameter are usually more vascular arterially than the myometrium, but less vascular venously. Some of the large tumors are so very vascular that the injected specimen appears more like an arterial angioma than a myoma. The greater the arterial supply of the tumor, the greater the increase in the arterial supply of the uterus, at least, the greater part of the increase over the normal is diverted from the uterus to the tumor. The venous plexus of the myometrium is always dilated, and this is most marked about the periphery of the tumor, and especially in places where the pressure is least. The venous uterine congestion is apparently mainly an active one, and the uterine walls are apparently hypertrophied in order to control it. The endometrium, if not encroached on by the tumor or tumors, is often hypertrophied, and its venous plexus is also dilated. Menstruation may or may not be affected, and when excessive or abnormal bleeding occurs it is apparently due to a loss of uterine efficiency; i. e., the uterus is unable to prevent the escape of an excessive amount of blood into the uterine cavity at the menstrual flow. The regenerative change following menstruation, i. e., menstrual involution, is also sometimes retarded. This may be due to changes in the endometrium, which are possibly dependent on the disturbance in circulation. Intramural myomata which encroach on the uterine cavity alter the shape of the cavity and intercept or push to one side the radial arteries which supply the endometrium over the tumor, and this, with the pressure exerted by the myoma, causes an atrophy and anemia of this portion of the endometrium. The endometrium directly opposite the tumor may also be thinner and less vascular than normal, due to the pressure of the tumor. The endometrium not directly or indirectly encroached on is always thicker and more vascular and is often actually hypertrophied and its venous plexus more dilated than normal. The condition of the endometrium in any specimen is dependent on the age of the patient and the phase of menstrual cycle when the uterus was removed. The menstrual flow arises mainly from the endometrium not directly or indirectly encroached on by the tumor; i. e., the endometrium, which has an abundant blood-supply, contains glands and is usually hypertrophied. The atrophied, anemic endometrium over the tumor which has a poor blood-supply, and in which the glands are few in number or entirely absent, takes a very small part or none at all in the menstrual flow. Disturbances in menstruation may or may not occur. The profuse flow, when it occurs, is only in a measure dependent on the increased amount of venous blood in the plexuses of the myometrium and endometrium, the larger channels uniting the two plexuses, and the hypertrophy of portions of the endometrium and the distortion of the uterine cavity making it more difficult to close. This disturbance is apparently due more to the failure of the uterus to control the venous blood under these adverse circumstances and a retardment of the regeneration or repair of the endometrium. Two specimens may appear the same, yet in one, menstruation is normal, and in the other, excessive; nor can we discern anatomically why both should not give the same menstrual history. Occasionally, dilated veins in the endometrium over the surface of the tumor may become eroded and give rise to abnormal bleeding, but the usual and chief source is from the portion of the endometrium described above. Submucous myomata represent a later stage of the intramural variety, and the veins over the surface of the tumor are more apt to become injured or undergo degeneration than those over the intramural tumors. The source of the profuse menstruation is usually the endometrium not encroached on by the myoma. Menstruation is more often abnormal, but may be normal.

Only twelve uteri were encountered containing adenomyomata, and in all twelve other types of uterine myomata were also present. These cases showed that disturbances in menstruation are not necessarily present, and when they occur they may be due to changes caused by other myomata in the specimen. On the other hand adenomyomata may cause menorrhagia or metrorrhagia, just as other intramural myomata encroaching on the uterine cavity do. When abnormal bleeding is present, it is apparently dependent on the same factors as other types of myomata, and the excessive flow does not arise from the tumor itself. Sampson's studies have led him to believe that when the bleeding arises from the tumor itself, due to sloughing or sarcomatous changes, it would be arterial (the tumors have a rich arterial supply), and not venous, as occurs from the endometrium

86. **Typho-Tuberculous Tubo-Ovarian Abscesses.**—In post-typhoid pelvic abscesses, the *B. typhosus*, according to Fullerton's studies, probably plays a more important rôle than is suspected. Puerperal infections coincident with or shortly following a typhoid infection may often have the typhoid organism as a causative agent. With these conditions, a careful inquiry into the past history for typhoid infections will probably bring out some interesting results, especially when coupled with a careful bacteriologic examination of all pus from pelvic abscesses. With a previous pelvic infection, which is more or less destructive and lowers the resistance of the parts, one would naturally more often expect to find a secondary infection. The simplest and most plausible mode of infection is by way of the blood-stream. Hexamethylenamin, which has proved so useful in preventing post-typhoid cystitis, cholecystitis, etc., though its excretion by the uterine and tubal epithelium has not yet been proved, may here be found to be of advantage, at least in the prevention of such a post-typhoid complication.

88. **Causation of Cancer.**—Packard's conclusions are based on the theory that all forms of malignant disease are possible only because of absence of or loss of immunity, and the invasion of the susceptible organism by some as yet unknown parasite. He says that it is reasonable assumption that all animal life in a normal state of environment and supplied with nutriment bearing all the organic ingredients necessary for the upbuilding and maintenance of a healthy resistant vitality, possesses in itself a protective immunity to cancer. In view of the apparently well-established fact that in the vegetable world an adequate supply of the earth-salts (phosphatic, potassic, ferric, manganic, silicic, sodic) act as a distinct deterrent on parasitic life and make for vigorous, virile, disease-resisting, healthy life, may we not assume as much for the animal world? Since a critical examination of the habits of life of civilized cancer-plagued people, in comparison with the habits of primitive cancer-free people shows that the main difference is in a dietary poor in food salts of the former and a dietary rich in food salts in the latter, the most lògical and rational course is to adopt this as the keynote to cancer treatment. A well-balanced dietary must be adopted, including not only proteids, carbohydrates and fats, but also food salts.

91. **Closing Wound After Excision of Saddle Ulcer.**—In a case operated by Williams and in which a saddle ulcer 4 cm. from the pyloric ring was excised, the usual method of closure was utilized throughout, except that on the posterior surface the peritoneal apposing suture passes through all of the coats of the stomach, being passed from the inner side, which greatly simplifies the placing of this layer. Williams believes that this method of suturing is original with him.

95. **Procidentia Uteri in Elderly Women.**—Fletcher's operation is essentially an abdominal hysterectomy, the uterus being amputated at the internal os, and the stumps of the broad ligaments, together with the round ligaments, being utilized (according to the Gilliam principles of suspension) as a secure means of supporting the cervix stump and bladder close to the pubic bone. The abdominal operation is preceded by: amputation of the cervix, anterior colporrhaphy and perineorrhaphy.

Texas State Journal of Medicine, Fort Worth

February, VIII, No. 10, pp. 255-286

99 Modern Treatment of Errors of Refraction. R. W. Moore, New York.
100 Ulcer of Cornea. R. S. Killough, Amarillo.
101 Public Health is Public Wealth. J. M. O'Farrell, Richmond.
102 Importance of Head Specialists in State Eleemosynary Institutions. J. R. Nichols, Austin.
103 Some Tubal Infections, from Practitioner's Standpoint. J. A. Hill, Houston.
104 Treatment of Septic Uterus. L. A. Suggs, Fort Worth.
105 Competition in Surgery. P. H. Chilton, Comanche.

West Virginia Medical Journal, Wheeling

February, VII, No. 8, pp. 255-288

106 Etiology and Prognosis of Insanity. J. R. Bloss, Huntington.
107 Alcohol and Heredity. C. C. Wholey, Pittsburgh.
108 Ulcer of Cornea. J. L. Dickey, Wheeling.
109 Gastric Ulcer: Report of Case. W. Neill, Charles Town.
110 Non-Surgical Treatment of Lacerated Cervix. R. H. Pepper, Huntington.

FOREIGN

Titles marked with an asterisk (*) are abstracted below. Single case reports and trials of new drugs are usually omitted.

British Medical Journal, London

February 8, I, No. 2719, pp. 265-320

1 *Vaccines and Fever. E. C. Hort.
2 Apyrexial Typhoid. N. Flower.
3 *Simple and Rapid Method for Administration of Subcutaneous Salines. E. M. Woodman.
4 Adrenalin in Emergency Treatment of Non-Corrosive Poisoning by Mouth. J. L. Jona.
5 Late Vasomotor Paresis Due to Adrenalin. H. Whale.
6 Breaking of Vicious Circle. J. B. Hurry.
7 *Treatment of Muscular Paresis by Means of Eccentric Movements. R. Abercrombie.
8 Raynaud's Syndrome and Syphilis. H. Semon.

1. **Vaccines and Fever.**—The first statement made by Hort to serve as a basis for discussion is this: In the great majority of infective diseases accompanied by marked systemic disturbance the most prominent clinical feature is that form of intoxication which is expressed in fever. The relationship of fever to general infection is so constant that whenever continued fever occurs we may be almost certain that an infective process is at work. Continued fever is in fact an index both of the continued activity of microorganisms pathogenic to the individual infected and of the absence of effective protection against such activity. On the other hand, the absence of fever does not necessarily indicate the absence of infection. On the contrary, it is a familiar experience that in severe infections leading to a fatal issue there may be no fever on account of grave impairment of the reactive functions of the infected body. This impairment may exist prior to infection or may be the expression of extreme intoxication after infection has occurred.

While the continuance of fever is an excellent indicator of the continuance of infection and of the absence of effective immunity thereto, it is also an index that the power of reaction—whatever that may prove exactly to mean—is not yet lost. The power of reaction to infection in terms of fever is in some unknown way intimately associated with the complex problems presented by immunity. The mere presence of continued fever is a sure sign that the machinery of immunization has been set in motion and is still running. The solution therefore of the mystery that surrounds the nature and source of the substances that are the immediate cause of the fever of infective disease can hardly fail to throw light on many of those problems in immunity which are at present totally obscure. Hence determination of the essential cause of the fever of infective disease—from the pathologic standpoint as opposed to that of physiology—is a matter of immediate concern to all students of immunity. And this particularly applies to those who administer dead bacterial vaccines, whether for purposes of prophylaxis or of treatment, as well as to those who make use of bacterial emulsions in test-tube reactions.

In the pathologic problems presented by fever, inquiry must always start from the pyrogen, or substance that provokes the manifestation of fever. Hort's observations appear to show that organisms recovered from tissues other than the blood, and injected at once, possess no pyrogen, but that when grown on laboratory media they readily elaborate a contaminating pyrogen from such medium, which they subsequently adsorb. They also show that the concentration of body pyrogen cannot be high in the infected organs, since the tissue material injected in some of the cases was considerable in amount. Owing to the difficulty, however, of freeing organisms recovered in this way from tissue debris, their enumeration cannot be carried out satisfactorily. Moreover, it is conceivable that absence of pyrogen in the dead organisms after recovery from the body might be explained by exhaustion of any pyrogen they might have contained while in the body during the continuance of fever. The low concentration of pyrogen, however, already demonstrated in the blood plasma during high fever, and the fact that injection of organisms recovered from the body at an earlier stage of an infection shows them also to be pyrogen free, make such a view improbable. In the meanwhile, in view of the cumulative evidence here presented. Hort says it is difficult to resist the conclusion that a rising temperature is not—as we have paradoxically been led to believe—a sign of increase of bactericidal and bacteriolytic function, but is, on the contrary, an expression of the activity of living organisms. Dead organisms, in short, do not in natural infections give rise to fever.

3. **Administration of Subcutaneous Salines.**—The only requisites for Woodman's method are (1) a large silver cannula from a Southey's tube apparatus; (2) Southey's rubber tubing; (3) a small piece of glass tubing, narrow at one end to fit this tubing, and larger at the other (for this an ordinary clean fountain-pen filler does very well); (4) a large glass funnel connected to the glass tube by rubber. The various parts are joined together and the whole sterilized by boiling.

The mode of introduction differs considerably from the usual method. The anterior axillary fold is grasped firmly and drawn outward. The trocar with its cannula is then passed into the skin in a direction vertical to the chest wall and is pushed steadily through the axillary fold so that its point emerges within the axilla. The trocar is then withdrawn and the cannula is pressed onward into the axilla until its shoulder rests flush with the skin. The fluid as it emerges from this cannula spurts in all directions and is poured out into three distinct planes, separated anatomically into watertight compartments by the deep fascial layers. Into the most superficial of these fluid flows into the fatty tissue over the pectoral muscle and around the breast and extends upward over the clavicle into the neck. Beneath this saline exudes into the pectoral muscles and is limited by the deep fascia on either side. Absorption is here rapid owing to the great vascularity of the part and to the pressure maintained by the fascial limitations. Lastly, distention of the axillary space takes place and the normal concavity of the axilla is replaced by a rounded swelling. Woodman says fluid is absorbed very rapidly when introduced in this way and two pints can be run into the tissues in twenty minutes, little trace of swelling being found after an hour.

The cannula is left *in situ*, and the administration can be repeated as often as necessary. This method has one disadvantage. The introduction is rather painful, but in the majority of cases the patient is still under the influence of the anesthetic when the administration is given or is so collapsed as to be insensitive to pain. This objection is more than compensated for by the ease of introduction and rapidity of absorption of a large quantity of saline by means of a simple appliance which every practitioner has at his command.

7. **Treatment of Muscular Paresis.**—In order to perform eccentric movements, the manipulator first brings the affected muscle into its shortest position and then gradually elongates it, while the patient resists the elongation. Abercrombie claims that such movements are of more value in the treatment of paresis than the more ordinarily employed muscular movements.

Dublin Journal of Medical Science

February, III, No. 494, pp. 81-160

9 *Case of Tubal Pregnancy Attended with Serious Symptoms Without Rupture. R. D. Purefoy.
10 Interstitial Keratitis. F. A. Anderson.
11 Sanatorium Benefit in Ireland. R. J. Rowlette.

9. **Tubal Pregnancy Without Rupture.**—A healthy young woman, aged 35 years, was married in February and menstruated regularly for three months. The intermenstrual periods were then shortened by two or three days. In September, after an interval of five weeks, she experienced severe pains and passed fluid and clotted blood per vaginam for a few days. Subsequently much internal soreness was felt, especially when being driven or "jolted" in any way. About three weeks later another attack of severe pain occurred, also attended with slight bleeding and at the same time micturition became frequent and was attended with difficulty.

On making a vaginal examination at this time the uterus was found driven downward and forward against the symphysis, and Douglas' space was occupied by a soft and exquisitely tender tumor. The pulse and temperature were normal, but the patient's appearance indicated a marked degree of anemia. Absolute rest in bed was prescribed and also a mixture containing iron and chlorid of calcium with small doses of morphin. Under this treatment steady improvement and relief of all the symptoms ensued, the only remaining sign of the illness, so far as the patient knew, being a brownish discharge, which persisted for several weeks.

Early in December, 1912, the patient came under Purefoy's care. At this time the physical signs were much as already described and the state of general health was good. The brownish discharge still persisted, and a globular swelling, adherent to the surrounding structures, occupied Douglas' space. Purefoy advised an operation for the removal of the swelling and this was carried out a few days later. He found that the tube, distended with blood but still unruptured, formed the tumor in the pelvis, and when the adhesions were broken down its removal was easily effected, and was followed by an easy and satisfactory convalescence. In this instance the history and physical signs strongly suggest an extrauterine pregnancy, in the course of which rupture of the tube took place, attended with serious loss of blood. On examination of the specimen no rupture could be detected, so that Purefoy concluded that the severe pain was due to distention and stretching of the tube by blood.

Edinburgh Medical Journal

February, X, No. 2, pp. 97-192

12 Malingering. B. Bramwell.
13 Direct Laryngoscopy, Tracheobronchoscopy and Esophagoscopy. A. L. Turner and J. S. Fraser.
14 Treatment of Syphilis by Salvarsan. A. P. Mitchell.

Glasgow Medical Journal

February, LXXIX, No. 2, pp. 81-159

15 Sporadic Congenital Deafness and Deafness from Syphilis. J. K. Love.
16 Aseptic, Antiseptic and Prophylactic Measures in Ophthalmic Surgery: Observations Made in Various British and Continental Hospitals. E. Thomson.

Journal of Pathology and Bacteriology, Cambridge

January, XVII, No. 3, pp. 281-431

17 *Investigation into Cause of Rouleaux Formation by Human Red Blood-Corpuscles. H. Wiltshire.
18 *Fibrinemia. J. O. W. Barratt.
19 Human Tubercle Bacilli in Milk of Vaccinated Cow. A. S. Griffith.
20 *Transplantable Carcinoma of Kidney of White Rat. G. W. Nicholson.
21 Experimental Trypanosome Anemia. A. E. Boycott and C. Price-Jones.
22 Agglutination and Sedimentation: Their Bearing on Water Storage. M. Coplans.

17. **Rouleaux Formation.**—The lack of an exact method of measuring the degree to which rouleaux formation is present makes the study of this phenomenon in disease most unsatisfactory. It is stated to be deficient in all forms of anemia, in Raynaud's disease and in sunstroke; and increased in all forms of suppuration, pneumonia and acute rheumatism, owing to increase in power of the serum. Wiltshire obtained definite results in pernicious anemia only. Six cases were examined, and, in five, rouleaux formation was found to be distinctly defective in fresh films. On examination of the serum and washed corpuscles separately, this deficiency was found to be due to some fault in the corpuscles. The sera of these cases formed rouleaux well with normal corpuscles, but each serum was practically inert with its own corpuscles. Further, the corpuscles of these cases formed very poor rouleaux with normal serum. The sixth case seemed to be exceptional, good rouleaux being formed. Poikilocytosis will not account for deficiencies on the part of the corpuscles, since it may be present to a marked degree in other types of anemia which show good rouleaux formation.

The results of Wiltshire's experiments are summarized as follows: 1. The viscosity of the fluid medium in which red corpuscles are suspended exerts a slight influence on rouleaux formation. 2. Certain colloids, such as gum, will cause formation of rouleaux of red corpuscles. 3. Serum or pathologic fluids which will form rouleaux lose this power when diluted to a slight degree. 4. Blood-serum rapidly loses its power to form rouleaux when kept, but the rate at which this change takes place is subject to considerable variation. 5. The same may be said of the corpuscles. 6. The effect of temperature on "serum body." (a) "Serum body" is probably not injured by a temperature of 100 C. acting for fifteen minutes. (b) The power of serum appears to be increased by exposure to 60 C. for fifteen minutes. (c) The loss of power of serum when kept is delayed by heating to 60 C. for fifteen minutes. (d) Serum which has lost power completely does not regain it when heated to 60 C. for fifteen minutes. (e) "Serum body" is not injured by freezing. 7. Saturation. In this respect "serum body" does not react like hemagglutinin. 8. Pathologic exudates. (a) Inflammatory exudates have very marked rouleaux-forming power. (b) Passive exudates are weak or powerless. (c) Both retain their power when kept. (d) The marked power of inflammatory exudates is not related to activity on the part of any special type of cell. 9. Injuring cells or keeping them in contact with serum does not appear to influence the power of that serum. 10. Certain bacteria when grown in serum cause a marked power for rouleaux formation to appear. Other bacteria are inert in this respect. Iso-agglutinin is unaffected by these bacteria. 11. Red corpuscles lose their power to form rouleaux when subjected to comparatively low degrees of heat (38 C. to 45 C.). 12. The corpuscles also lose this power under the influence of carbondioxid and hydrogen, possibly owing to reduction of their hemoglobin. Conversion of oxyhemoglobin into Co-hemoglobin makes no difference. 13. Simple alterations of the acidity or alkalinity of the medium surrounding red corpuscles makes no difference in rouleaux formation. 14. The serum of cases of pernicious anemia possesses normal rouleaux-forming power. The decrease in power seen in this disease is due to some change in the corpuscles. 15. Rouleaux formation is a constant occurrence in normal shed blood.

18. **Fibrinemia.**--Barratt found that when thrombin or thrombokinase is injected intravenously into rabbits, separation of fibrin takes place in the circulating blood. The immediate cause of separation of fibrin is in all cases the action of thrombin. According to the rapidity with which thrombin is formed (a) clotting occurs in the heart and great blood-vessels, especially on the right side of the heart, following the course of fluid injected; or (b) masses of fibrin appear in the smaller blood-vessels and capillaries. The former, accompanied by the latter, takes place if separation of fibrin is very rapid; the latter alone if separation of fibrin occurs relatively slowly. The symptoms produced are in part, if not wholly, due to mechanical interference with the circulation. No evidence is forthcoming of an additional toxic effect produced by the fluid injected.

20. **Transplantable Carcinoma of Kidney.**—An old rat, with symptoms of uremia, was found to have double hydronephrosis with multiple cysts in the kidneys, and an infiltrating alveolar carcinoma in the cortex of the right organ, which had begun to disseminate locally by means of the blood-vessels. The greater part of the primary growth was used for inoculation. The rim only was transplanted, as the bulk of the tumor was quite necrotic. This analysis of the growth of the tumor on transplantation gives the following results: Tumors develop in from 20 to 100 per cent. of all the rats inoculated. Of these, however, a number undergo spontaneous absorption, so that the positive results have varied between 10 and 60 per cent. In the cases of two series there was no permanent growth.

The percentage of successful transplantations has hitherto shown no tendency to increase in later generations. On the other hand, the rate of growth has markedly increased. The majority of the permanent tumors are first noticeable under the skin during the third week, but their appearance may be greatly delayed (seven to eight weeks). The tumors which are to undergo absorption usually do not appear until a week or two later. They grow for four or five weeks and then diminish rapidly in size, having usually disappeared again by the end of a fortnight. At the end of the sixth or seventh week the grafts have a tendency to increase rapidly in size. At the same time they become softer, owing to their centers breaking down and becoming liquefied. When they have attained a great size a large area of skin over their most prominent region usually necroses. The greater part of the tumor is thus extruded, and a deep ulcer, which is lined by new growth, remains. These ulcers show little tendency to heal. In one case only has a large tumor been cured by ulcerating completely away, leaving a scar in which there has been no recurrence. Metastases in the internal organs have hitherto only once been found, even when the tumor has been allowed to run its entire clinical course.

The tumor under consideration was clearly a carcinoma, as was shown by its histology, mode of growth and dissemination along the blood-stream through the parenchyma of the kidney. The histology of the grafts is variable. In addition to large areas of an encephaloid form of growth, there are adenocarcinomatous portions which acini show the commencement of the formation of tubules by the degeneration of their central cells. This hollowing out is of the same type as that occurring during the development of the kidney. In spite of the fact that the structure of numerous sections closely resembles that of the cortex of the suprarenal gland, this hollowing out, together with the evidence adduced from a study of the analogous tumors which have been discribed in mice and in the human subject, point to the conclusion that this tumor, together with most human "hypernephromata," has arisen in the epithelium of the renal tubules.

Journal of Tropical Medicine and Hygiene, London

February 1, XVI, No. 3, pp. 33-48

23 Rôle of Fungi in Sprue. A. Castellani and G. C. Low.
24 Case of Blackwater Fever Showing Cell Inclusions of Leishman. A. Balfour.

Lancet, London

February 8, I, No. 4667, pp. 65-434

25 *Etiology of Endemic Goiter (A Review). R. McCarrison.
26 Tumors of Kidney. R. H. J. Swan.
27 *Bone-Marrow Metastases and Anemia in Gastric Cancer. A. W. Harrington and A. M. Kennedy.
28 *Series of Seventy-Eight Cases of Streptothrix Infection. A. G. R. Foulerton.
29 Remission in Case of Epilepsy. D. W. Carmalt-Jones.
30 Case of Osteomalacia. S. Gray.
31 Congenital Absence of Both Thumbs. J. H. Sequeira.
32 Case of Acute Intestinal Obstruction Following Cesarean Section. J. B. Banister.

25. **Etiology of Endemic Goiter.** McCarrison has treated well over 100 patients with goiters by thymol, but in eighty-two only was he able to observe the final result of the treatment. Of these eighty-two, sixty-eight were cured, or so markedly benefited as to be practically so; while fourteen were unaltered, or only benefited to a very slight degree. All were selected cases. Thirty-three were of three months' standing or less, twenty-five were of twelve months' standing or less, while twenty-four were of a year's standing or more. The great majority of these cases which could be regarded as cured or very greatly benefited were of less than one year's standing. A few were of longer duration. These were uniform parenchymatous enlargements, some of them showing marked pulsation and engorgement of the vessels of the neck.

The majority of such patients react at once to treatment by thymol, and in some the swelling disappears with great rapidity. Older patients respond less readily to treatment, but in some of these also the results are quite surprising. This treatment, like all others of a medicinal nature, is applicable only to cases of recent origin in which degenerative, cystic and adenomatous changes have not yet taken place. Where such changes have occurred no form of medicinal treatment is of the slightest use. When thymol is prescribed, in such large doses as 10 gr. twice daily, the patient's dietary should, of course, contain no solvents of the drug; otherwise most unpleasant symptoms of thymol poisoning may result. When this rule is observed, no ill effects follow its use, even when administered for such long periods as three months. Apart from a few complaints of burning pain around the anus, none of McCarrison's patients have been in the least inconvenienced by the treatment. The drug is best administered in the form of a coarse powder washed down by a draught of water. The bowels should be active, and if there is any tendency to constipation an occasional purge should be given. A striking result of this treatment is the loss of subcutaneous fat which occurs. The patient becomes more clean-limbed and the skin assumes a healthier tint. Beta-naphthol also acts beneficially.

The chief interest which attaches to the treatment of goiter by thymol is etiologic rather than therapeutic. The germicidal power of thymol is very great. McCarrison believes that beneficial action of iodin is largely due to its powerful germicidal properties, which are even more marked than those of thymol. It acts possibly also by supplying to the thyroid that ingredient on which the antitoxic activity of its secretion depends. The internal administration of iodin also leads to leukocytosis, a very desirable object to attain where there is usually a marked reduction of the polynuclear cells of the blood. Its use is attended with a loss of weight and subcutaneous fat, and if the treatment is carried to excess dangerous wasting and palpitation of the heart and other symptoms may arise. The action exercised by the lactic-acid ferments when applied to the treatment of recent cases of goiter affords additional evidence that the agent responsible for the production of goiter has its habitat in the intestinal tract of man.

In carrying out this line of treatment McCarrison has used the fresh cultures of the *Bacillus bulgaricus.* He has treated up to the present time only eight patients in this way, but the results have been very striking. His patients were under treatment for a period of one month to six weeks. To some 12 to 20 ounces of "soured milk" were given every morning and 10 ounces in the evening. The cases were all of several months' standing and during treatment there was no change whatever in the manner of life of the patients. They were treated as external cases and carried out their work in the fields as usual. The results cannot be attributed, therefore, to change of locality, habits of life, or water supply. Of these eight patients, four were cured, two improved, and two showed no appreciable difference after six weeks. In those patients who were benefitted by the treatment it was observed that the thyroid began to show evidence of diminution in size about the tenth day of treatment and that the patients lost flesh. The latter fact is of great interest, inasmuch as it is observed to occur also as a result of the treatment of goiter by means of iodin and thymol.

The next step in McCarrison's investigations was the employment, in the treatment of the disease, of vaccines prepared from bacteria found in the feces of sufferers from goiter. Three vaccines were so employed. The first, a composite vaccine made from such organisms as grew on Musgrave's agar; the second, a "coli" vaccine made from the patient's own strain of bacillus coli; the third, a vaccine prepared from a spore-bearing organism which was isolated from the feces of a goitrous pony.

The results obtained by the use of these vaccines were very remarkable, and a complete disappearance of the thyroid swelling took place in all those cases in which there were no degenerative changes in the gland. Vaccines prepared from organisms derived from sources other than the patient's own feces were then employed and equally striking results were obtained with a staphylococcus vaccine—the staphylococcus having been derived from a case of caries of bone. Considerable interest attaches to the fact that a staphylococcus vaccine exercises such a remarkable influence on the enlarged thyroid gland, since the organism is also a normal inhabitant of the intestinal tract of man.

A conspicuous feature of this treatment and one which brings it into line with the treatment by iodin, intestinal antiseptics and the *Bacillus bulgaricus,* is the fact that the patients lose flesh and the skin becomes of a healthier tint. The common factor in all these methods of cure is the fact that they destroy or inhibit the action of the toxic agent of the disease.

27. **Bone Marrow Metastases in Cancer.**—The authors emphasize that in any case of grave anemia the presence of pains and tenderness of the bones should always arouse suspicion of carcinoma of the bone marrow. If the blood on examination shows characters suggestive of pernicious anemia, but with an excess of erythroblasts and myelocytes, the diagnosis of metastases in the bone marrow is highly probable. The case cited seems to show that even in the absence of evidence of myeloid reaction, if there be any suspicion of carcinoma of the stomach, high grade anemia, with high color index and megalocytosis, taken along with the presence of bone pains, renders the diagnosis of bone metastases almost certain.

28. **Streptothrix Infection.**—Foulerton dwells at length on the difficulty of differentiating pathologically between tuberculosis and streptotricosis.

Annales de Gynécologie et d'Obstétrique, Paris

January, XL, No. 1, pp. 1-64

33 *Estimation of Operability of Cancer of Uterine Cervix by Cystoscopic Findings. P. Cruet. To be continued.
34 *Treatment of Syphilitic Pregnant Women. (Du traitement par le salvarsan des femmes syphilitiques en état de gestation.) E. Jeanselme. (Emploi du salvarsan chez les femmes enceintes syphilitiques.) C. Sauvage. To be continued.

33. **Operability of Uterine Cancer as Shown by Cystoscopic Findings.**—Cruet gives twelve colored pictures of the cystoscopic findings in several of forty-five patients with cancer of the uterine cervix, illustrating the different aspect of the interior of the bladder at the various stages of malignant disease in the adjacent organ. The article contains further a number of illustrations in the text. In many cases what seems at first the encroachment of the cancer on the bladder proves to be in reality merely congestion or sympathetic inflammation. Before declaring the cancer in the cervix inoperable, one must be very certain that the changes seen in the bladder and ureters are really the work of the malignant disease. The developing cancer may cause the bladder wall to bulge; this helps to locate the exact site of the cancer. The floor or wall of the bladder may be edematous, thrown up into folds and ridges, with vesicles, shinier and more transparent than when they are the result of ordinary bladder or ureter affections. His experience demonstrates that adhesions causing the development of ridges and depressions in the bladder and diffuse edema, may compel resection of part of the floor of the bladder and a segment of the ureter, as in a case illustrated in which these changes proved to be merely inflammatory in character. The operation on the bladder, however, opened the portal to all kinds of urinary complications. In such cases, therefore, whether the changes in the bladder are malignant or not, they should be regarded as testifying against the operability of the cancer. The operability in such cases with diffuse bullate edema depends more on operative conditions than on the histologic findings.

34. **Salvarsan During Pregnancy.**—Sauvage has supervised salvarsan treatment of twelve syphilitic pregnant women and sifts the records of others to a total of 130 cases. He comments that the action of salvarsan has been studied most thoroughly in its relation to the nervous system, but its attraction for the liver deserves special research, particularly in pregnant women in whom the liver is apt to be below par. The liver in general has an elective affinity for arsenic. Bar and Daunay found transient albuminuria after salvarsan and neosalvarsan in pregnant women, with substances in the urine which reduced Fehling's solution, and urates, all testifying to a special action of the drugs on the liver and kidneys, superposed on the action of the microbian toxins liberated under the influence of the drug. The liver and kidneys during pregnancy usually permit the elimination of the drugs without injury, the same as outside of a pregnancy, yet there is always an element of uncertainty and this is the special danger of this medication during pregnancy. Cases have been published in which the liver and kidneys seemed to be functioning normally and yet the balance was upset so easily that salvarsan caused serious injury. The variable findings with the Wassermann reaction indicate, he adds, that salvarsan has no settled influence on syphilitic infection during gestation. Even when the reaction becomes nega-

tive under the medication it is liable to veer to positive again at any moment. The influence on the fetus is equally uncertain, the fetus may even give a stronger positive reaction than the mother.

Archives des Maladies du Cœur, etc., Paris

February, VI, No. 2, pp. 81-160

35 Origin of Leukocytolysins and Antileukocytolysins. I. I. Manoukhine.
36 Alternating Pulse in Chronic Nephritis. G. Régnier.

Journal de Médecine de Bordeaux

February 2, XLIII, No. 5, pp. 67-78

37 Fracture of the Neck of Both Femurs. H.-L. Rocher.
38 Attenuated Criminal Responsibility. C. Perrens.

Lyon Médical, Lyons

January 19, XLV, No. 3, pp. 97-144

39 The Urea Index. (La constante uréo-sécrétoire d'Ambard. Quelques applications cliniques en chirurgie urinaire.) Gayet and Boulond. See Abstr. 67, Nov. 2, 1912.

Presse Médicale, Paris

January 25, XXI, No. 8, pp. 69-80

40 *Chorea of the Heart. C. Aubertin and M. Parvu.
41 *Strychnin Dosage. (La strychnine à dose intensive. Méthode et indications.) P. Hartenberg.
42 Surgery of Vessels. (Sur l'anastomose vasculaire. Technique personnelle.) S. Porta.

January 29, No. 9, pp. 81-88

43 *Various Conditions in Which Bile Elements Are Found in Blood. (Les dissociations des états cholémiques.) A. Chauffard.

40. **Chorea of the Heart.**—Aubertin and Parvu report a case in which the myocardium seemed to participate in the choreic movements affecting the other striated muscles. Moity published a similar case in 1892. The arhythmia was pure and there were no murmurs, no subjective sensations and no valvular insufficiency. The patient was a child of 9 at the fifteenth day of very severe chorea. There had been no preceding acute infection except a history of measles and bronchitis; the family was free from heart disease, chorea and rheumatism. The child's choreic movements persisted during sleep; the face and even the velum participated in the extremely irregular movements, as also the diaphragm and sternocleidomastoid muscles, rendering respiration also irregular. The pulse was irregular and variable but kept about 80 and did not seem to be modified by fatigue or effort. The arhythmia of the heart on auscultation was even more striking than that of the pulse; the heart sounds were accentuated. There was no thrill nor murmur, no evidence of dilatation of the heart nor suggestion of weakness of the heart action. The child did not seem to notice anything wrong with her heart. Under arsenic great improvement in the symptoms was soon evident and all disappeared except the arhythmia which persisted six months after the muscular movements had ceased. During all this time the arhythmia maintained its original character and was never accompanied by a murmur or signs of heart weakness, and finally it subsided entirely so that conditions seemed quite normal when the child was examined eight months later. The arhythmia in this case was characterized by extrasystoles of diverse types or isolated contractions of the auricles. The electrocardiogram showed atypical waves resembling the auricular fibrillation of perpetual arhythmia. Notwithstanding the intensity of this disturbance in the heart it subsided in time without leaving a trace.

41. **Strychnin in Large Doses.**—Hartenberg regards strychnin as the actual specific for all nerve insufficiency. It acts as a tonic and not as a stimulant, he says, fortifying without irritating or depressing. In this it differs from alcohol, kola, coffee and tea; even in large doses strychnin does not engender motor restlessness, abnormal irritability on the part of the brain nor emotional excitement. Even when a fatal dose is taken, death occurs without loss of consciousness or psychic excitement or delirium. He has made a special study of its therapeutic dosage and has become convinced that the dosage generally in vogue is altogether inadequate. To obtain its full effect strychnin should be given in the largest dose which the individual can tolerate. This maximum varies with different persons but it is indicated by a very exact criterion, namely, the appearance of the physiologic reaction. This physiologic reaction is in reality the sign that the system is under the influence of the drug, the first manifestation of strychninism. It may take the form in one person of slight intoxication, in another of slight dizziness or rigidity of the jaws or of the limbs. Any one of these phenomena is an indication that the physiologic limit has been reached, and the aim should be to reach it. He has found strychnin sulphate the only reliable form. He insists further that the action is more reliable and thorough when the strychnin is given by subcutaneous injection. The above signs showing that the physiologic limit has been reached come on ten or fifteen minutes after the injection and last for half an hour or an hour. Sensitive persons might remain seated for the first half hour after the injection, in which case they will scarcely notice the physiologic reaction. It generally appears after a dose of 0.006 gm. in women and 0.007 gm. in men although men weighing 100 kilograms may be able to take up to 0.01 gm. before the reaction is evident. The same dose repeated after a few days no longer elicits the reaction, and the dosage has to be progressively increased in a cautious tentative manner; questioning the patient each time. The patient soon learns what to expect and is soon a competent guide to the dosage.

By proceeding in this way the patient can stand large doses, 0.01, even 0.02 gm. without his experiencing any more of a reaction than the first time, especially if he remain seated for half an hour after the hypodermic. Hartenberg adds that strychnin is rapidly eliminated—contrary to what is taught in the text-books. The elimination does not require more than three or four hours. He has proved this again and again by injecting the same dose again six hours later, finding that the physiologic reaction is no more pronounced after the second than after the first injection. He has thus given two or three injections of 0.01 or even 0.015 gm. in one day without any inconveniences. The main indications for this intensive strychnin treatment are neurasthenia, debility, cachexia, convalescence from severe disease, anemia, diabetes, cancer and all conditions of "physiologic penury," in addition to its primal indication in all affections of the spinal cord or nerves entailing hypotonicity, weakness and atrophy of the muscles without a tendency to contracture. The action of strychnin in regulating and coordinating reflex mechanism proves particularly useful in tabes, in neuritis and in all forms of amyotrophic paralysis. Of course hypertension in the arterial system, delirium and spasmodic contractures naturally contra-indicate strychnin. This intensive treatment has absolutely no inconveniences, he insists, reiterating that even in this progressive administration there is not a shadow of danger. He has thus given thousands of injections during the last ten years to patients of all classes, delicate women, children and old people, and has never witnessed even a menace of a mishap. All tolerated to perfection the dose graded to their individual sensitiveness. In conclusion he states that as strychnin does not induce any immediate excitement or pleasurable sensations there is no danger of breeding a habit, and there is no discomfort when the drug is abruptly suspended at any time.

43. **Bile Constituents in the Blood.**—Chauffard emphasizes the importance of discriminating in the conditions due to the presence of bile constituents in the blood between the different elements of the bile and the whole bile. The term cholemia stands for a large number of different and varying conditions with varied significance and prognosis. In studying these conditions the important part is less their common traits than their differences. Biologic chemical study of the blood is coming to overshadow in the importance of its findings the study of the urine, or at least it serves to interpret the findings of urology. Bilirubin and cholesterin may occur in the blood in physiologic conditions but this has not been proved for the biliary acids. When the blood contains all these elements, we have true cholemia with its effects visible in the skin, urine and stools, pruritus and bradycardia. In a recent case of catarrhal jaundice there were two weeks of pruritus and pulse at 36 or 40, climbing up to 80 in an hour after the atropin test, the bradycardia thus the sign of intoxication of the nerve centers by the bile salts. In congenital hemolytic jaundice there is no

cholesterin in the blood notwithstanding jaundice for over ten, fifteen or thirty years. Only 20 c.c. of blood-serum is needed for the Grigaut test; this reveals the presence of urobilin in the blood and has demonstrated that when it is found in the urine it is always to be detected in the serum. Brodin's recent research has established that the urea nitrogen and amoniacal nitrogen in the urine fluctuate with the diet but that the residual nitrogen is a relatively stable figure, from 0.05 to 0.1 gm. to the liter of serum in health. In liver disease the amount rises to 0.12, 0.2 or 0.25 gm. which throws light on the nitrogen metabolism in liver affections. Dukes "bleeding time" test reveals further pathologic conditions in the blood, a hemorrhagic tendency in liver disease. When the ear is pricked with a lancet and the blood is sucked up with blotting paper, the minute hemorrhage stops usually in three or four minutes, but in liver disease it keeps up for eight or nine minutes. In a man with tuberculous cirrhosis of the liver it kept up for twelve minutes. Another test for liver functioning is examination of the serum for hemolysins and abnormal fragility of the red corpuscles. Chauffard regards jaundice as the expression of an excess of bilirubin in the blood; the pruritus and bradycardia as the expression of the presence of the cholates in the blood (sodium glycocholate and taurocholate), a condition which he calls cholatemia; the excess of cholesterin in the blood is responsible for the yellow neoplastic growths known as xanthomas.

Revue Médicale de la Suisse Romande, Geneva

January 20, XXXIII, No. 1, pp. 1-96

44 *Ultimate Outcome of Dislocation of the Hip-Joint. (Luxation de la hanche. Résultates éloignés.) Roux.
45 Pseudodiphtheria Bacilli in Middle-Ear Disease. D'Espine.
46 *Tumor in the Heart. (Cas de tumeur du cœur.) C. Horneffer and P. Gautier.
47 Technic for Examination of Sputum. (Supériorité du procédé de Ziehl-Neelsen pour la recherche des bacilles de Koch dans l'expectoration.) G. Kaplansky.

44. **Traumatic Dislocation of the Hip-Joint.**—Roux reviews his experience during the last twenty-five years with traumatic injury of the hip-joint, seeking to estimate the ultimate outcome of such injury, especially from the standpoint of the later functional capacity in working men. When the dislocation is followed by immediate reduction, the outcome is generally excellent, as such patients are usually young and active, unless the results are compromised by a sedentary life. In his four cases of operative reduction he found the margin of the glenoid cavity turned over inward in one case; a piece chipped off the head and left in the acetabulum in another; the head under the tendon in the third, while in the fourth the parts slipped back into place as the patient was carried to bed but the dislocation recurred the next day. In roentgenoscopy of such patients it is important to examine for preexisting lesions in the skeleton. He reports in detail twenty-two cases with reexamination years afterward and tabulates the findings for comparison. They show that in adults one must always reckon with deforming arthritis sooner or later after a traumatic dislocation of the hip-joint, even of the simplest form. The best means to prevent this seems to be by solicitous after-treatment, prolonged for a period longer than the patient is generally willing to devote to it. The misleading feature of traumatic dislocation of the hip-joint is the fact that both patient and physician are so speedily and thoroughly convinced that everything is all right once more when in reality conditions in the depths of the joint are far from being restored entirely to normal. This applies particularly to unsuspected and hidden lesions in the soft parts. They should be given ample time to heal, until all the minute anatomic relics of the injury have been fully repaired. Age is another grave factor, reducing the general elasticity of the tissues, the amount of exercise, the range of movements and the nourishment of the tissues involved. In estimating the ultimate outcome of the accident, it is wise to be guarded in the prognosis, even although others, especially the authorities on workmen's compensation, may differ with you. In all his cases with perfect functional outcome to date the interval since has been less than six years or the patient was a youth. In senile hip-joint affections, previous trauma as a contributing factor has probably been often overlooked. The more this factor is appreciated, the more often will post-traumatic deforming joint trouble be recognized in cases of alleged chronic rheumatism of a single joint which nowadays we are too apt to ascribe to toxins or microbes. Very often the whole trouble is the consequence of the surgeon's having thrown off the care of his patient too soon. In conclusion, Roux describes what he calls the spade method for reducing the dislocation; it enables a short medical man or woman to manipulate successfully the thigh even of a giant. The anesthetized patient lying on a mattress on the floor, the operator grasps the right leg with his left hand, just below the head of the tibia, and the ankle with his right hand. Then, flexing the thigh to disengage the head of the femur, the operator puts his left knee under the patient's knee and lifts the thigh in this way just as one lifts a heavy spadeful of dirt by levering it over the knee. For a left dislocation the operator will use his right hand and right knee with his left hand on the ankle. The article is well illustrated.

46. **Tumor of the Heart.**—The patient was a man of 43 who seemed otherwise normal. In this, as in three other cases at the Geneva clinic, the heart tumor was in the left auricle in all. In two the tumor was insignificant, but in the others the clinical picture was that of heart disease. It varied from the usual type in that the dyspnea was especially severe. It accompanied distressing paroxysms from momentary occlusion of the opening into the heart. Other features were the brief syncopes on abrupt change of position, rapid loss of weight and strength, duplication of the second sound, suggesting incipient mitral stenosis, arhythmia not modified by heart tonics, and the variability, inconstancy and disconcerting vagueness of the heart findings in comparison with those of other organic heart affections. The clinical diagnosis had been primary myocarditis.

Semaine Médicale, Paris

February 5, XXXIII, No. 6, pp. 61-72

48 *The Adrenal-Muscle Syndromes. A. Sézary.

48. **Adrenal-Muscle Syndromes.**—Besides Addison's disease, there are several other conditions of extreme muscular debility which recent research is connecting with insufficiency of adrenal functioning. Among them is the myasthenia of Erb-Goldflam. This is sometimes accompanied by pigmentation, and the blood-pressure is generally subnormal, while pain in the lumbar or celiac region is frequent, and adrenal organotherapy has proved remarkably effectual in some cases. Sézary suggests that in the cases in which no benefit was derived from it the dosage may have been inadequate. He has seen cases in which subcutaneous injections of the whole extract or ingestion of fresh adrenals succeeded when the powder and epinephrin had failed completely. His experience demonstrates that certain slow changes in the adrenals, alone or with changes in other ductless glands, may induce a myasthenic syndrome which it is impossible to distinguish clinically from myasthenia independent of adrenal functioning. This justifies tentative adrenal organotherapy in all cases of myasthenia, possibly supplementing the adrenal with hypophysis treatment. Time has shown further that amyotrophy may occur from defective adrenal functioning. This is particularly liable in chronic disease, thus linking diffuse amyotrophy with wasting diseases by the intermediation of the adrenals. Laboratory research has demonstrated that epinephrin is utilized by the muscle in its contraction. Consequently the lack of normal adrenal secretion deprives the muscle more or less of the power to contract. On the other hand, an excess of the secretion is liable to entail hypertonicity in the muscle, and this may possibly be responsible for permanent contraction in some cases.

The arterial pressure is the resultant of two distinct forces, the energy of the heart impulse and the sum total of the peripheral resistances. Each of these forces is more or less under the control of adrenal secretion. By its vasocontrictor action it exaggerates by its excess or reduces by its deficiency the peripheral resistances. At the same time by its parallel action on muscle tissue, it reenforces or weakens the energy of the cardiac impulse. Thus with adrenal insufficiency the arterial pressure sinks and with excessive functioning the arterial pressure rises. Josué has made a special study of this last form, calling it the adrenal-vascular syndrome. Its main elements are excessive adrenal secretion, hypertrophy of the heart and arteriosclerosis. This type is a special form of the adrenal-muscle syndrome.

Berliner klinische Wochenschrift

February 3, L, No. 5, pp. 193-240

49 Functional Disease of the Arteries. Sir Lauder Brunton.
50 Blood-Pressure in Relation to Viscosity. (Einfluss des Druckes auf den Koeffizienten der Blutviscosität.) W. R. Hess.
51 Technic for Determining Carbon-Dioxid Tension in Alveoles. (Bestimmung der Kohlensäurespannung in der Alveolarluft mittelst des Interferometers.) M. Hahn and R. Heim.
52 *Infantile Scorbutus in School Children. (Das histologische Blutbild in schweren Fällen von infantilem Skorbut—Möller-Barlow'sche Krankheit—und das Auftreten dieser Krankheit im schulpflichtigen Alter.) F. Glaser.
53 Degeneration of the Cornea. (Randdegeneration der Hornhaut.) (Dystrophia epithelialis corneae—Fuchs.) R. Seefelder.
54 *Vaccine Therapy of Pruritus. (Heilung des Juckens mit autogener Vaccine.) A. Schischlo.
55 Drop Dosage. (Dosierung von Arzneimitteln in Tropfenform.) W. Beckers.

52. **Infantile Scorbutus in Boy of 6.**—Glaser reports two cases. The second patient was a boy of 6 who refused all food except boiled milk and rolls. After a year of this one-sided diet, he developed infantile scorbutus in a very severe form. The Roentgen findings are given for both cases and the rapid recovery on raw milk and lemon juice in the second case and, in the first, on raw milk, orange and meat juice, spinach and soft mashed potatoes.

54. **Vaccine Therapy of Pruritus.**—Schischlo reports the case of a robust army officer of 31, who twelve years ago had a series of itching furuncles and since then recurring large pimples on the chin with intense general pruritus, aggravated by excitement and temperature changes and rebellious to treatment of all kinds, including sulphur baths in Japan and Russia, radiotherapy and courses of various drugs—all to no effect, and he was contemplating suicide. A vaccine was then made from pus from the chin and this vaccine was injected ten times at three-day intervals. Headache and lassitude followed the first injection, but there was no reaction to the others. The opsonic index dropped after each injection, but climbed up again by the third day each time to a little higher figure, while the drop was less. By the third injection the pruritus began to abate and by the seventh had ceased completely. The vaccine therapy had been undertaken solely as a last resort to heal up the suppurating foci on the chin. The cure of the pruritus had not been anticipated, so that suggestion can be excluded from the result observed. The healing of the foci on the chin probably dried up the source of the toxins which had been maintaining through the years the itching nervous affection.

Correspondenz-Blatt für Schweizer Aerzte, Basel

January 18, XLIII, No. 3, pp. 65-96

56 Improved Technic for Resection of Stomach. (Ein epigastrischer Rippenkorbrandschnitt für Magenoperationen, insbes. die Resektion bei Karzinom.) H. Brun.
57 Treatment of Inflammation in Ovaries and Tubes. (Zur Technik der Exstirpation entzündlich erkrankter Adnexe an Hand von 100 einschlagenden Operationen.) O. Beuttner. Commenced in No. 1.

Deutsche medizinische Wochenschrift, Berlin

January 30, XXXIX, No. 5, pp. 201-248

58 *Rachitis. (Zur Pathogenese und Aetiologie der Rachitis.) M. Kassowitz.
59 Hypophysis Extract in Obstetrics. (Klinische Versuche mit den isolierten wirksamen Substanzen der Hypophyse.) S. Herzberg.
60 Transmission of Hemagglutinins in Human Milk. J. v. Zubrzycki and R. Wolfsgruber.
61 Extraperitoneal Cesarean Section. (Erfahrungen über den extraperitonealen Kaiserschnitt.) P. Baumm.
62 Influence of White Corpuscles on Viscosity of the Blood. (Ueber den Einfluss der weissen Blutkörperchen auf die Viskosität des Blutes.) I. Holmgren.
63 Quantitative Precipitation in Syphilis. (Quantitative Ausflockungsreaktionen bei Syphilis.) V. Ellermann.
64 Treatment of Cleft Palate and Harelip. (Zur Behandlung der Kieferspalten und Hasenscharten.) L. Kredel.
65 Treatment of Appendicitic Peritonitis. (Schnittlänge, Bauchspülung, Bekämpfung der Darmlähmung bei Appendicitis-Peritonitis.) Dobbertin.
66 *Syphilitic Otitis Media. (Die syphilitische Mittelohrentzündung.) C. Lüders.

58. **Rachitis.**—Kassowitz differs from Ribbert in some minor points, but agrees with him in assuming that the deficiency of calcium in rachitic bones is not the result of abnormal calcium metabolism, but of morbid local processes at the points where bone is being produced. His own impression is that these local processes are the result of the action of some poisonous substances, but he does not think that they come from the digestive tract. Among the reasons against this is that rachitis can and often does occur in perfectly digesting and finely nourished children, that rachitis is least prevalent during the summer months, and is extremely rare in tropical countries. A number of facts seem to incriminate defective ventilation as responsible for rachitis, especially the maximum in the winter months when young children are kept in the house, the restriction of rachitis to the children of the poorer classes in cities, the statistics showing that the prevalence and severity of rachitis increase with the number of inmates of the home, Hansemann's finding of severe rachitic changes in infants born in the fall and dying in the spring, while they were conspicuously absent in infants born in the spring and living till fall. He found, further, signs of rachitis in all the monkeys examined that had been kept in captivity from early life, while he found no evidences of it in monkeys living in freedom. Heubner has also reported severe rachitis in young goats and pigs kept in the stable for months, which they speedily outgrew when turned into the field. All these data speak in favor of the assumption that the contamination of the air in the dwellings of the poor is directly responsible for rachitis, as the poisons are inhaled and taken into the blood and wreak their damage predominantly on the parts through which the circulation is most intensive. The poisons may be further transmitted through the mother to the fetus and nursing child.

66. **Syphilitic Otitis Media.**—Lüders reports five cases of a primary syphilitic process in the tympanum or labyrinth wall. Severe deafness and signs of acute otitis media were not relieved by paracentesis, and a history of syphilis, two, five and six years before, cleared up the diagnosis. All the patients stated that the hearing had gradually declined as the signs of otitis developed. One patient had also nausea and vertigo, one facial paralysis on the affected side and in one the meatus was much swollen. One patient had fever, vertigo, vomiting and nystagmus and two of the others had also nystagmus toward the sound side. One patient was an infant with inherited syphilis. Under combined antisyphilis treatment the disturbances subsided, but the hearing on that side was permanently lost in the cases which went on to suppuration. In six other cases of non-specific acute otitis media in syphilitics the process healed promptly under the usual measures without impairment of hearing.

Medizinische Klinik, Berlin

January 26, IX, No. 4, pp. 123-160 and Supplement

67 *Asthma. (Behandlung des Asthma bronchiale.) E. Stadler.
68 *Tuberculosis Among the Well-to-Do. (Verbreitung der Tuberkulose namentlich in den wohlhabenden Klassen.) W. Kruse.
69 Emergency Tracheotomy. (Zur Geschichte der Vicq d'Azyrschen Operation.) J. Tandler. (Die dringliche Kriko- beziehungsweise Tracheotomie, mit bes. Berücksichtigung der Kropfkomplikationen.) E. Sehrt
70 Apparatus for Exercising the Back in Scoliosis. (Zur Uebungstherapie der Skoliose.) W. Becker.
71 Urinals for Bladder Fistulas and After Prostatectomy. (Kapseln für permanente Blasenfisteln und zur Nachbehandlung von Prostatektomierten.) E. Wossidlo.
72 Bacteriologic Diagnosis of Cholera. (Die bakteriologische Choleradiagnose auf Grund von Prüfungen neuerer Anreicherungs- und Differenzierungsmethoden.) W. Schürmann and S. A. Rosenblat.
73 Treatment of Paralysis. (Die physikalische Therapie peripherer und centraler Lähmungen.) K. Weiss.
74 *Diabetes. (Theorie und Behandlung des Diabetes mellitus.) W. Welland.

67. **Asthma.**—Stadler remarks that the patient is generally seen first in the midst of an acute attack and he needs prompt and effectual help. For this we can rely on epinephrin, he says, a subcutaneous injection of 0.5 c.c. of 1 per thousand solution, in the upper arm gives remarkable relief in from three to five minutes. The by-effects, palpitation, slight chill and tremor with slight rise in the blood-pressure pass off in a few moments and the patient soon drops asleep. He has never known it to fail in his experience, and only a few instances of failure are on record. Sometimes the attack recurs a few hours later; the injection can be repeated then without fear. There is no cumulative action. In chronic cases atropin is best given by subcutaneous injection of not over 0.001 gm. Atropin is a constituent in the proprietary asthma remedies on the market. He warns to beware of narcotics. Asthma is one of the most dangerous drug-addiction breeders. The nervous system of these patients is below par to start with, and they have little will power to resist the attraction of morphin. He regards asthma as one manifestation of the exudative diathesis. The tendency to exudative processes at various parts of the body is accompanied by an abnormal nervous excitability, and this must be borne in mind in the attempt to remove the cause. Dietetic measures are very important and the asthmatic should be treated in general like a neurasthenic. He adds that asthma is one of the most prolific fields of quackery, and that against this the best weapon is, not legislation nor enlightenment of the public, but the perfecting of the art of medicine in general and in practice by every physician.

68. **Tuberculosis Among the Well-To-Do.**—Kruse states that recent statistics from Bremen show that in every 10,000 inhabitants there are thirty-six deaths from tuberculosis among the poorer classes and only five among the well-to-do. Nägeli's discovery of traces of tuberculosis in nearly every one of 1,000 cadavers examined was made on the hospital material at Zurich. Kruse has been studying the subject among the comparatively well-to-do, applying the cutaneous tuberculin test first, and if this proved negative, subcutaneous injection. Of the sixty-two adults on his staff or students at his lectures, all mostly between 20 and 25 years old, fifty-two, that is, 84 per cent., had a positive reaction. In one of the negative cases the young woman was known to have had an apical tuberculous process twenty years before. This experience teaches that the well-to-do portion of the population are affected with tuberculosis far more extensively than has hitherto been supposed. The possibility of contamination of others in the vicinity of the tuberculous deserves further study.

74. **Diabetes.**—Weiland concludes his monograph by emphasizing that diabetics require supervision for years. One is frequently surprised at the aggravation of conditions when the patient has been left to himself for a long time. The diabetic is inclined to deceive himself in neglecting the strict dietetic regulations. His dislike of the restrictions imposed is one reason why diabetics are so liable to flock to quacks, as they claim to cure diabetes without dieting. In regard to life insurance, he advises great caution, erring, if at all, on the side of rejecting the diabetic candidate. He discusses further the importance of trauma in the causation of diabetes, stating that his own experience and the statements of the patients have banished all doubt as to the possible causal importance of trauma. A latent diabetes may be fanned into a flame by the accident, or diabetes may develop in a predisposed individual or the accident may aggravate the existing diabetes. When the interval is longer than from six to twelve months, he thinks a causal importance must be denied the trauma. He advises against marriage for diabetics on account of the hereditary nature of the affection, and adults with an inherited taint, although not themselves diabetics, should be warned of the dangers to posterity and the mishaps liable during pregnancy and the puerperium. The progressive course of diabetes during pregnancy and the tendency to coma after delivery, the high mortality and malformations of the fetus of diabetic mothers are so numerous that the advisability of early artificial delivery should be considered. At the same time, Bingel has lately reported a successful pregnancy in a diabetic. Weiland's experience warns further against attempting an operation on a diabetic. In his cases of gangrene the process continued unmodified in spite of all medical measures.

Münchener medizinische Wochenschrift

January 28, LX, No. 4, pp. 169-224

75 *Peptic Ulcer of Spastic Origin. (Das spasmogene Ulcus pepticum.) G. v. Bergmann.
76 Blood-Pressure After Exercise as Guide for Estimation of Labor Capacity. (Ueber Blutdruckmessung nach Körperarbeit und ihre Bedeutung für die Beurteilung der Arbeitsfähigkeit.) H. Stursberg and H. Schmidt.
77 *Rational Surgery of the Nerves. (Beiträge zu einer rationellen Nervenchirurgie.) A. Stoffel.
78 Moving Pictures of Pathologic Stomach Movements. (Bewegungsvorgänge am pathologischen Magen auf Grund röntgenkinematographischer Untersuchungen.) C. Bruegel.
79 Blood Findings in Acute Sulphuric Acid and Copper Sulphate Poisoning. V. Reichmann.
80 *Cure of Pregnancy Toxicosis with Injection of Ringer's Solution. (Schwangerschafts- Toxikodermien durch Ringersche Lösung geheilt.) E. Eichmann.
81 Improved Technic for Inoculation Tests. (Zur Frage des Tuberkulosenachweises durch beschleunigten Tierversuch.) P. Esch.
82 Lipoid Content of So-Called Appendix Carcinomas. R. Maresch.
83 Tuberculin and Immunity to Tuberculosis. Deycke and Much. Commenced in No. 3.

75. **Spastic Origin of Peptic Ulcer.**—The Journal has reviewed from time to time recent research on the antagonism between the sympathetic and the vagus nerves in respect to their response to atropin and pilocarpin. It has been found possible to reproduce artificially with drugs the clinical symptoms of abnormal excitability of the vagus and also to inhibit with atropin both the natural and the induced symptoms. Eppinger and Hess—who coined the term "vagotony" for this condition of abnormal excitability on the part of the vagus—noticed the frequent coincidence of this condition with gastric ulcer, and that the pain with a gastric ulcer is peculiarly intense in the "vagotonikers." They theorized to explain this, but Bergmann thinks their deductions are wrong, and offers a more plausible explanation, namely, that extra excitability on the part of the vagus leads to occasional spastic contraction of the organs innervated by it. The vessels in the contracted portion are, of course, squeezed tight, expelling the blood, and the region thus rendered ischemic and thus shut off from its nourishment loses its protection against the corroding action of the gastric juice. An erosion or an ulcer is liable to develop and to be maintained by repetition of the contracture. In his sixty cases of gastric ulcer, signs of abnormal excitability of the vegetative nervous system were unmistakable in fifty-eight of the patients. In a number, roentgenoscopy showed spasm of the stomach, the transient hour-glass shape.

The practical conclusion which he draws is, therefore, that treatment of gastric ulcer must include measures to reduce the vagotony, namely, a course of atropin. He even insists that therapeutics has no more striking effect on its record than the subsidence of gastric ulcer disturbances under atropin. It relieves the reflex spasm of the pylorus, and the quieting down of the stomach can be watched in the *x*-ray picture. He has had patients continue to suffer under morphin, but they were relieved the first day 0.0005 gm. atropin or twice this was given in a pill three times a day. The action is prompter by the subcutaneous route. He declares that morphin has a directly injurious action with gastric ulcer, increasing secretion and the tendency to spasmodic contraction, thus causing the food to be retained longer in the stomach, while atropin, to supplement the ordinary treatment of gastric ulcer, is the best of all measures. The atropin must be dosed according to the irritability of the vagus and it must be kept up a long time. The daily dose ranges between 0.001 and 0.004 gm. The aim should be to reduce both the secretory and motor functioning of the stomach to the minimum. An alkali and the use of well cooked vegetables may prove valuable adjuvants. Westphal obtained hemorrhagic erosions in the stomach and duodenum of rabbits treated with drugs (pilocarpin and physostigmin) to irritate the vagus. In one case a true peptic ulcer developed and perforated.

77. **Surgery of the Nerves.** Stoffel reiterates that both nerves and muscles are made up of minute fibers which blend more and more to form larger and larger bodies, trunk nerves and big muscles, but the minute units can be followed and traced far upward. Transplantation of a nerve is irrational unless these fiber units are regarded and utilized. The special units for the special muscle must be sorted out and the graft sutured to them alone. He gives an illustrated description of the special technic he has found best suited for the purpose, and urges further research on the morphology, physiology and biology of the peripheral nerves, his work having shown numerous gaps in the text-books on this subject.

80. **Pregnancy Toxicosis Cured by Ringer's Solution.** Three cases are reported in which the subjective disturbances, the pruritus, were arrested at once and the objective gradually subsided after an injection of 180 c.c. of Ringer's solution, repeated two days later, in the first case. In the second a single injection of 150 c.c. answered the purpose. In the third 160 c.c. were injected and 190 four days later.

Ringer's solution is a mixture of sodium chlorid 1.8 gm.; calcium chlorid 0.048 gm.; potassium chlorid 0.084 gm.; sodium bicarbonate 0.06 gm. and distilled water to 200 c.c.

Wiener klinische Wochenschrift, Vienna

January 30, XXVI, No. 5, pp. 161-200

84 *Protruding Floor of the Acetabulum. (Zur Aetiologie und Genese der Ottoschen Protrusion des Pfannenbodens.) C. Breus.
85 *Roentgenoscopy During Irrigation of the Colon. (Ueber direkte Irrigo-Radioskopie des Kolons.) G. Schwarz.
86 Dental Caries a Streptomycosis. E. Baumgartner.
87 Injury of Eye in Testing Electric Lamps. (Neue Gefahrenquelle für gewerbliche Augenverletzungen.) H. Pach.
88 Flushing the Large Intestine in Treatment of Stenosis. (Zur inneren Behandlung von Dickdarmstenosen.) A. Brosch.

84. **Irregularity in the Floor of the Acetabulum.**—Breus states that there are now thirteen cases on record of what he calls Otto's protrusion of the acetabulum floor. Nine of the patients were women and in six the trouble was bilateral. He declares that there is no evidence to date that tabes can be incriminated; the joint lesions of tabes assume a different type. It may occur in a tabetic, but merely as a coincidence, or tabetic changes may be superposed on the pure Otto type which is merely the result of defective repair of some old local inflammatory process.

85. **Irrigoradioscopy of the Colon.** Schwarz illustrates the findings in five cases in which injection of a suspension of bismuth under direct roentgenoscopy instructively revealed stenosis high up in the colon.

Zentralblatt für Chirurgie, Leipsic

February 1, XL, No. 5, pp. 153-192

89 Fascia Graft for Ptosis of Eyelid. (Zur Ptosisoperation mit freier Fascientransplantation.) Aizner.
90 Total Laceration of the Urethra. (Zur Behandlung der totalen Harnröhrenzerreissungen.) A. Hofmann.
91 Circular Knife for the Prostate. (Ein Prostataringmesser für die suprapubische Prostatektomie.) E. Grunert.
92 *Rubber Gloves. (Bolus alba im Handschuh.) R. Burmeister.

92. **Rubber Gloves.**—Burmeister remarks that surgeons would not lose their temper over rubber gloves quite so often if they followed his practice of lubricating them with bolus alba. Just before putting on the gloves, he takes two tablespoonfuls of bolus alba in his palm and rubs it with a little water over both hands, so that they are covered with a thick paste. The gloves then slip on and off more readily, while they cling to the hand better and the paste has a soothing action on the skin and seems to protect the gloves against tearing.

Zentralblatt für Gynäkologie, Leipsic

February 1, XXXVII, No. 5, pp 153-192

93 Roentgen versus Radium Therapy in Gynecology. (Die Strahlentherapie in der Gynäkologie: Röntgen- oder Radiumtherapie.) B. Krönig and Gauss.
94 Hypophysis Extract in Obstetrics. (Bedeutung der Hypophysenpräparate für die Hebosteotomie.) G. Linzenmeier. (Hypophysenextrakt und Spätgeburt.) L. Stolper. (Hat das Pituitrin einen nachteiligen Einfluss auf das Kind?) F. Spaeth

Gazzetta degli Ospedali e delle Cliniche, Milan

January 23, XXXIV, No. 10, pp. 97-104

95 Rarity of Genu Valgum Among Arabs. (Sulla rarita del ginocchio valgostatico presso gli arabi.) M. Tortora.

January 26, No. 11, pp. 105-120

96 *Leukemia and Pseudoleukemia. A. Ceconi.

January 28, No. 12, pp. 121-128

97 *Facial Paralysis. (Osservazioni cliniche sulle paralisi facciali.) P. Finizia.

January 30, No. 13, pp. 129-136

98 Successful Opening of the Chest on Both Sides for Bilateral Empyema in the Pleura. (Caso di empiema pleurico bilaterale guarito con doppia toracotomia.) L. Bozzotti.

96. **Leukemia and Pseudoleukemia.** Ceconi describes a case of pseudoleukemia in a man of 60 which became transformed in the course of two years into typical lymphatic leukemia, sustaining the assumption of the identity of the two. Leube's leukanemia, on the other hand, is merely a symptom, but as such it may be the only sign for a time of true leukemia, as also of cancer of the bone-marrow and of severe infections and intoxications of many kinds.

97. **Facial Paralysis.**—In the case reported the seventh nerve was totally paralyzed, bilateral and crossed. This excluded the facial nerve as the source of the paralysis; at least it could not be a peripheral paralysis, and Finizia presents arguments to sustain the assumption that the seat of the lesion was in the cortex of the right hemisphere of the brain. The patient had a mitral defect, and the lesion causing the paralysis was probably some minute focus of softening from embolism.

Policlinico, Rome

January 12, XX, No. 2, pp. 41-76

99 *Occlusion of Large Vessel with Strip of Tendon Fiber. (Produzione di stenosi dei grossi vasi mediante bandellette libere-aponeurotiche e tendinee.) F. Nassetti.
100 Syphilitic Meningitis Plus Hysteric Amaurosis. M. Zalla.

January 19, No. 3, pp. 77-112

101 *Strychnin in Retention of Urine in Paralytics. (La striehnina nella ritenzione urinaria dei paralitici.) A. Taddei.

January 26, No. 4, pp. 113-148

102 *Wounds Produced by Modern Projectiles. (Ferite prodotte dalle moderne armi da fuoco portatili da guerra alle varie distanze.) P. Imbriaco.
103 *Reflex Phenomena from Helminths. (Emidrosi destra e spasmi ritmici del piede dello stesso lato di origine riflessa per elmintiasi intestinale.) M. Condorelli.

January, Medical Section, No. 1, pp. 1-48

104 *Hemolytic Jaundice in the Tuberculous. (L'ittero emolitico della tubercolosi.) G. Jona.

99. **Occlusion of Large Vessels by Means of Strips of Fascia or Tendon Tissue.**—Nassetti has been experimenting with ligation of large vessels on animals and has found that strips of tough tissue answer the purpose admirably, much better than the metal bands which Halsted has been using (1912). The vessels thus ligated were the carotid, aorta and vena cava, in dogs, and the strip of tissue was taken from the fascia lata or Achilles tendon. He passed the strip around the vessel once or twice, watching the pulse beyond, and fastening the ends of the strip with a silk suture. The artery could thus be reduced to one-half or one-third its former lumen without apparent injury and without signs of thrombosis. There was no paresis or paralysis in nine of the ten dogs of his latest series of experiments. Four died from infection or perforation at the point where a stitch had been taken in the aorta, and one from the effects of complete obstruction of the aorta owing to the sticking together of its walls. This method of occlusion by means of a strip from the individual's own fascia lata seems destined to an important place in the treatment of aneurysm, Nassetti thinks. The wall of the aneurysm might be reenforced with a considerable flap from the fascia lata. He urges research in this line when aneurysm can be experimentally produced. The fascia strip method might also prove useful when it is desired to shut off the circulation from a region and the fear of an infarct deters one from applying a ligature direct. For example, the spread of a disease process in the lung might be arrested by inducing by this means a tendency to sclerosis which follows when the blood-supply to a region is impeded.

101. **Strychnin in Retention of Urine in Paralysis.**—Taddei refers to the retention accompanying advanced stages of progressive paralysis, and states that while strychnin by the mouth is unreliable, by subcutaneous injection it has a remarkable action in overcoming the paralysis of the bladder. He gave from four to twelve injections, each 0.02 c.c. of a 1 per thousand solution, commencing at the first sign of a tendency to retention of urine and suspending the drug as the tendency subsided, returning to it again on renewal of symptoms. He commenced this treatment in 1904 at the insane asylum in his charge, and summarizes here thirty-two cases in which the rapid and certain success of the injections was amply demonstrated. He adds that the strychnin seemed to have a supplementary beneficial action in warding off or hastening the healing of decubitus.

102. **Wounds Produced by Modern Firearms.**—This communication from the seat of war gives illustrations and comments on the character of the lesions made by modern firearms—much the same conclusions as were given recently in the Rome Letter, February 15, p. 534.

103. **Reflex Nervous Phenomena From Presence of Tapeworm.**—In the case reported there was a transient attack of pulsating pain in the temples and tonic contraction of the prevertebral muscles as the first sign of trouble in the man of 47. Three weeks later a second attack occurred, accompanied by profuse sweating on the right side alone, most profuse on the chest, and transient violent contracture of the foot, followed by a rapid rhythmic movement of the tip of the foot to and fro, similar to the motion of the foot in running a sewing machine. The pains, sweating and rhythmic spasm of the foot all lasted about two hours during which the mind was slightly confused. After a few days of repose on account of considerable prostration, the man returned to work but still complained of occasional slight dizziness. Seventy days afterward the spasmodic attack returned, identical in every respect with the first one, but lasting an hour. The pain in the temples came on suddenly each time and was extremely severe, and the face felt hot. The foot symptoms suggested the rhythmic chorea of hysterics but the entire absence of other signs of hysteria led by exclusion to the diagnosis of helminthiasis, and male fern caused the expulsion of a tapeworm, after which there were no further disturbances.

104. **Hemolytic Jaundice in the Tuberculous.**—Jona reports two cases supplementing three he has previously described and three published by French writers, in which without any signs of bile in the blood the patients presented the aspect of jaundice—the result of enormous destruction of red corpuscles. In two cases the blood-vessels seemed to be abnormally fragile but no autolysins or isolysins were discovered in the blood of the three patients whose clinical course was supervised. In Jona's five cases the inclusion of numerous red corpuscles in the large cells of the spleen and in the Kupfer cells in the liver was a striking feature of the necropsy findings. Hemolytic jaundice may occur in the tuberculous as a chronic or intermittent condition or merely as a terminal phenomenon.

Brazil-Medico, Rio de Janeiro

January 1, XXVII, No. 1, pp. 1-10

105 *Progressive Degeneration of the Lenticular Nucleus: Two Cases. (Da degeneração lenticular progressiva ou syndrome de Wilson—Kinnier.) R. Vaz.
106 Prostatitis. B. P. Leme.

105. **Progressive Degeneration of the Lenticular Nucleus.**—Vaz gives an illustrated description of the clinical course in two cases of typical and severe Wilson's disease. The clinical manifestations were exclusively motor; the cirrhosis of the liver found at necropsy was silent in regard to symptoms except for a slight tendency to jaundice and mild dyspepsia in one case. Cirrhosis of the liver is an integral part of the syndrome to which Wilson called attention as the result of progressive degeneration of the lenticular nucleus. In the acute form there is fever and the movements are not quite like those of the chronic form. In his twelve cases the disease lasted four, six and fourteen months in the group of three acute cases; the cachexia was rapid and everything pointed to a severe toxi-infection. In the chronic form—to which the two cases reported by Vaz belong—the disturbances are almost exclusively motor and the course is protracted. Every muscle in the body except the external ocular seemed to participate in the spasmodic contracture in his first case, but the contractions passed over the body in a regular sequence, commencing in the brow and ending in the ankles and toes. Every change of position is followed by the spastic contractures, and when the patient is seated the trunk sways to and fro. The patients were men of 21 and 25. The affection commenced in the first case six years before the fatal termination. The young man had been previously healthy except for measles, malaria and small-pox. The first signs of trouble were a sensation of weight in the legs, most pronounced on the left side, rendering it difficult and very fatiguing to walk. Sudden contracture of the muscles of the legs occurred occasionally, so that he would fall, but there were no sensory disturbances and the genito-urinary sphere was intact. The contractures in the legs were predominantly in extension and abduction at first, but gradually included flexion and intense tremor. In bed the patient lay on his stomach mostly to avoid bringing on the contractures. There was no microscopic examination of the brain.

Semana Medica, Buenos Aires

December 26, XIX, No. 52, pp. 1341-1400

107 *Local Application of Salicylic Acid to the Chest in Treatment of Pneumonia. (Nuevo tratamiento de la neumonia.) P. B. Aquino.
108 Protoplasm of the Cell. (Organizacion de la celdilla. El protoplasma celular y las substancias albuminoides.) V. Delfino.
109 Eye Symptoms from Disease of the Nose and Accessory Sinuses. (Sintomas oculares producidos por las afecciones de la nariz y de los senos vecinos.) V. Gomez.
110 Tuberculosis in the Navy. (La tuberculosis en la marina de guerra.) A. Fernandez-Caro.

January 2, XX, No. 1, pp. 1-60

111 Serotherapy in Prophylaxis of Tetanus. L. Bard.
112 Argon. V. Delfino.
113 Distribution of Colors in Animal Kingdom. (La coloracion de los animales y la distribucion de los colores en el reino animal.) V. Delfino.
114 Artificial Creation of Life. V. Delfino.

107. **Local Application of the Salicylates in Pneumonia.**—Aquino extols the efficacy of local application to the chest of a mixture of 10 gm. of salicylic acid in 90 per cent. alcohol with 10 gm. of castor oil. The skin is first washed with ether and then one or two spoonfuls of the solution are applied on a square of gauze and the whole covered with cotton and rubber tissue, held in place with a bandage. This dressing is renewed three or four times during the twenty-four hours. Methyl salicylate might prove equally effectual but its penetrating odor is too great a drawback. The salicylic acid is refound in the urine and one of his patients complained of ear disturbances, confirming the thorough absorption of the drug. By this mode of administration the injurious influence on the digestive tract is avoided. He supplements it always with heart tonics, enemas, and an alkali internally to prevent irritation of the kidneys as the drug is eliminated through them. In the three cases reported in detail he applied only the salicylate locally, to test its efficiency alone. The symptoms were alleviated almost at once, and the patients felt so well that he could confidently predict defervescence the next day, which never failed him by the third day. He prefers for the heart tonic an injection of 0.01 or 0.02 gm. of camphorated oil each day to sustain the myocardium.

Medicina Contemporanea, Lisbon

January 26, XXXI, No. 4, pp. 25-32

115 Dental Hygiene in the School. (Hygiene bucco-dentaria nas escolas.) S. Falcão and Q. Graça.

Revista de Medicina y Cirugia, Havana

February 10, XVII, No. 3, pp. 53-80

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REVIEW OF FIVE HUNDRED AND THIRTY-FOUR OPERATIONS ON THE MAMMARY GLAND*

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There are two important epochs in the surgical history of mammary carcinoma. The modern operation, based on the knowledge of the lymph-vascular drainage of the breast, has raised the percentage of ultimate cures, as the introduction of antiseptics and asepsis lowered its primary mortality. This is the more remarkable in view of the extensive operation now performed, so that the reduction of the primary mortality of 25 per cent. in preantiseptic days to less than 1 per cent. with modern technic is approximately parallel to the reduction in local recurrences from 65.6 per cent. to 6.5 per cent. Elaboration of Halsted's principles has carried the operative incision further and further away from the primary focus of disease until the limits of surgery must surely have been reached, with results that are highly disappointing save when compared with results of past decades. Why must the ultimate cancer be sought for in remote tissues of cervical, thoracic and abdominal areas, and usually in vain, when it is the consensus of medical opinion that cancer is primarily a local disease, often, perhaps always, preceded by a precancerous state of the tissues, and invariably amenable as such to surgical treatment? To whom can we turn for explanation of the inoperability of 25 per cent. of the cases in patients presenting themselves to the Mayo clinic, of the inoperability of 32 per cent. of cases of superficial malignancy seen by the surgeons of Pennsylvania in 1911, or of the presence of extensive ulceration and metastasis in thirty-one of the last 200 cases at the German Hospital clinic? Is it the memory of an ancient teaching that prompts physicians to advise the patients to accept operative treatment as a last resort in mammary carcinoma, when this lapse of time has removed its only chance of cure? Or has surgical practice in accepting advanced cases for operation cast an opprobrium on its methods, established a wide-spread belief in their futility and deepened the conviction that operation is to be accepted only when this very skepticism has rendered it useless? Is it the ignorance of the laity in regard to the serious nature of lumps, whether painful or not? Or is it the apathy of the practitioner, or overconfidence in his ability to differentiate the benign from the malignant in its early undifferentiable stages? No doubt a number of factors are potent in the production of this evil, while the fact remains that surgeons see large numbers of inoperable cases of cancer of both superficial and deep origin, the great majority of which could have been cured if diagnosed early and treated properly.

Since 1898, 534 patients have been operated on in the German Hospital clinic for tumor of the breast, as follows: carcinoma, 370; fibro-epithelial, 123; chronic mastitis, 24; sarcoma, 11; tuberculosis, 6. An analysis of the last 200 cases of carcinoma and 100 cases of fibro-epithelial tumors of which the records are complete, with the end-results of all cases which we are able to trace, forms the material from which the statistics to follow are computed.

INCIDENCE OF CANCER AND THE PRECANCEROUS TISSUE STATE

The statistics of all countries show a steady increase in the incidence of cancer. In New Zealand, which has the lowest death-rate from cancer, there is a steady increase, proportionate, as shown by Hislop and Fenwick,[1] to the increase of other countries. The death-rate in the United States had risen from 47.9 per hundred thousand in 1890 to 73 per hundred thousand in 1907, almost the same average increase during the same period as occurred in eight European countries. The international classification of the cause of death attributes 8.5 of the deaths from cancer to mammary involvement. Estimated from this, 5,882 of the persons dying from cancer in the United States during the year 1907 had primary involvement of the breast.

Coincident with this increase in the incidence of cancer, there has been a steady increase in our knowledge of the predisposing states of the tissues to malignant degeneration, and in a measure of their underlying cause. Keen's demonstration, twenty years ago, of the degeneration of pigmented moles into carcinoma, foreshadowed the general recognition of certain connective-tissue changes predisposing to malignancy. Victor Bonney believes that cancer cannot originate from epithelium lying on healthy connective tissue. He states that destruction of the elastic tissue fibers of the basement membrane is the initial step toward malignancy, a result produced in the majority of cases of cancer of the breast by chronic cystic mastitis, especially of the proliferative type. As causative of this type of mastitis, Handley[2] mentions "(*a*) infection via the ducts; (*b*) toxic products of metabolism; (*c*) a morbid deviation in the physiologic process of involution and evolution which normally occurs with the sexual crises, puberty, menstruation, lactation, pregnancy and the menopause." Beadles found this condition in the non-cancerous portions of a hundred specimens of carcinomatous breast, and shares the opinion of E. T. Paul and Victor Bonney[3] that it is in constant association with early mammary carcinoma. Its absence in the late stages they ascribe to overgrowth of the cancer elements. From clinical evidence, Handley estimates the percentage of antecedent mastitis as 30 per cent., comparable with the 39 per cent. of superficial cancers, in the report of the Pennsylvania Cancer Commission, giving a history of chronic irritative conditions antedating the development of malignancy. MacCarty,[4] Speese,[5] Bloodgood, Judd[6] and others associate chronic mastitis with carcinoma in from 25 to 75 per cent. of cases.

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* Read before the College of Physicians of Philadelphia, Dec. 3, 1912.

[1] Hislop and Fenwick: Ann. Surg., 1907.

[2] Handley: Practitioner, London, 1910, lxxxiv, 463; Diseases of Breast, London, 1909.

[3] Greenough, Simons and Bonney: Ann. Surg., 1907.

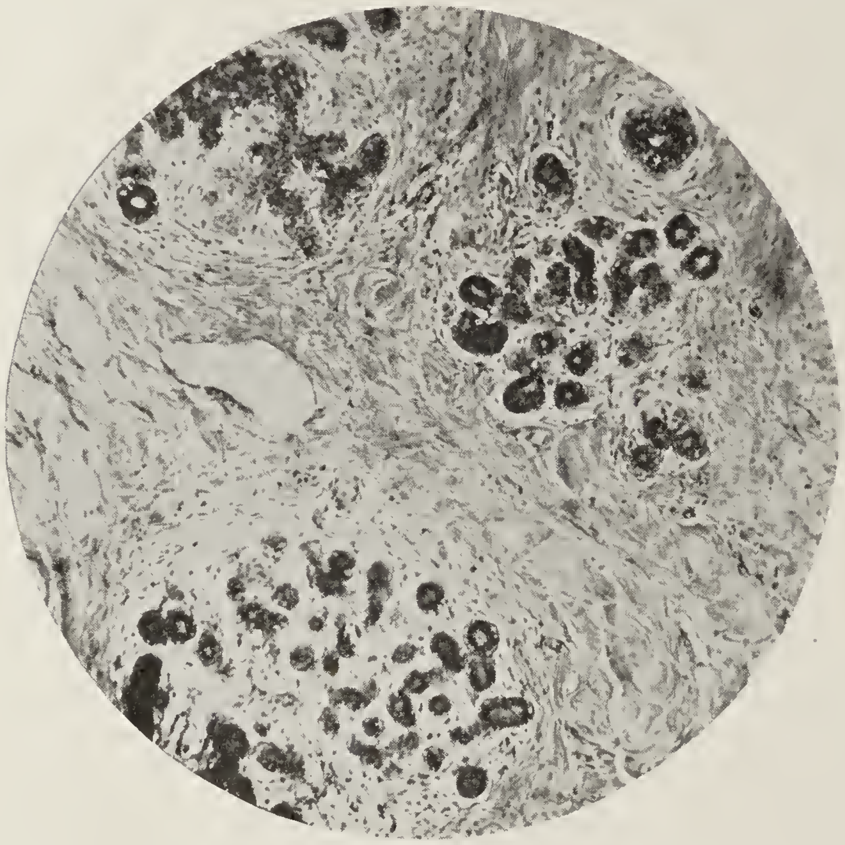

Fig. 1.—Fibro-adenoma of the breast.

Benign tumors are said to constitute 11 per cent. of all breast tumors, of which 7 per cent. are of the fibro-epithelial type. This estimation is perhaps true when based on hospital statistics, but benignancy is in much greater proportion in early stages. According to Judd, from 30 to 35 per cent. of benign tumors of the breast suffer malignant degeneration. In one of our cases a small tumor was excised from the left breast and diagnosed "fibro-adenoma" microscopically. Figure 1 shows the appearance of the primary growth. The patient returned in six months with extensive carcinoma. Figure 2 shows carcinoma in the scar from the original operation, while this case illustrates a clinical and pathologic mistake, it seems to emphasize the important fact that a growth may appear clinically and pathologically benign when already in a small area malignant transformation has taken place.

The influence of trauma, whether of transient nature or long-continued irritation, is much disputed. Of 115 authors writing in the years 1901 to 1909 inclusive, thirty did not assign trauma as a cause of cancer. Phelps states that only 9 per cent. of authors since the middle of the last century believed that transient injury might be the cause of malignant change. In 13 per cent. of our cases a definite history of injury, usually transient in nature, was given.

In one instance bleeding from the nipple, said to be of traumatic origin, recurred at irregular intervals for one year before the clinical evidence of malignancy appeared. Williams states that 25 per cent. of 137 cases gave a history of trauma, and that in one in one thousand cases the cancer immediately followed the receipt of the trauma. With increased knowledge of precancerous tissue states, the ascribed influence of bacterial and traumatic inflammation has a more rational basis. Nor can the frequent occurrence of the disease in the absence of such influence render it equivocal, for in the light of present knowledge, we must consider trauma, with other causes of inflammation, as a factor predisposing to cancer through the destruction of the normal fibro-epithelial relationship.

SYMPTOMS AND DIAGNOSIS

Thirty-seven of the relatives of our patients with malignant growths, and twenty-two of those with benign growths died of cancer, 13 per cent. of each type affecting the breast. Various authors state that in from 5 to 30 per cent. of cases of cancer in which there is operation, a family history is given of the disease, usually affecting the breast. The occurrence of mammary carcinoma in four or more members of a family, a history given in two of our cases, would indicate hereditary influence, but this must be considered a developmental predisposition.

As regards sex, the number of males varies from 6 per cent. (Rodman[7]) to 2.82 per cent. (Billroth[8]); 1.5 per cent. of the malignant and 2 per cent. of the benign cases of this series occurred in males. This low percentage is in keeping with the general rule that malignancy rarely affects vestigial structures, of which nature the male breast is to be considered. It also lends weight to the influence of changes incident to function in the female breast in the development of precancerous tissue states. Fibro-epithelial tumors occur at all ages, while no authentic cases of cancer have been observed before puberty. The cases so reported have been, as Billroth believed the case of Birkett in an 8-year-old girl to have been, sarcomatous in nature. Carmichael and Ever-

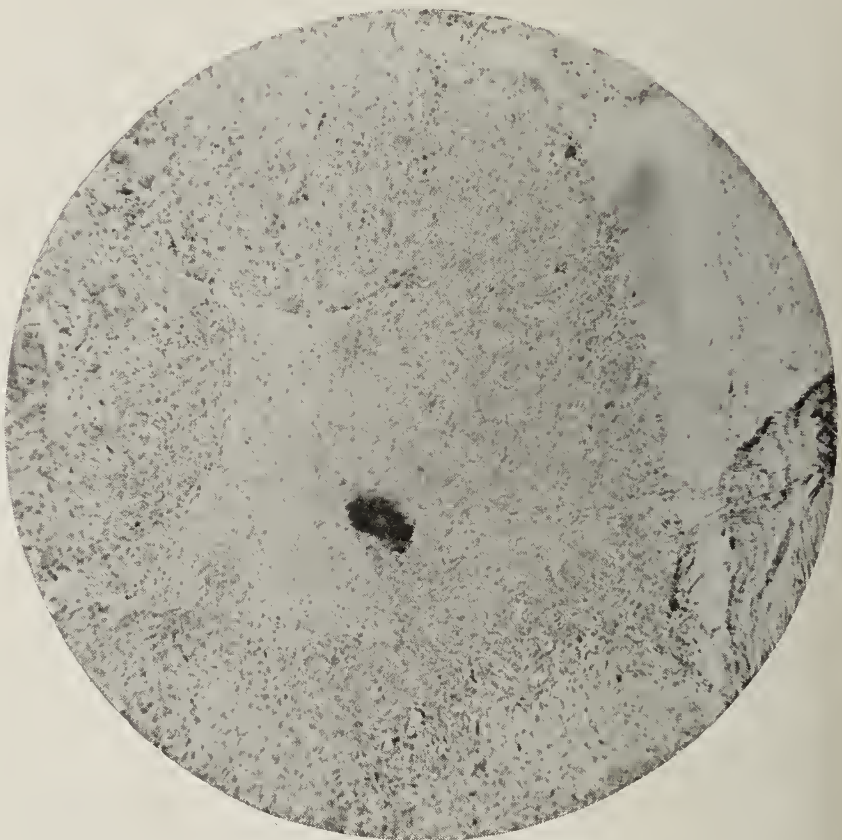

Fig. 2.—Carcinomatous recurrence in scar.

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[4] MacCarty: Tr. South. Surg. and Gynec. Assn., 1910.
[5] Speese: Ann. Surg., 1910, li, 212.
[6] Judd: New York Med. Jour., April 27, 1912.
[7] Rodman: Diseases of the Breast, Philadelphia, 1908.
[8] Billroth: Cyclop. Obst. and Gynec., ix.

hard Home reported bilateral carcinoma in patients 12 and 15 years of age. The age incidence in our cases is shown in Table 1. The average age in cancer cases was 49.6 years, and in fibro-epithelioma, 34.5 years.

TABLE 1.—AGE INCIDENCE IN CASES OF CANCER AND FIBRO-EPITHELIOMA AT THE GERMAN HOSPITAL CLINIC

Cancer			Fibro-Epithelial Tumors		
Ages	No. of Cases	Per Cent.	Ages	No. of Cases	Per Cent.
20 to 30	5	2.5	10 to 20	6	6
30 to 40	32	16.0	20 to 30	25	25
40 to 50	65	32.5	30 to 40	32	32
50 to 60	65	32.5	40 to 50	25	25
60 to 70	19	9.5	50 to 60	6	6
70 to 80	14	7.0			

	Years		Years
Youngest female	22	Youngest female	11
Youngest male	25	Youngest male	19
Oldest female	76	Oldest female	61
Oldest male	78	Oldest male	23

MENOPAUSE

	No.	Per Cent.		No.	Per Cent.
Before	95	47.5	Before	91	91
After	75	36.5	After	7	7
Males	3	1.5	Males	2	2
No record	29	14.5			

MARITAL

	No.	Per Cent.		No.	Per Cent.
Single	34	17.0	Single	49	49
Married	163	81.5	Married	49	49
Males	3	1.5	Males	2	2

PARITY

	No.	Per Cent.		No.	Per Cent.
Parous	110	55	Parous	24	24
Nulliparous	90	45	Nulliparous	75	76

DIAGNOSIS

When a positive diagnosis of mammary carcinoma can be made, the hope of operative cure is often in vain, for the classical signs are usually unmistakable evidence of extensive metastasis. Mistakes in the clinical diagnosis in advanced cases are constantly made, however, especially in young subjects, as Hort[9] has shown. In a series of 300 cases occurring before the twenty-fifth year of life, Hort states that 128 were not diagnosed clinically, and further, that 582 of 3,532 cases at all ages were sent to the London hospitals with wrong diagnoses. In the early malignant changes of primary benign breast tumors, and in carcinoma arising *de novo*, it is as impossible to diagnose the condition as in the early analogous changes in the base of a chronic gastric ulcer. The reproach to him who fails to recognize obvious cancer is no greater than that of the physician who waits for obvious signs. A small minority of cases progress insidiously to extensive dissemination in the absence of symptoms. One of our patients was sent to the hospital on account of severe upper abdominal pain. Examination showed extensive involvement of the liver, metastatic from a small nodule in the breast (right) of which the patient had been entirely unaware. Two patients first noticed nodules in the axilla and had never suspected any trouble with the breast. In the great majority of cases the disease runs a symptomless course in its early stages, and the first suggestion of trouble comes with the accidental discovery of a "lump" in the breast. I believe that immediate radical operation at this time would give a much larger percentage of cures.

The initial symptoms in this series were as given in Table 2. These statistics refute the assertion of Billroth[8] that the initial symptom of mammary cancer is "lancinating pain which sometimes precedes the palpable induration by months." The disease in one of the cases in this series continued to extensive ulceration in the entire absence of pain. This symptom is common, however, in the late stages. In 65 per cent. of the malignant cases and 25 per cent. of the fibro-epithelial type the patients suffered pain from several months to several years after the discovery of the tumor. The pain has been described as slight, moderately severe or excessive, of a sticking, drawing, aching and burning character, knife-like and shooting into the arm, axilla, neck, abdomen or chest and in several instances was complained of as affecting only the axilla and abdomen. Trauma, infectious diseases, the menstrual periods and damp weather were given as influential in its production. As a symptom in the late stages, pain may be general, affecting especially the extremities and due either to toxemia, wide-spread metastasis, or both. In early malignancy of the breast, pain must be considered a rare symptom. Occurring late in the disease, it is the language of reproach to the patient for concealing her malady, to the physician for ill advice, or to the surgeon for delay in operating.

TABLE 2.—INITIAL SYMPTOMS IN CASES OF CANCER AND FIBRO-EPITHELIOMA AT THE GERMAN HOSPITAL CLINIC

Cancer			Fibro-Epithelial Tumors		
Symptoms	No. of Cases	Per Cent.	Symptoms	No. of Cases	Per Cent.
Lump	156	78.0			
Pain	18	9.0	Lump (multiple, 5; bilateral, 3)	86	86
Eczema of nipple	3	1.5			
Bleeding from nipple	2	1.0			
Ulcer of nipple	3	1.5			
Soreness of nipple	3	1.5			
Retraction nipple	2	1.0			
Serous discharge from nipple	1	0.5	Pain (spontaneous, 7; at menstrual periods, 1; after trauma, 2)	10	10
Increase in size of breast	2	1.0	Aching	1	1
Lump in axilla	2	1.0			
Stinging sensation	2	1.0			
Tender axilla	1	.05			
Dimpling of skin	2	1.0	Burning	1	1
Sinus	1	0.5			
Pigmented mole	1	0.5	Tender at the menstrual periods	2	2
Pain in upper right abdomen	1	0.5			

PHYSICAL SIGNS

The opportune time for surgery in mammary carcinoma is in the presence of a symptomless, freely movable mass. That patients are rarely seen in this stage of the disease is indicated by the tabulation of physical signs in our cases (Table 3).

TABLE 3.—PHYSICAL SIGNS IN CASES OF CANCER AND FIBRO-EPITHELIOMA AT THE GERMAN HOSPITAL CLINIC

PHYSICAL SIGNS

Cancer		Fibro-Epithelial Tumors	
Right side	94	Right side	51
Left side	95	Left side	46
Bilateral	11	Bilateral	3

In eleven of the benign cases there had been previous operations on the other breast, in four instances for carcinoma.

MOBILITY (ON CHEST WALL)

Movable	157	Movable	99
Fixed	43	Fixed	1

SKIN INVOLVEMENT

Skin involved	141	Skin involved	3
Skin not involved	59	Skin not involved	97

RETRACTION OF THE NIPPLE

Retraction	107	Retrac. (1 congenital)	5
Not retracted	93	No retraction	95

DISCHARGE FROM NIPPLE

Discharge	6	Discharge	1
No discharge	194	No discharge	99

ULCERATION

Ulceration	31	Ulceration	1
No ulceration	169	No ulceration	99
One showing ulceration, bilateral.		Both sides involved	

INVOLVEMENT OF THE AXILLARY LYMPH-NODES

Palpable	74	Palpable	9
Non-palpable	126	Non-palpable	91

Thirteen of the seventy-four palpable enlargements non-cancerous. The nine palpable cases proved non-cancerous microscopically.

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[9] Hort: Brit. Med. Jour., 1909, ii, 966.

In no case of this series were the lymph-nodes of the opposite axilla or of the supraclavicular spaces palpably enlarged. Without considering general symptoms at length, we would draw attention to the frequent occurrence of a gain in weight of women with cancer of the breast, incidental to metabolic changes with the menopause.

LOCATION

Fibro-epithelial tumors are said to involve the sternal half of the breast most frequently. In this series, as indicated by Figures 3 and 4 (diagram) both malignant and benign types of tumor were most frequently found in the upper and outer portions of the breast.

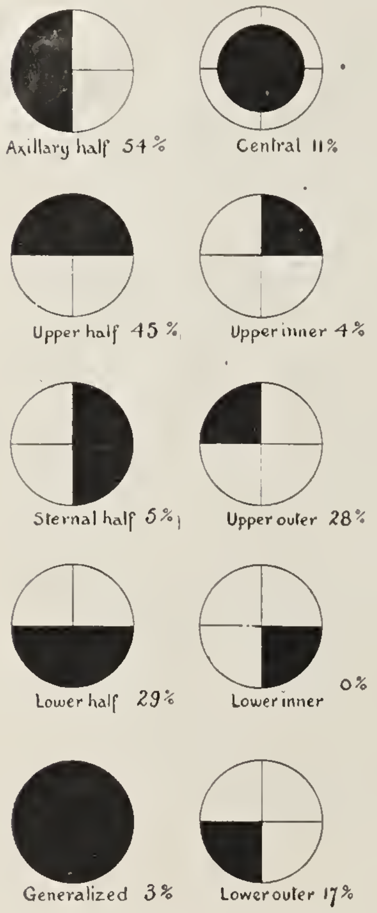

Fig. 3.—Diagram to illustrate areas involved in fibro-epithelial tumors of the breast. Percentages estimated from cases of 100 consecutive patients operated on in the German Hospital.

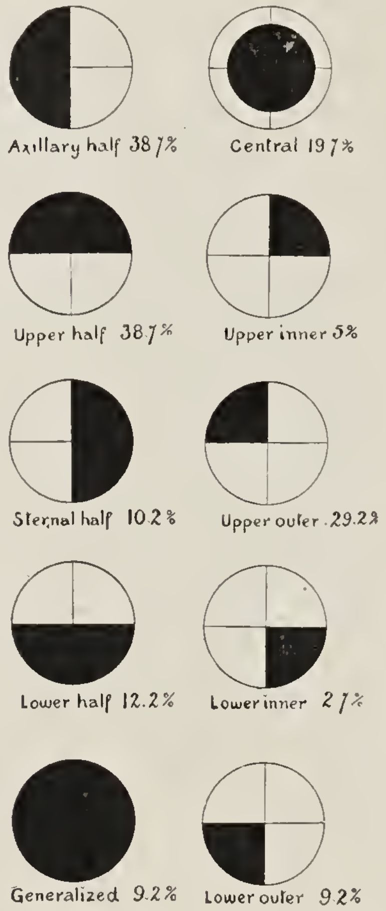

Fig. 4.—Diagram to illustrate areas involved in carcinoma of the breast. Percentage estimated from cases of 200 consecutive patients operated on in the German Hospital.

METASTASIS

Palpably enlarged axillary or supraclavicular lymph-nodes in the presence of a mammary growth do not necessarily mean carcinomatous involvement. In both chronic cystic mastitis and cancer, these nodes undergo certain changes affecting especially their germinal centers, and leading to hypertrophy, which has been styled the pre-cancerous adenopathy. Palpable axillary nodes were noted in nine of our benign cases and proved free of malignant change by microscopic examination. Finsterer found the same condition seven times in sixty-four cases of benign neoplasms.

The microscope proved the absence of metastasis in 6.5 per cent. of the 37 per cent. of malignant cases in which axillary enlargement was found by palpation, although in 62 per cent. of the cases metastasis to these nodes was found microscopically. Bull stated that 65 per cent. of cases when seen by the surgeon have palpable axillary lymph-nodes. Halsted[10] reported two cases of mammary carcinoma in which the axillary enlargement in one instance preceded the development of, and in the other progressed in the entire absence of any demonstrable mammary neoplasm. The two similar cases in this series had definite growths in the breast when the axillary masses were discovered, although the patients were unaware of their presence.

Looking with Halsted on metastasis as "the centrifugal spreading of a growth in direct continuity with the primary focus," the axillary enlargement in the latter type of Halsted's cases must be proved separate from a small primary focus in the axillary extension of breast tissue, called by Stiles "the axillary tail."

In a number of cases the neoplasm involved the upper inner quadrant of the breast; and I believe that the entire freedom of lower cervical lymphatic involvement in this series would not have been noted if the lymph channel, described by Poirier and Cuneo, were effective in draining this area. Nor does the freedom of attachment of the tumor to the pectoral fascia indicate non-involvement, for not only is this fascia involved before adhesion occurs, as Heidenhain showed in 1889, but also both muscles and the intermuscular lymphatics as well, though this is more rare. The same is no doubt true of the digitations of the serratus magnus muscle arising from the fifth and sixth ribs, in involvement of the lower outer quadrant, which overlies them. Henderson[11] failed to show this relationship, and there are no other studies available to indicate such involvement, yet Handley agrees that in cancer of the lower axillary quadrant these digitations should be removed. We removed a metastatic nodule from the tissues over the inferior angle of the scapula on the diseased side (Fig. 5). It was probably metastatic along lymphatics in the fascia covering the latissimus dorsi muscle, from the primary focus in the upper outer quadrant of the breast.

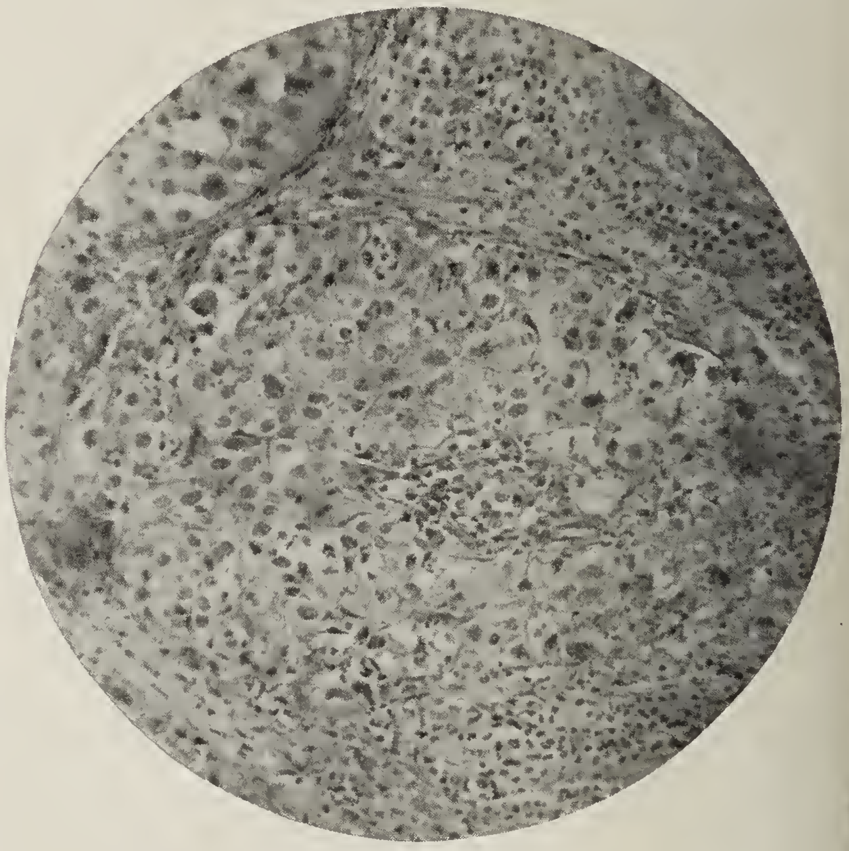

Fig. 5.—Metastatic carcinoma nodule from back.

Liver involvement and the frequent occurrence of cancer deposits in the humerus and thoracic cavity are the result of lymphatic permeation. Blood vascular embolic infection, the possibility of which is sometimes denied, probably explains distant metastases. Metastatic carcinoma to the breast is exceedingly rare, except from its fellow. The same is true of primary bilateral mammary carcinoma.

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[10] Halsted: Bull. Johns Hopkins Hosp., 1894; Ann. Surg., 1907.

[11] Henderson: Brit. Med. Jour., 1909, ii.

LATE RECURRENCES

We have noted apparent recurrence twenty years after removal of a cancerous breast. In one case of this series the left breast was removed six years before signs of involvement of the right breast appeared. In another, carcinoma appeared at the site of a vaccination scar three years after amputation of the breast. We resected a malignant jejunum and associated involved lymph-nodes (Fig. 6) in one of the cases of this series, three months before the discovery of a breast tumor. The patient was admitted to the German Hospital in February, 1907, with symptoms of pyloric obstruction, from which she had suffered since September, 1906. At operation an annular carcinoma was found, involving 2½ inches of the jejunum, and situated 8 inches distal from the duodenojejunal flexure. The mesenteric lymph-nodes draining this area were palpably enlarged. The diseased portion of the jejunum was resected and an end-to-end anastomosis made, but insufficient blood-supply necessitated resection of the primary anastomosis. A lateral anastomosis with posterior gastrojejunostomy to its distal side was then performed with satisfactory results. The enlarged lymph-nodes in the immediate area of the resection were removed. The patient recovered promptly, but returned to the clinic in April, 1907, complaining of sharp pain around the nipple of the left breast. This pain came on suddenly five weeks before admission and was associated with a rapidly growing lump in the upper quadrant of the breast. A simple amputation of the breast was performed. The specimen proved to be an adenocarcinoma. The patient writes (Aug. 15, 1912) that she enjoys perfect health.

From another patient we removed a carcinomatous uterus seven years before the radical operation for similar trouble with the breast was performed, but of this case we have no word. Matas has reported local recurrence twenty-four years after excision of the breast. Of thirty-five cases of late recurrence, Rotter found six in the other breast. Most of the so-called late recurrences are new processes without relationship to the previous trouble.

Roentgen irradiation has no place in the treatment of operable carcinoma of the breast. Preoperative application of the rays to remove outlying metastases before operative removal of the primary focus is as useless as local treatment of vesical tuberculosis in the presence of primary renal involvement. As a prophylactic measure against postoperative recurrence, or in cases of local recurrence which on account of the position and extent of the growth or the debilitated state of the patient preclude further operative interference, and in inoperable cases of cancer of the breast, the x-ray is the only therapeutic measure of value. Boggs' report[12] of five apparent cures in twenty inoperable cases, with improvement in the remaining cases, lends encouragement to patients with cancer involvement beyond surgical relief: to state the value of Roentgen irradiation in these conditions, in terms of finality, is impossible. Dr. G. E. Pfahler and other eminent roentgenologists recommend the treatment under the circumstances above named, and for this reason patients in the immediate postoperative period, with local recurrence impossible of removal, or with inoperable mammary carcinoma, should have the benefit of their wide experience.

PROGNOSIS

In the 531 cases of carcinoma and fibro-epithelial tumors in which operations were performed in the German Hospital since 1898, there were three deaths. Endocarditis developed after excision of a small "fibro-adenoma"; the other patients died of uremia and pneumonia following the radical operation for carcinoma.

With the radical operation the average primary mortality is approximately 1 per cent. As concerns the possibility of cure in cancer of the breast, the prognosis depends on those factors, including length of time the disease has existed, the age of the patient, type of tumor, etc., which contribute to dissemination of the disease, and from the technical point of view the ability to remove without cancer implantation, the glandular, lymphatic, fascial and muscular tissues involved in the malignant process. The average length of time the disease had existed in this series was thirty months. In the cases giving a family history of cancer 22.9 months had elapsed between the initial symptom and surgical consultation. In the cases in which the patients were well three or more years after radical treatment, sixteen months had elapsed on the average before operation. Freedom from recurrence was obtained equally in cases of long, and those of short duration at the Massachusetts General Hospital; Greenough's tables indicate that bilateral involvement, involved axillary and lower cervical nodes, ulceration and adhesion of the tumor to the skin and chest wall with the medullary type of tumor

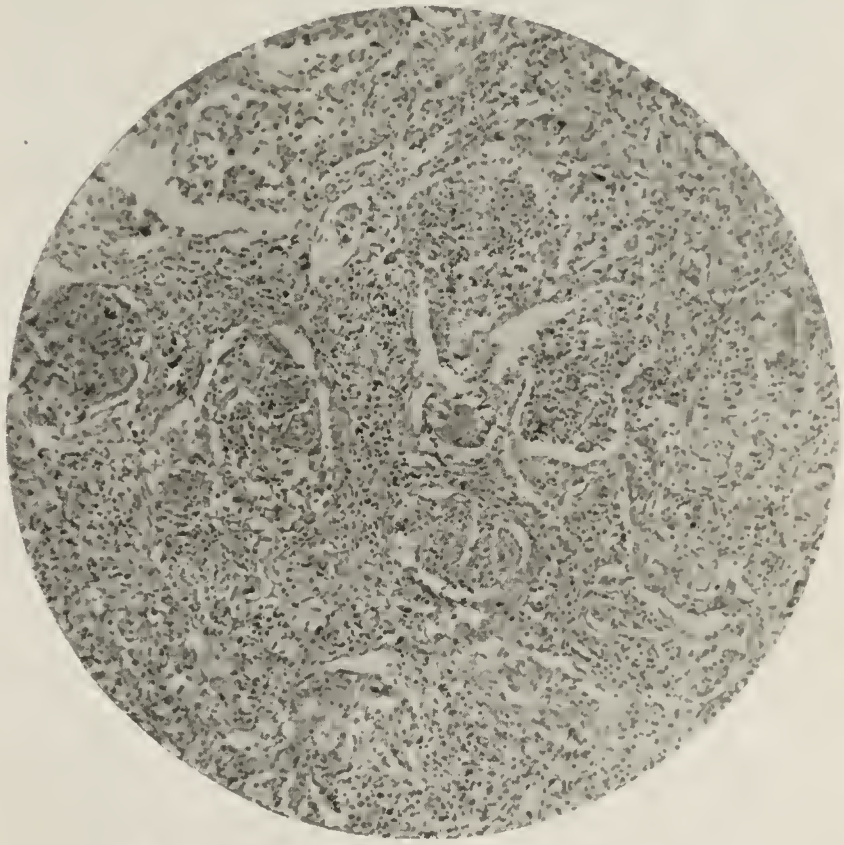

Fig. 6.—Adenocarcinoma metastasis in the jejunum.

TABLE 4.—GREENOUGH'S STUDIES ON THE POSSIBILITY OF CURE IN CANCER OF THE BREAST

	No. of Cases	Per Cent. Successful
Tumor adherent to the skin....	262	16.0
Skin not involved............	71	32.0
Tumors adherent to chest wall..	45	11.0
Movable on chest wall.........	194	21.0
Axillary glands palpable.......	236	12.0
Axillary glands not palpable...	117	19.0
Bilateral involvement	6	*
Ulceration present	60	6.5
Non-ulcerative	316	21.0
Medullary cancer	...	16.0
Scirrhus	...	23.0
Adenocarcinoma	...	47.5

* All fatal.

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[12] Boggs: Am. Quart. Roentgenology, April, 1911.

and in a young subject, offer the most unfavorable prognosis. Of our patients well after three or more years, only 12 per cent. had retraction of the nipple, and 18 per cent. attachment of the tumor to the skin, but in no instance was the tumor attached to the pectoral fascia. Table 4 is reproduced from Greenough's studies. In 376 cases there was recovery and good health after three years in sixty-four, and death after three years from other diseases in seven, giving a total of seventy-one successful operations, or 18.9 per cent. Primary mortality of 416 cases was 3.6 per cent.

Of forty patients with enlarged supraclavicular glands, only two survived: in these two, 52 per cent. of the glands free of cancer (microscopically) remained free of local recurrence. Forty-one patients in 290 cases of recurrent carcinoma lived over three years after operation, and 13 per cent. of these never showed local recurrence. In 1907 Halsted reported 42 per cent. of 210 patients cured after the three-year limit.

In Halsted's early cases two in three patients were cured by the radical operation, while in those with metastases to the axillary nodes, the late cases, three in four patients died of early recurrence. He reports 7 per cent. of cures in forty-four operations with dissection of the supraclavicular space. Of the fifty-nine patients dying of early recurrence in our series, 90.9 per cent. had palpable axillary involvement. Of sixteen living after the three-year limit, 25 per cent. had palpable lymph-nodes in the axilla. The end-results in 119 of our cases are as follows: Of the patients with fibro-epithelial tumors, forty-four have been traced, and of these forty-one have remained well for an average period of six years. Two patients have had operations for similar tumors in the opposite breast, and one case diagnosed as fibro-adenoma both clinically and microscopically had early malignant degeneration of the breast (Figs. 1 and 2) and died of recurrence after radical operation. Sixteen, or 21.3 per cent. of seventy-five cases of carcinoma have passed the three-year limit and are free of recurrence on an average of seven years. Thirty-seven died of recurrence, and four of causes other than cancer. Six others have recurrence at the present time; while the remaining patients are apparently well, but sufficient time has not elapsed to make this certain.

The statistics here presented, although they are meager, serve to indicate in a general way the present status of mammary carcinoma in regard to the prognosis of operative treatment. Approximately one patient in five is permanently relieved of the disease by the radical operation, though it must be confessed that the inability to secure reliable data makes even this percentage questionable. This percentage would probably be materially lessened if the patients with cases pronounced inoperable, whose names do not appear on hospital records, were included in the statistics. As mentioned above, these results are highly disappointing unless compared with the results of past decades. When popular opinion demands immediate operation on the discovery of a lump in the breast; when physicians are taught to think of breast tumors in terms of operability, and when misguided humanitarianism no longer prompts the surgeon to attempt injudicious operations, the present lack of faith in the surgery of this disease will give way to a healthy optimism.

The work on this paper, going over the hospital records, compiling statistics and writing to patients, was done by Dr. Leon Herman, formerly house surgeon to the German Hospital, to whom I wish to acknowledge my indebtedness.

SKIAGRAPHY OF THE SEMINAL DUCTS

WILLIAM T. BELFIELD, M.D.
CHICAGO

Through an incision in the vas deferens just above the testicle (vasotomy), a solution of collargol or other metallic compound can be injected into vas and vesicle, and skiagrams made of these. Such pictures amplify our limited knowledge of the physiology and pathology of the vas deferens and seminal vesicle, and of the genital functions of the male.

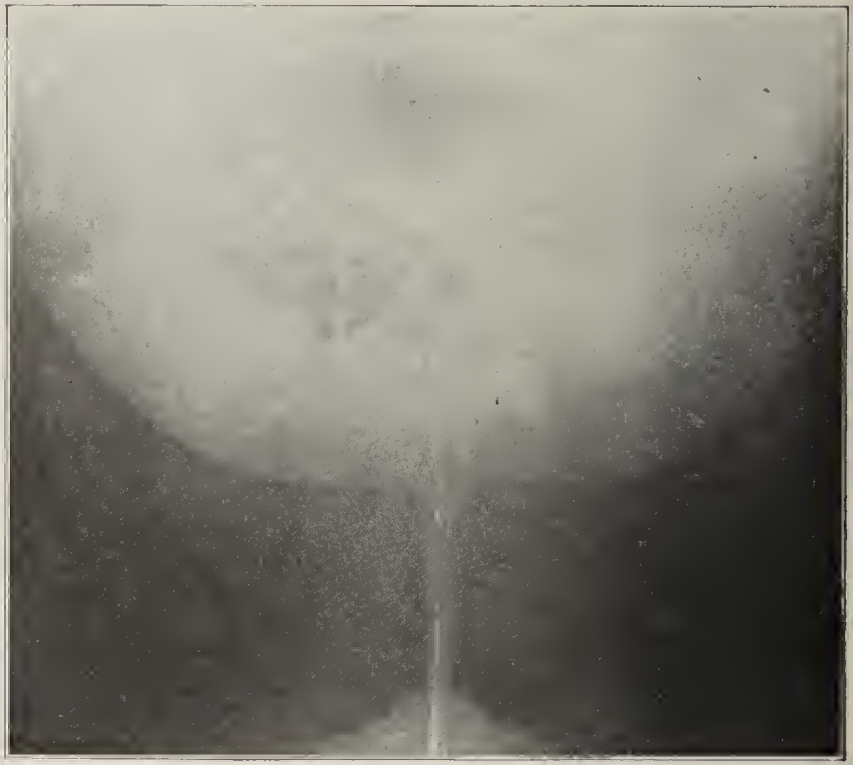

Fig. 1.—Tortuous vas deferens, seminal vesicle, deflected ejaculatory duct. Injected through vasotomy with 15 per cent. collargol solution for chronic vesiculitis. Skiagram by Dr. Van Horn, St. Luke's Hospital, Chicago.

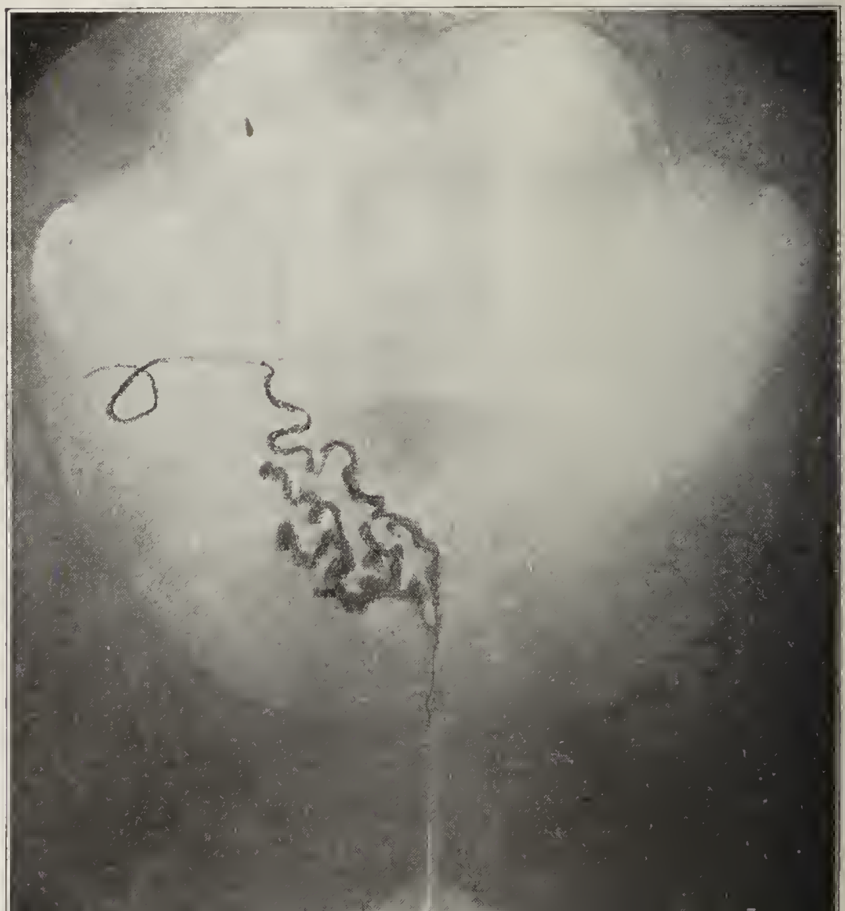

Fig. 2.—Print of a larger area from the same negative, retouched to make the shadow more clear.

The strength of the collargol should not exceed from 10 to 15 per cent.; the quantity injected at one sitting should in general be limited to 4 or 5 c.c.; injection should immediately cease if pain in groin or rectum occurs, since such pain shows irritation of vas or vesicle, sometimes requiring mitigation by morphin. If the vas be occluded by stricture, severe pain may be caused by the injection of even 1 or 2 c.c. Regurgitation of collargol into the connective tissue around the opening in the vas follows overdistention, and causes a tender induration which gradually subsides, usually without suppuration.

If there be no occlusion of the seminal duct, collargol is passed with the urine for days following the injection, and the emitted semen is black—the latter phenomenon inspired in one patient the fear that his future children might be Ethiopians. When the weaker, nonirritating solutions are used at body temperature, the distended vas and vesicle may expel their contents into the urethra and bladder or even out of the meatus, so that a stream of black liquid flows from the syringe of the operator through the entire genital duct, escaping at the meatus. In these cases the opening of the ejaculatory duct into the prostatic urethra can usually be identified through a modern urethroscope, and a filiform bougie be passed into the duct.

By fastening into the vas a flanged silver tube the injection or irrigation may be repeated subsequently at the discretion of the operator.

Among the features revealed by this method are: (1) a peristalsis of ampulla and vesicle into the prostatic urethra, without the phenomena of emission—a function which explains certain obscure clinical phenomena; (2) the sphincteric closure of ampulla and vesicle; (3) the not infrequent occlusion of the ejaculatory duct, converting vas and vesicle into a retention cyst. Elaboration of these and other features exceeds the limits of this preliminary article, which is designed to bring this new means of studying the genital duct to the attention of the profession.

32 North State Street.

TWO UNCOMMON ESOPHAGEAL CASES

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The first case is of interest in showing the length of time that a large and irregular-shaped foreign body can be retained in the esophagus, the conclusions arrived at as to the safest procedure for its removal, and the operation.

Case 1.—J. S. (referred by Dr. Harry Landesman, New York), aged 34, married, machine worker in factory, whose family and personal history were negative, had been perfectly well up to nine weeks before I saw him, when, during his sleep one night, he was awakened by a strangling sensation and a pain in his throat. Within a moment he noticed that the right incisor tooth of the upper jaw, with the plate on which it was attached, was missing. He made efforts with his fingers to extract the plate from his throat but could not feel it. After an hour or two the symptoms of distress subsided and he fell asleep again. When he awoke in the morning his throat was sore, swollen and "reddish looking," and he had indefinite painful sensations in the upper part of his neck in the lateral hyoid regions. For two days he could not swallow anything. About the third day he began to get down some fluid, and each day thereafter he swallowed with less distress until, at the time I saw him (eight weeks after), he was partaking of fluid and semisolid foods. The patient had no pain under ordinary conditions, but when he made effort at swallowing he had a sticking sensation in the lateral hyoid regions high in the front of his neck, but no distress in the sternal region. This distress he described as the presence of something interfering with his swallowing. Dr. Landesman reported that he had passed a bougie several times into the patient's stomach, and had not noticed any obstruction, and the patient stated that he had examined his stools for the first four weeks and had not recovered the plate.

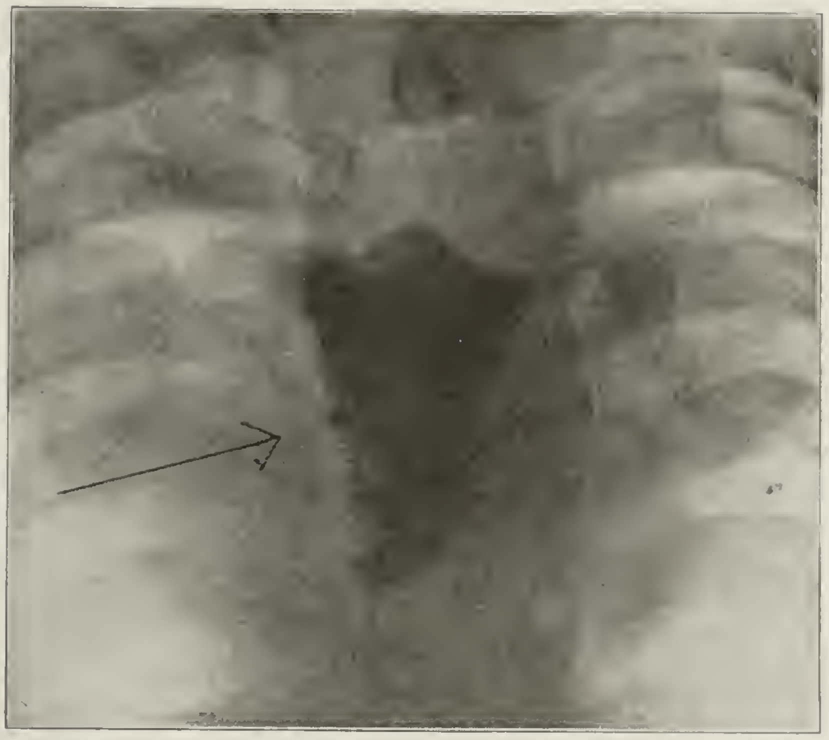

Fig. 1.—Anteroposterior skiagram showing the plate lodged at the level of the third and fourth dorsal vertebrae, and the clavicles in front (Case 1).

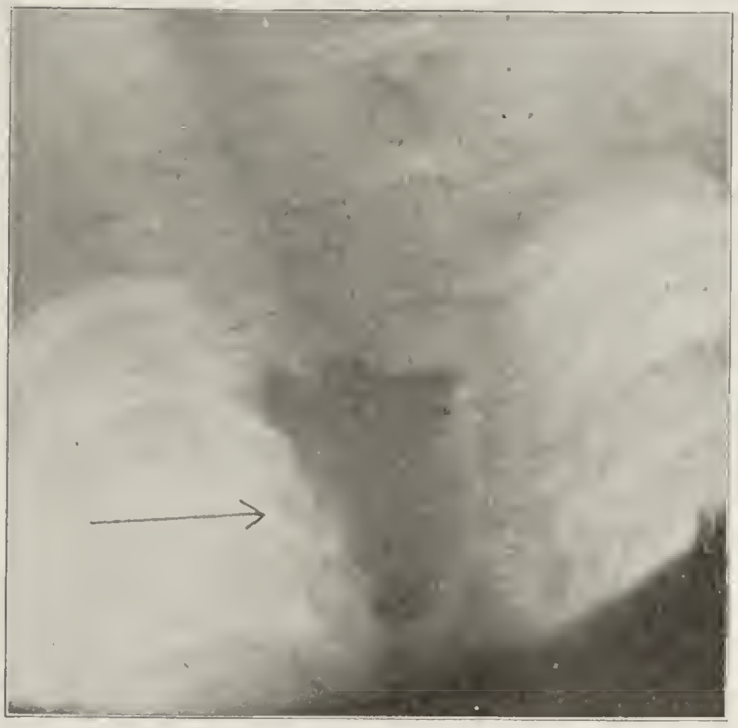

Fig. 2.—Slightly lateral position showing the plate lodged at the same level as shown in Figure 1 (Case 1).

Examination was negative, except that the patient had a slight degree of pharyngitis. The tip of a stomach-tube was arrested about the upper part of the sternal region. I did not pass a bougie, feeling that if the plate was lodged there it might cause a rupture of the esophagus. The patient described the tooth-plate as having one tooth fastened to it; it had a lower cutting edge and an upper edge which was flattened and sharp. He said that the plate was made of rubber, and originally had a clamp at both ends to hold it to certain teeth, but that one of these clamps had been broken off for some time. (The lower end of the plate as seen in

Figure 1 shows this perfect end to be pointed downward.) He said that the plate was a narrow one, was pointed at both ends, and had a sharp posterior edge. The two skiagrams (Figs. 1 and 2) show the shadow to be considerably wider than the description of the plate he gave and more irregular in outline than only such a plate would throw. My assumption was that he probably had some ulceration in the esophagus around it accounting for this.

While it would be an easy matter to pass an esophagoscope and seize the plate with an esophagus clamp, it is evident that the plate would have to be seized at the point where the edge was noted through the esophagoscope, there being little or no choice in the selection. The entire assemblage, that is, the esophagoscope and the clamp with the plate fastened at its lower end, would then be delivered by simple direct traction. Since the laryngopharyngeal junction is narrow, and a third skiagram showed that the tooth-plate was in the position which when drawn upward had the two sharp edges of the tooth on one side and the knife edge of the back of the plate on the other, it was plain that the opening of the esophagus would probably be badly cut in delivering the plate, thereby encouraging the danger of a cellulitis of the throat with a possible edema of the glottis. Since the main danger of its removal was a subsequent cellulitis, I decided that this would be minimized to the greatest extent by not endeavoring to remove the plate by the esophagoscope but by an open operation at the side of the neck. This was done one week afterward. Two days before it was performed, the patient began to complain of pains in his right and left thorax, mainly in the right shoulder running down the arm, which pains prevented him from sleeping.

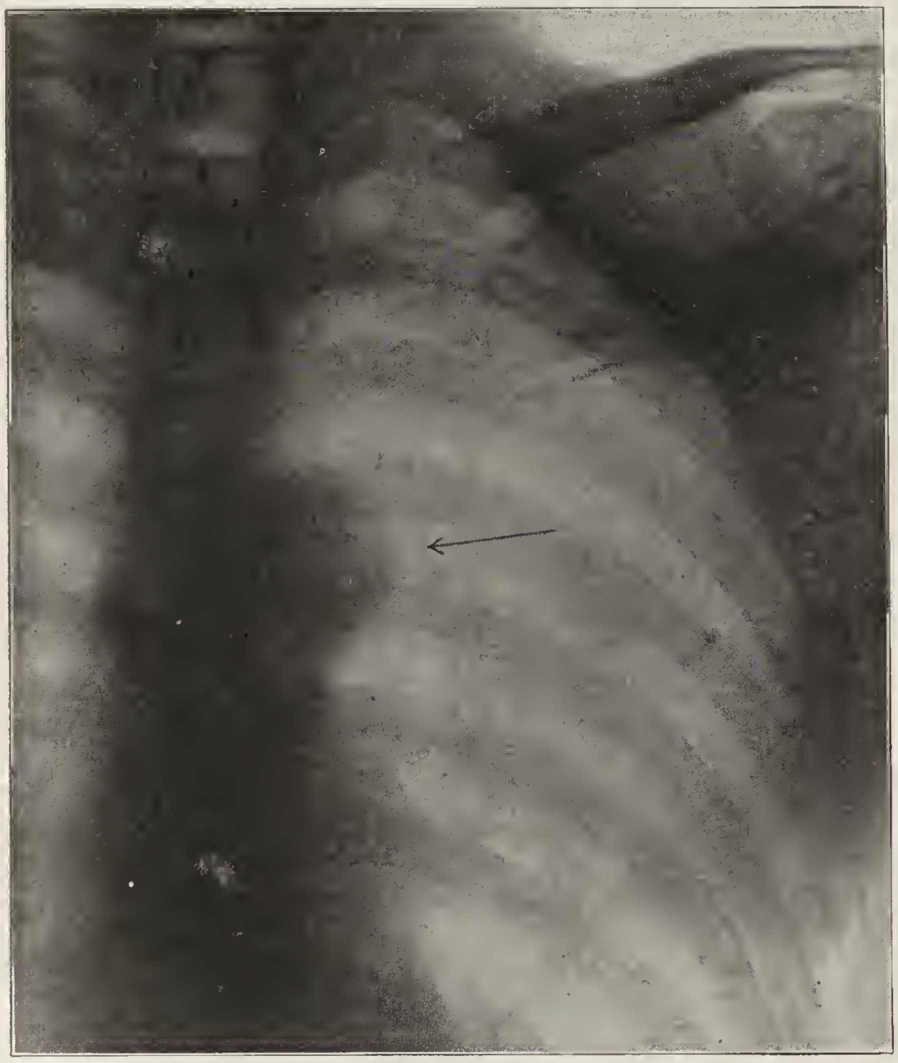

Fig. 3.—Anteroposterior skiagram showing calcification of the arch of the aorta, and other calcareous masses in the lungs (Case 2).

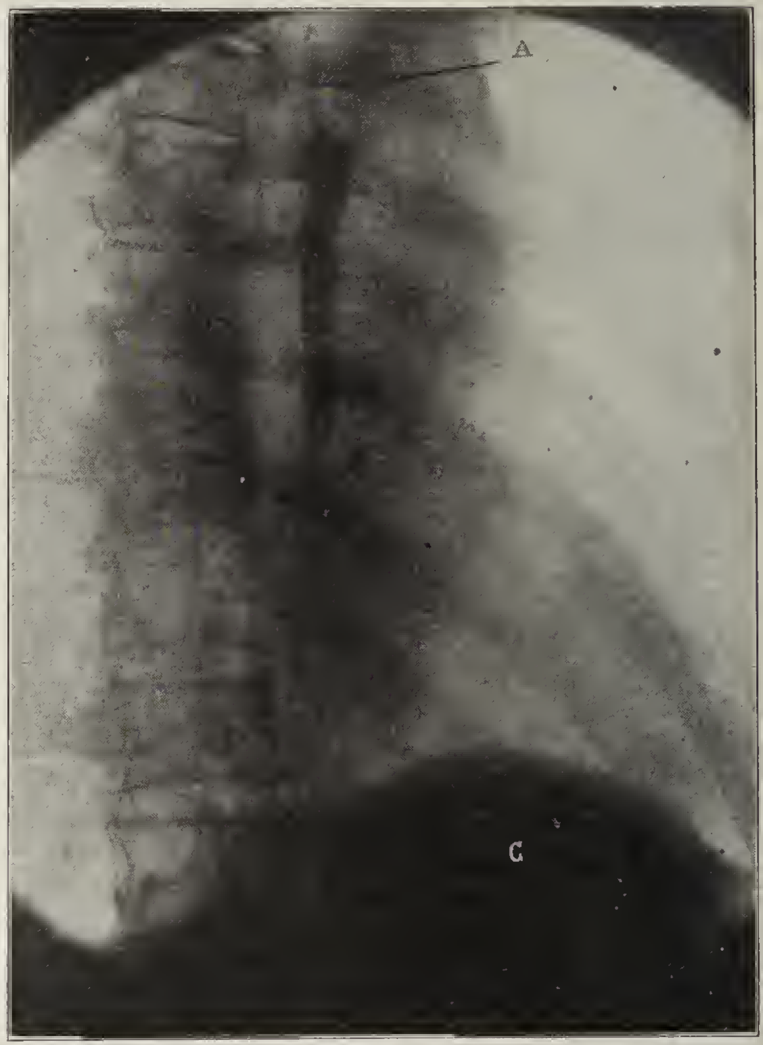

Fig. 4.—Dorsolateral skiagram showing pressure on the esophagus by the arch of the aorta at *A*, pressure on the esophagus by the base of the heart at *B*, and a retention in the esophagus between the two points, and bismuth in the stomach at *C* (Case 2).

Description of the operation by Dr. J. P. Grant at Dr. J. A. Wyeth's clinic, at the New York Polyclinic Hospital: "The patient was placed on the table with shoulders slightly elevated and face turned to the right. On the left side an incision was made, beginning at the level of the thyroid cartilage and extending downward along the anterior margin of the left sternomastoid for about three inches. The skin, platysma, and superficial and deep fasciae were divided. It was also found necessary in order to have a good exposure to divide the omohyoid. The thyroid gland and the trachea were then retracted to the right. The carotid sheath was next identified and retracted to the left. An esophageal bougie was then passed. At a point as deep in the neck as possible, the esophagus was seized with volsellum forceps and a longitudinal slit made over the bougie. The bougie was then withdrawn and the finger inserted into the esophageal wound. The plate was located apparently opposite the second costosternal junction, its base directed upward with the angle on the left side firmly imbedded in the esophagus. This projecting angle was broken off and removed with a pair of forceps, after which the plate was readily extracted. The wound was then lightly packed with gauze and patient returned to bed. For nine days the patient was nourished by rectum and kept sitting up in bed, and dressings were changed daily. On the tenth day the patient was given liquids by mouth and there being no escape through the esophageal wound, nourishment continued to be given this way. His convalescence was uneventful in every way."

The second case is of interest in showing a type of esophageal obstruction which has not been recognized as yet and which accounted for a peculiar swallowing symptom.

Case 2.—Mr. C. H. S. (referred by Dr. Stephen Lee, East Orange, N. J.), aged 78, married, manufacturer, family history negative, at the age of 30 noticed a swelling in the root of his neck on the right side. This was diagnosed by Dr. Willard Parker and Dr. Sands as an aneurysm of the subclavian artery for which nothing was done, and the growth has not enlarged in the last forty-eight years. The patient took exceptionally good care of himself in the way of diet, exercise, sleep, etc.

About five years ago he noticed a stinging and distressing sensation in the right chest when he swallowed acid food or drink. This was particularly noticeable when he drank lemonade or ate stewed tomatoes. This stinging sensation, when prominent, gave him flashes of distress down the left arm. He stated that he had no distress excepting when he partook of acid things, and then only for from five to ten minutes after he had swallowed, that partaking of these acid things did not cause him distress in the stomach, and that such distress as he had was entirely substernal.

Examination revealed a tall, thin type of man with an aneurysm of the second portion of the subclavian artery on the right side of the size of a small peach. No radial pulse was palpable on the right side. Blood-pressure, systolic, 186; diastolic, 100. Distinct atheroma of the right brachial. Urine contained increased amounts of indican, no albumin or casts. The heart was enlarged, and the aortic sound accentuated. There was general atony of the hollow viscera of the abdomen, and the second swallowing sound delayed to 30 seconds.

While the diagnoses of senility, aneurysm of the right subclavian artery, chronic excessive intestinal putrefaction of the indolic type, and arteriosclerosis, with gastro-enteric atony were possible, the main point in this connection was the interesting symptoms pertaining to swallowing. The supposition first was that the patient probably had an aneurysm in the arch of the aorta, although no physical signs suggested this. The diagnosis of the cause of the swallowing symptom was made and confirmed by *x*-ray (Figs. 3 and 4).

It is therefore plain that this man had a calcification of the aorta; the pressure on the gullet at that area caused by this calcification, and a pressure exerted on the esophagus by the upper part of the base of the heart, together caused a slight delay in transit in this portion of the tube. When the food or drink was of an acid nature, it irritated the mucous membrane of the esophagus at this midportion, and the patient had the symptoms described, which subsided in a few minutes when the contents in the esophagus had been delivered into the stomach.

THE PREVENTION OF ARTERIOSCLEROSIS AND HEART DISEASE IN OTHERWISE HEALTHY INDIVIDUALS PAST MIDDLE LIFE *

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Every observing person whose experience extends past 40 knows that heart disease is constantly developing among his contemporaries who are otherwise healthy. Surprise is often expressed that this man or that, in spite of what seemed to be right living, has become a victim of heart disease.

The slightest consideration leads to the belief that there is some active or hidden agent working to cause heart disease and hardening of the arteries, and a little examination shows that the causes are not those usually assigned. The healthy old drunkard disproves alcohol as a cause. Rheumatism more often attacks the young, and in later life generally spares the heart and blood-vessels. Men who really overwork are not so numerous as is often thought, and worry, while a great cause of heart disease, is indirect in its effect.

The fact is constantly appearing in the literature of the day that circulatory disease, as shown by statistics, is more frequent than formerly. Tuberculosis has for its victims the most attractive of the youth of the land, but heart disease claims the best and most successful of those past middle life. Much attention is being directed to tuberculosis because its cause and progress have become matters of public knowledge. The victims of heart disease, however, still too often go for months and years without intelligent treatment because no one has pointed out the danger-signals and because the interest in germ disease has absorbed every one's attention.

Heart disease and hardening of the arteries in nine times out of ten are, I believe, due to disturbances of the chemistry of the body. The prevention of heart disease and hardening of the arteries must be accomplished by a proper regulation of the chemistry of the body, particularly that pertaining to the intestines and the liver. This is accomplished through diet, rest and exercise, through the administration of certain well-defined remedies, and the limitation of nervous strain, than which nothing is more potent to upset the bodily chemistry. The technical chemistry involved is difficult and complicated in the extreme, and entirely beyond the comprehension of those not specially trained in the chemistry of this particular branch of work.

The truth is not found in popular explanations with such trite names as "intestinal fermentation," but in the ultimate chemistry of food substances and their changes in the human body.

The tendency to heart disease in otherwise healthy individuals past middle life can better be detected by a chemical examination of the urine than by an examination of the heart itself. By the time the heart itself shows poisoning, as appreciated by the sufferer because of palpitation, pain or shortness of breath, irretrievable damage has been done, and the chemical vice has become so deeply seated that an extreme regimen is necessary, while in the early stages a slight modification of diet and hygiene can check the trouble.

It is often remarked that the consumptive is fortunate who early in his disease has a severe hemorrhage that thoroughly convinces him of the necessity of treatment. In the beginning, heart disease and hardening of the arteries unfortunately have no symptoms, and the changes in the organs themselves are such as can be detected only by the most expert examination. Fortunate is the subject of these changes if the disturbing chemistry of the body leads to pronounced suffering in the direction of recurrent headache, biliousness or dyspepsia before the heart and blood-vessels are damaged, because these things may lead to treatment and prevention.

The prevention of heart disease and arteriosclerosis in otherwise healthy persons past middle life can be accomplished infallibly only when there is a periodic chemical examination of the bodily chemistry at stated intervals by an expert chemist, and when early and proper courses of treatment counteract the tendency before damage is done.

Some of the large life-insurance companies are now examining for this underlying chemical cause of heart disease in otherwise healthy persons who apply for large policies, and yet one of the saddest examples that I ever witnessed of chemical damage to the heart and blood-vessels was the case of the medical officer of one of these very companies.

My conclusions are the result of a practice devoted exclusively to the practical care of heart patients, but I would urge on my colleagues who are privileged to do laboratory research work its vitally important bearing on the life and well-being of mankind at the most useful period of life. The prevention of arteriosclerosis and heart disease in otherwise healthy persons past middle life thus brings up a problem that is seldom considered. However much constant observation may tend to the contrary, each man considers himself immune to these diseases, so the victim of heart disease and arteriosclerosis seems to himself a special victim of Providence.

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* Read before the Fifteenth International Congress on Hygiene and Demography, Washington, D. C., Sept. 27, 1912.

So little is the prevention of arteriosclerosis and heart disease believed to be possible that in a congress such as this it has seldom been discussed; nor, indeed, does the topic seem to have occupied much the minds of medical men. I judge this because an extended experience in addressing medical bodies on this topic has shown that but few physicians have formulated any ideas as to the causation of cardiovascular disease, and hardly any have undertaken its prevention.

Three conditions of the medical mind are encountered. It is comparatively easy to stimulate interest in one who has poorly developed but on the whole correct ideas concerning the subject. It is harder, of course, but not hopeless to deal with the physician who has formed erroneous ideas. It is very hard to deal with the man who has no ideas on a subject at all, but only traditions.

In the literature on cardiovascular diseases a list of indefinite and even absurd causes is given for the most serious affections. Tobacco is given as the usual cause of heart disease, while, in fact, it is the cause in but few cases. Alcohol receives undue blame. Then again, syphilis and infectious diseases are blamed, but they can account for only a few cases. The damage to the heart from rheumatism is definite and well-known. The greater number of heart patients have none of these things, however, and have presented a profound mystery to thoughtful men in all times, while the less thoughtful writer and practitioner have accepted the inadequate causes mentioned above without question. One of the most brilliant writers on the heart of the last half century, David Wooster[1] of California, says:

> Permanent disease of the heart is derived from the deposition in some portion of it of analogous tissues; that is, analogous to healthy tissues. The cartilage and bone deposited in the heart and arteries is analogous to cartilage and bone in the joints, though not exactly like, either chemically or physiologically. It is disease of the heart caused by these deposits, and that caused by the deposition of fat in the substance of the heart and also that caused by atheromatous deposits, either alone or in company with cartilage and bone, with which we are most concerned.
>
> We are accustomed to say that heart disease comes of itself. If one has an inflamed eye, we say that the eye has been recently hurt, or exposed to a cold wind or some contagion; if one has a fever, we say he has been exposed to its cause recently. We recognize these causes, and always refer to them for the solution of the phenomena of acute affections; not so with chronic diseases, we are apt to say they come of themselves: and yet they have causes as definite and appreciable as an intermittent fever or a pneumonia; but they are so long in acting that we keep no record of them, and do not seek them until the disease takes form and place.
>
> We do not know why this premature old age seizes on the heart rather than the lungs or liver; why it does not at the same time cause wrinkles, and parchment coloration of the skin. These negative inquiries are unprofitable, and if answered would not elucidate the unsolved problem; why are analogous growths deposited in the heart at all? They are deposited because one dissipates. But why does dissipation cause them? Because it induces old age. But why does old age cause these deposits? Because nutrition is defective, and hence the form elements are dwarfed and imperfect. But why is nutrition defective in old age? Here the oracle returns no longer any satisfactory answer, and hence the first question remains unanswered and unanswerable; that is, we do not, and probably never can, know why analogous growths are deposited in the heart at all.

Undue importance has been attached to disease of the coronary arteries, which, in fact, is an element in only a very small proportion of cases; and with a great majority of mankind there is never any question of great muscular strain or external violence.

Much closer to the truth, but not within its light, are the large number of authors who lay great stress on gout as a cause of hardening blood-vessel disease in those past middle life. These at least recognize a chemical cause.

My own belief is that most cases of cardiovascular disease developing past middle life are instances of chronic amino-acid poisoning by acids to which the tissues of the individual are sensitive, and that the condition known as intestinal putrefaction has an important bearing on the matter, though it does not seem to me that it is so straightforward an instance of bacterial disease as many at the present time maintain.

If we look about us in the world we see many examples of persons who are poisoned by particular articles of food; that is, poisoned in a way that makes them immediately and uncomfortably ill. Many other persons eating the same food escape harm, and we say that those who have been made ill are idiosyncratic to that particular kind of food.

Heart disease seems to me often to develop as a result of damage done by some material derived from food to which the person is idiosyncratic. The damage also often comes about gradually without disagreeable symptoms. The substances at fault are in all probability the amino-acids derived from the breaking down in the intestinal tract of nitrogenous food derived from eggs, fish, meat and soups. Which of these foods supply the amino-acids doing the damage can be determined only by experiment with the individual under observation. We cannot lay down rules for every one. Thus, I have observed examples in which almost fatal heart disease developed from the excessive eating of fish; many others are damaged by an excess of eggs; and still a greater number by meat. When the process is started, even a very small quantity of the offending food can keep the damage going on.

Of late years it has become fashionable to consider this whole matter one of intestinal putrefaction. This seems to be going too far; but it is a fact that the chemical manifestation of the condition known as intestinal putrefaction, as shown by indican in the urine, is a usual accompaniment of amino-acid poisoning. I have seen very bad cases in which it was absent.

The early signs of heart disease are the early signs of amino-acid poisoning, or amino-acid toxicardia, namely, disturbances of heart action, in the form of rapidity or premature contractions, and a sense of oppression, pain over the heart, shortness of breath on exertion and poor circulation.

A similar poison may attack the nerves and cause neurasthenia or recurrent headaches. The combination of headaches and palpitation is quite common.

These symptoms have often been described as dyspepsia, without any definite idea as to what was meant by the term. Dyspepsia in itself hardly ever affects the heart. It is the product of a wrong chemistry of the protein food that does this.

NATURAL DEVELOPMENT OF HEART DISEASE

The study of many thousands of specimens and of a great number of patients leads me to the belief that the natural course of the development of heart disease is as follows: At first the patient has no symptoms. Heart disease in its early stages has no symptoms, no acidity of the stomach, no constipation—nothing. The first thing that is noticed, if there is an accidental examination of the urine, is the presence of indican or the derivatives of skatol or phenol, one or all of the putrefaction group. The patient has no symptoms until one of several things happens. After a long time the patient may have an attack of hemiplegia, or quite early he may have an attack of neurasthenia (for intestinal putrefaction affects the nerves); then the condition is recognized. In the latter case, the patient undergoes treatment, is sent away, and frequently escapes arteriosclerosis. If he happens to escape nervous symptoms, he goes on for a good many years, perhaps excreting indican (which is the index of various toxins). After a while the excretion of these products through the kidneys damages them. Then albuminuria develops and a few hyaline casts appear. These are often discovered by life-insurance examiners, which is very fortunate. If this is not the case, the myocardium often becomes involved. The arteries are affected last. So some trouble with the myocardium attacks the patient; he has a soft murmur, and slight dilatation of the heart, or else precordial pain, which is explained by the reflex protective phenomenon, which consists of the fact that whenever unstriped muscular tissue is unable to do its work easily, it irritates that level of the spinal cord, and the sensory nerves passing through it are irritated, so that the nerve gives rise to pain that is felt in the brain and referred to the distribution of the nerve. The little boy who eats the green apple has the same kind of pain, and it is exactly analogous to the failure of the heart muscle which is poisoned by amino-acids, and has difficulty in doing its work.

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[1] Wooster, D.: Diseases of the Heart, 1867.

Now, if the patient escapes cardiac symptoms and neurasthenia, and albuminuria is not discovered, then last of all the blood-vessels are affected. The blood-vessels are not affected so much directly as indirectly through the kidneys, which are damaged and unable to do their work except with additional blood-pressure; so when the kidneys are unable to do their work properly, blood-pressure is raised. It is a compensatory phenomenon. When the blood-pressure is raised, the heart becomes hypertrophied to keep up the blood-pressure more easily, and the blood-vessels themselves become hypertrophied for the same reason. We have at first the hypertrophy of the blood-vessels and later the deposit of fibrous tissue.

I should say that in the early stages of this condition, when the toxic elements are active though excreted, and the structural changes have not taken place in the kidneys enough to increase blood-pressure, these patients have low blood-pressure because of the disturbance of the tone of the heart muscle, and the muscular elements of the blood-vessels. The moment the kidneys become at all incompetent, there is a tendency to high blood-pressure.

Thus we have a vicious circle—the hypertrophied heart and blood-vessels and the damaged kidneys. The kidneys and blood-vessels are progressively damaged, and at the end of twenty-five or thirty years the patient, who started with indicanuria, has a typical case of Bright's disease, with hypertrophied heart and blood-vessels, and liability to terminal apoplexy, uremia or cardiac dilatation. This is the natural history of a case of heart disease.

So much for a general consideration of the subject which is necessary to the logical conclusion with reference to prevention

PREVENTION OF ARTERIOSCLEROSIS

The importance of intestinal putrefaction has been dwelt on by many writers, and is no doubt a long step in the right direction. A low protein diet seemed at the time when it was advocated a great advance in accomplishing good, as is often the case, even if administered under a misconception. I now believe in and advocate *the few protein diet*, which seems to justify itself by the results I have observed. It is founded on the belief that heart disease is not caused by a high protein diet as such, but by the action of some amino-acid or acids derived from some particular protein food or foods to which the individual attacked is idiosyncratic. I believe, as mentioned above, that conscious poisoning of many individuals by particular protein derivatives points in this direction.

So a person eating the great variety of protein foods found in a modern dietary is laying himself open to the attack of many different kinds of amino-acids, any one of which may be the one which is to do him harm. If he cuts out one-half of his proteins, he is by that much safer. If he is willing to do with a single protein, he is almost certain, on the theory of chances, to escape that which will do him damage.

In Dr. Chittenden's laboratory it has been shown that animals do fairly well through several generations on single proteins. I have also abundantly proved that human beings sick with heart disease not only can stand a single protein diet, but usually become improved on it.

This theory explains to me several things that have always been obscure, in the first place, the relative unfruitfulness of the quantitative investigation of the nitrogen intake and outgo in disease. The matter being one of quality and not of quantity, the reason becomes plain enough.

The fact that the poisoning is not the same in all cases, seldom, indeed, in any two, explains the great variety of different combinations of symptoms. In one patient migraine is prominent, in another pain derived from the heart muscle, in another the kidneys are early affected, and in others the nervous system is profoundly involved.

The prevention of heart disease in otherwise healthy persons past middle life is a matter of dietetic management and the avoidance of all those things which may upset the chemistry of the body. The chemistry of the body can be upset by nerve strain, anxiety and stress; it can be upset by the abuse of drugs, particularly the saline laxatives and mineral waters; it can be profoundly upset by accidental food poisoning or a severe attack of malaria, dysentery or an infectious fever. Nor should we forget the necessity of rest and exercise.

In the presence of any suspicion of commencing trouble, a course of treatment should be taken consisting of castor oil and a temporary diet from which eggs, fish, meat and soups, are excluded, cheese being allowed to supply nitrogen in the safest form. When the danger seems to be past, the protein food should be added one article at a time, as, for instance, meat once a day, and later eggs or fish; but the number of kinds of protein food must be kept within the limits according to the condition of the individual. At first the person may be idiosyncratic to only one or two forms of food. A person with advanced heart disease is idiosyncratic to most forms of protein food. A very thoughtful physician, Dr. Edward Cornwall[2] of Brooklyn, said in a recent article:

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[2] Cornwall, E.: Dietetic Treatment of Cardiovascular Disease, New York Med. Jour., June 22, 1912.

> In this connection I should like to call attention to the value of dietetic treatment in the prophylaxis of cardiovascular disease. Many individuals are destined from their birth to die of this disease. Even if they take ordinarily good care of themselves, when middle life comes, their heart, arteries or kidneys begin to wear out. This may be due to the poor material of which their vascular system is made, or to abnormally functioning organs, especially an insufficient liver. Whatever may be the particular weakness in their make-up, that weakness should be favored. This can best be done, when we suspect an individual of being in this predestined class—and the suspicion is always excited by a family history of apoplexy, Bright's disease, diabetes, obesity or chronic rheumatism—by giving him an antiputrefactive diet, which is approximately, though not necessarily completely, lactovegetarian, and which is limited in quantity to his physiologic requirements; and by starting him on that diet as early as possible. And those who engage in the strenuous life, especially in the cities, living this strenuous life differently from their ancestors and unhygienically, can with advantage make the work which their food puts on their already strained cardiovascular system as light as possible by such dietetic prophylaxis.

Much of this is true.

CONCLUSIONS

The causes and prevention of heart disease have been considered in the past, as shown by my quotation, as matters of great obscurity, and often placed on the shoulders of Providence.

I would like to emphasize the analogy between the universally recognized idiosyncrasy of some individuals to particular articles of protein food that produce in them symptoms of pain, and the unconscious idiosyncrasy of many others to amino-acids which produce damage without conscious symptoms.

I would like to urge the importance of periodic chemical examinations of supposedly healthy individuals past middle life to detect and correct conditions that would lead to heart disease.

I would like to express my belief again that the abuse of saline laxatives and their disturbing influence on the chemistry of the body and on osmosis tend to the production of heart disease, leaving castor oil now, as ever, the safest and best remedy for those threatened with amino-acid poisoning.

Lastly, those attacked with a tendency to heart disease must receive courses of treatment at intervals, such as are so finely developed in some of the cure resorts of Europe which we are now seeking to copy in America. When necessary, such treatment can be carried out in the home by the creation of a proper environment.

54 West Fifty-Fifth Street.

The Finest Milk in the World.—The characteristics of the finest milk in the world are as follows: 1. Cattle under veterinary inspection. 2. Employees under medical inspection. 3. Dairies and stations under sanitary inspection. 4. Milk free from dirt, and bacteria below 25,000 in a raw state. 5. Clarified to throw out all sediment and inflammatory products. 6. Pasteurized in the bottle at 145 F. for thirty minutes. 7. Refrigerated so as to prevent multiplication of bacteria before delivery to consumer. If all milk for drinking-purposes were like this, the milk problem, so far as public health is concerned, would be completely solved. The only obstacle in the way of such perfection is the commercial obstacle. Each characteristic adds its own fraction to the increased price, and taken together they amount to between 2 and 3 cents per quart. With market milk retailing in our large cities at 9 cents per quart, the cost of such milk as above described, would be not more than 12 cents per quart.—*North's Milk Bulletin*, October, 1912.

MEDICAL PRACTICE IN THE CANAL ZONE *

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BOSTON

It is the general belief that the practice of medicine in tropical countries consists largely in the diagnosis and treatment of diseases peculiar to the tropics; that is to say, diseases which are entirely different from those encountered in the temperate zone.

That such is not the case was amply demonstrated to me during a recent visit to the Canal Zone. Therefore, because of the importance to us of the opening of the Panama Canal, I deem it worth while to call attention to some of the diseases seen there which are also common here, as well as to those peculiar to that area and found here infrequently or not at all.

Moreover, every practitioner must familiarize himself with diseases peculiar to the tropics, because, first, on the return of workmen when the canal is completed, some are certain to have contracted diseases peculiar to that climate and second, the increased travel from tropical countries in recent years makes more necessary this general knowledge in regard to tropical diseases.

Canal Zone employees who by reason of injury, however slight, or illness are unable to work are sent to the hospital and remain there or in the convalescent home until they can return to work. Patients remain in the hospital longer than otherwise might be the case, since there is no outpatient department to care for those who are not confined to bed. Those up and about the wards requiring but little, if any, care are sent to the convalescent home on the Island of Toboga, a beautiful island in the Pacific Ocean about 18 miles from Ancon. This is an ideal spot for convalescents, and the surroundings are more suggestive of a summer hotel than of a hospital, since no bed patients are admitted. This island is practically free from mosquitoes, and malaria is rarely if ever seen.

The hospitals at Colon and Ancon are well located; that at Colon is built on the water's edge and so situated as to receive the maximum amount of breeze from the sea. This hospital has about four hundred beds and in general plan and administration is similar to the larger hospital at Ancon on the Pacific side of the Isthmus, which has about sixteen hundred beds. It is built around the sides of Ancon Hill, a hill 650 feet high with sides so steep that in many places the hill had to be cut away to make room for the buildings. Here are situated at various levels the thirty-seven or more wards of the hospital, including the insane department, where are confined about three hundred insane patients.

The buildings are one- and two-story frame structures with tiled roofing, many of them built by the French. Their foundations are of stone or cement pillars, one to several feet from the ground, these being necessary on account of the moisture, which would always keep them damp, and in order to make them rat-proof. Throughout, their construction is such as to admit of the maximum amount of air. In some, shutters are used for windows and doors instead of glass and the ordinary panel door. The partitions between rooms and wards extend only part way to the ceiling, above which is latticework; or the space is left open, either arrangement admitting of free passage of air from one room to another. Private wards with private rooms of from one to four beds are provided and are arranged on the same general plan. On all sides of the buildings are wide porches, which are screened in, the entrance being through a vestibule generally with two screen doors placed so that the outer one is closed before the inner one is opened. The wards are large, a single open ward having as many as forty or fifty beds.

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* Read at a meeting of the Waltham Medical Club, Jan. 2, 1913.

The buildings are practically free from flies and mosquitoes. The grass is kept fairly short on the lawns about the hospital buildings and mosquitoes are not numerous. The water is collected in cement drains not affording stagnant pools in which they might breed. Larvacide is spread where water is likely to collect or where there is moisture from seepage. This effectively prevents their breeding. The drainage from Ancon Hill is rapid and efficient because of its steep sides, which are 45 degrees or more in many places.

Each section of the hospital is in charge of a physician and two or three assistants, and the work is divided and the duties of each are defined. The work exacted of the physicians is enormous, when one considers that there have been as many as seventy patients admitted to a single section in a day. This is an unusually large number, to be sure, the average being perhaps from eight to ten.

A daily passenger train each way has a hospital car attached, provided with stretchers for those too ill to sit up. It seldom happens that this car is unoccupied. The patients are sent in by the various dispensary physicians along the line of the canal.

Accidents among the employees are common. Even with the greatest care, in such a stupendous work with so much machinery and so many workmen, this must be so. The number is materially increased because of the ignorance of the workmen, especially the negroes, who do not or will not appreciate danger and who take the most desperate chances if it appears to be easier.

Spanish is the language most commonly used, except by the Americans and Jamaicans, and it is quite essential that the physician be able to converse in this language. Many of the Americans in the employ of the commission speak Spanish fluently. The various nationalities are segregated, so that there is the American section, medical and surgical; the Spanish section, medical and surgical, and medical and surgical wards for negroes.

Many countries are represented among the employees of the commission: America, Jamaica, Spain, Greece, Italy, St. Lucia, Trinidad, St. Thomas, Columbia, India, Barbados, Grenada, St. Kitts, Hayti, Chili, Peru, Ecuador, Martinique, Montserrat, Santo Domingo, Fortune Island and Antigua. With such a mixture of people the difficulties of caring for them are obvious.

Generally speaking, the clinical histories of hospital patients are inaccurate and unreliable. In the Canal Zone they are less reliable than here. There are several reasons for this; first, and probably of most importance, the patients are ignorant and do not understand the questions put to them and are unable to describe accurately their symptoms; or, if they speak only Spanish or some other foreign tongue, it may not be understood or interpreted properly by the one who takes the history; second, if an employee on the gold pay-roll becomes ill, he not only receives medical care in the hospital but also his regular wages as long as he is unable to work, provided this does not exceed thirty days in any twelve months. Employees on the silver pay-roll, that is to say, Europeans and negroes, receive hospital care only and do not receive wages while ill. Employees of all classes injured in the line of duty receive hospital care and full pay provided the time in which they cannot work does not exceed twelve months. Under these conditions malingering is less common among the employees than might be expected. It is quite rare among the Americans on the medical service, although it prevails more or less among all classes on the surgical service.

While the diagnosis of diseases in the tropics may not be more difficult, it must be gone into thoroughly, and much routine work must be done. Here one is especially impressed with the clinical laboratory as an aid to diagnosis. In almost every case admitted, the whole routine laboratory procedure must be gone through, a white count, a differential count of the leukocytes, a study of the red cells, a search for the parasites of the blood and in certain cases the seroreactions and blood-culture methods must be made use of. The urine and stools are next in importance in this routine examination, and the sputum in those cases in which there are symptoms or signs of disease in the lungs.

Diagnosis is further complicated by the fact that single infections, to which may be attributed with certainty all the symptoms, are rare. For example, a patient may enter the hospital with evident lobar pneumonia. In the routine examination it may be found that he also has malaria, amebic dysentery and several other kinds of intestinal parasites. Such examples of multiple infections are not uncommon. One can easily understand how one condition or the other may be modified accordingly, as well as how prognosis and treatment may be affected.

Of the diseases occurring there, many are identical with those found here.

EXANTHEMS, SKIN DISEASES, ETC.

Measles and chicken-pox thrive well and do not differ in any essential features from the same diseases seen here. Scarlet fever is much less common and epidemics are short-lived. It has been stated that scarlet fever is not a tropical disease, and certainly the statement is well borne out on the Isthmus.

Of the laborers imported, many have not had the exanthems and on exposure promptly come down with them. It is an interesting fact that those coming from Fortune Island, which lies to the north and east of Cuba, were especially prone to these infections. They do not have these diseases in their own land, because the amount of traffic with other countries is so little that the means of introduction are minimized. They have proved themselves so liable to these contagions, however, that the commission has found it unprofitable to import them as laborers, since they immediately become ill and are then a hospital charge.

Whooping-cough and diphtheria are met as frequently as with us, though I should judge they are less severe than in this climate.

Yellow fever, the disease which almost decimated the inhabitants during the time of the French occupation, without which it can safely be said they would have completed the canal, is entirely stamped out. The reports of sickness and death by those who were on the Isthmus at that time are scarcely realized now under the present efficient sanitary conditions. This wonderful achievement in sanitary science, the principles of which were less than a dozen years old, first successfully demonstrated in Cuba and on the Isthmus against this disease, makes it seem probable that yellow fever is to be the first of the acute infectious diseases from which mankind is to be freed. No case of yellow fever has originated in the Canal Zone since 1905. One case coming into Panama from a South American port last summer was as much of a curiosity to most of the physicians there as it would have been to us. There have been no cases of bubonic plague for six years, though it is a disease always kept in mind, and careful search for it is made in rats that die or are killed.

Diseases of the skin are quite common. Many are the same as those observed here, while others are peculiar to the tropical climate. A common and most troublesome one is dhobie itch, considered to be a filth disease, characterized by a scaling eruption sharply defined and with brownish pigmentation. It appears on the trunk, in the axillae and in the groins, and may spread over the entire body and extremities. It is believed to be of parasitic origin caused by the *Microsporon minutissimum,* and spreads by contact as does ringworm. The chief symptom is intense itching, which is relieved and the condition materially benefited by dhobie ointment, having the following composition:

		gm. or c.c.	
℞	Acidi salicylici		
	Hydrargyri ammoniati....āā	2	gr. xx
	Bismuthi subnitratis		
	Olei eucalypti............āā	6	ʒ i
	Lanolini ....ad	50	℥ i

This ointment is recommended for other conditions in which itching is a prominent symptom.

The eruption of secondary syphilis is frequently seen in all its varied forms. Sometimes it appears as the coarse papular scaling variety, which is quite characteristic even in the negroes. The macular syphilid is less easily recognized in these patients.

Judging from the number of cases seen during a short stay there, it would seem that psoriasis is frequent. Yaws is seen occasionally and resembles the eruption of impetigo. The crusts are elevated, the skin moist beneath and numerous spirochetes are present in the secretions. It is treated with salvarsan.

Tuberculosis is common, especially among the blacks, and presents the same difficulties in early diagnosis that we experience. Quite surprising was the frequency of pneumonia. We usually associate pneumonia, I think, with colder or more variable climates or with the winter months, though Osler states that it occurs equally in hot and cold countries, the incidence being greater in the winter and spring months. With a mean temperature ranging from 79.5 to 80.2 F. during the month of August, its prevalence would scarcely be suspected, yet cases were entering the hospital almost daily. It is said to be more common during the wet season.

Equally surprising was the frequency of influenza, manifesting itself not so much as we see it here (coryza, headache, fever, aching pains throughout the body, etc.) but as a bronchopneumonia or bronchitis, which runs its course in from three to six weeks. Abundant greenish nummular sputum is raised, and it is believed that this often forms a nucleus for the later development of basal tuberculosis.

Infantile paralysis occurs occasionally, but it has not assumed the proportions of an epidemic at any time until last summer when several cases occurred.

Beriberi is seldom seen. Dr. Deeks, chief of the medical clinic, thinks that it occurs less often because polished rice does not constitute a very important article of the diet. Formerly it was encountered among Panamanians engaged in the pearl-fishing industry.

Pellagra is seen only occasionally, possibly because of the generous amount of protein included in the diet for both the sick and the well. If it progresses to dementia, recovery seldom occurs.

Postfebrile insanity seems to be much more frequent there than here. It is not limited to those sick with any particular disease, but may occur in any case in which there has been a prolonged elevation in temperature. These patients are transferred to the insane department of the hospital, where the majority recover.

Of children's diseases, intestinal disturbances are common. Diseases of nutrition are more rare than one would suppose. Milk is scarcely to be had even at 40 cents (gold, 80 cents silver) per quart. This makes artificial feeding impossible, as practiced here with modified cow's milk. Condensed milk is the most available substitute, though its shortcomings are well recognized when compared with breast-milk or modified cow's milk.

Acute articular rheumatism is not a common disease. Other forms of arthritis—gonorrheal, dysenteric, tuberculous and pneumonic—are frequently seen. In the gonorrheal form good results are being obtained by the use of gonococcus vaccine. Patients recover from that following dysentery with treatment of the latter.

Malaria is a common etiologic factor in nephritis, which occurs in both the acute and chronic forms. Quartan malaria among negroes may be so mild that nephritis does not develop; but in the other forms nephritis is common, occurs in direct proportion to the severity of the infection and is fatal quite as often as the malaria. This is especially true of the estivo-autumnal type. The Americans and Spaniards seem less likely to have a complicating nephritis following this disease.

Diseases of the stomach are met quite as commonly and are of about the same nature as those we have to deal with here; while diseases of the intestines are perhaps more common than any other, if we include the parasitic infections.

Typhoid fever is not common, contrary to what one might expect. I was impressed with the mild type of the disease as it occurs there, and saw but one patient in the hospital who presented the picture of a severe typhoid. As a rule the temperature is only moderately elevated with but little delirium and tympanites. Rarely hemorrhage or perforation occurs. This may be accounted for by the fact that paratyphoid infections are seen more often than typhoid, at least four varieties being recognized. Only two small epidemics have occurred, each having been traced to its origin and successful means used to check it. The *Bacillus enteritidis* is also known to produce symptoms simulating typhoid, and has to be considered in the diagnosis.

TREATMENT OF DYSENTERY

Most frequent of the intestinal disturbances, as well as the most serious, is dysentery. No less than fourteen varieties are recognized, of which the ameba, bilharzia, *Balantidium coli,* milk, meat, malaria, nephritis, various bacilli, cirrhosis of the liver and cardiac disease represent some of the more common causes.

By dysentery is meant frequent loose movements of the bowels containing blood and pus. The treatment is simple, depending on the cause, if it can be determined. The patient is put to bed at once and given a mild diet. Accurate data regarding the number and character of the stools are kept. Half an ounce of castor oil is given. This is followed in case of amebiasis by bismuth subnitrate, a heaping teaspoonful every four hours, until the stools are formed, then a teaspoonful three times a day. The bismuth is mixed into a paste with water, and then diluted to a full glass with some effervescent water before administration. Unless precautions are taken to give it well suspended, it will form a paste in the intestinal tract and may become toxic. This treatment is continued until the bowels are absolutely constipated for forty-eight hours and blood and pus can no longer be found microscopically in the stools. An ounce of castor oil is now given, and the patient is slowly returned to full diet and allowed to get up. Bismuth subnitrate, one teaspoonful three times a day, is continued during convalescence, and a tonic, such as the syrup of the iodid of iron (one dram, three times a day), is given. This treatment has supplanted the former treatment with ipecac. In obstinate cases not yielding to this treatment, the patients are operated on and the colon is irrigated with water or normal saline. Dysentery from other causes is treated symptomatically.

In amebic dysentery, liver abscess is the most common complication and is treated surgically. The differential count of the leukocytes is an important aid in diagnosis.

PARASITIC AND VENEREAL DISEASES, MALARIA, ETC.

Intestinal parasites, especially nematodes, are, of course, common, and of these the hookworm is the one most frequently found, as well as the most harmful. Practically all the negroes are infected with it. There is great variation in the severity of the infection, and many of the classic symptoms are wanting. Ground-itch is seldom seen. The most reasonable explanation for this would seem to be that the patients are not seen at the time infection occurs, as many so affected go without shoes and are therefore exposed at all times. Still another interesting observation is the absence of eosinophilia in these parasitic infections; this is particularly true of hookworm, in which eosinophilia is expected to be present. After prolonged search among those infected with hookworm, I was able to find a patient with 10 per cent. eosinophils. One possible explanation of this is that many of the patients have malaria, accompanied by a lymphocytosis, which has the effect of relatively diminishing the eosinophils, or possibly as is the case with trichinosis, the eosinophils are increased only during the infecting period. There is this difference however. In trichinosis the parasites are encysted within a month or six weeks after infection, and save for the reaction produced immediately around the cyst, no further harm is done and no symptoms are present, so far as is known. The eosinophils gradually diminish to normal or nearly so. In hookworm or other parasitic infections which are accompanied by an eosinophilia, the activity of the parasites is kept up as long as any are present; consequently one would expect that whatever causes the eosinophilia at the outset of the infection would tend toward its persistence.

Infection with intestinal parasites is rarely single because the conditions favorable for infection with one parasite suffice for others; and certainly conditions in the tropics are ideal for the development of parasites which undergo certain stages outside of the body of the host and do not require an intermediate host.

Other parasites found are *Strongyloides intestinalis*, *Ascaris lumbricoides*, *Trichocephalus trichiuris*, ciliated monads, less commonly *Oxyuris vermicularis* and bilharzia. Of the last-named, only ova with lateral spines are found, and these never in the urine. Flatworms do not occur more frequently than here.

Venereal diseases flourish, as one might expect, among people living as these natives do. Syphilis appears with all its varied manifestations. A definite history of it is almost never obtained, and the Wassermann reaction has done much to clear up the diagnosis of cases with obscure symptoms. Of a large number of patients examined in a single day, positive Wassermann reactions have been obtained in as high as 50 per cent. Late syphilis, malaria and liver abscess present a problem in diagnosis not always easy of solution.

Filaria is not uncommonly seen, but is seldom accompanied by chyluria. Elephantiasis with glandular involvement is suggestive in the older infections, being the result of the acute lymphadenitis, from which recovery is never complete.

An acute febrile disease peculiar to the Canal Zone, so far as is known at present, called "six-day fever" has been described in a preliminary report by Dr. Deeks,[1] chief of the medical clinic. It is of acute onset with chills, headache, backache and fever, the temperature reaching as high as 104° and falling on the sixth day by crisis to normal or below. The spleen is enlarged. Leukopenia with a high percentage of polynuclears is the most important blood change. Albuminuria is almost always present, sometimes accompanied by casts. A rash especially on the extremities is frequently seen in the severe cases at some period of the disease, often at the time of the crisis.

The commonest disease is malaria. It almost equaled yellow fever as a cause of death during the French occupation. The estivo-autumnal type predominates in the proportion of about 80 per cent., next in order of frequency is tertian and least often the quartan. Infections are of all degrees of severity, some patients showing an extreme anemia with jaundice on entrance to the hospital. In the cerebral form, which is scarcely mentioned by writers of text-books, the patient may be comatose on entrance, owing to a toxemia or to the capillaries of the brain being blocked by the malarial parasites. The spleen and bone-marrow in such cases may show but few organisms. Occasionally patients are actively delirious from the toxic condition. As a measure of severity, Dr. W. M. James has found that as high as 15 or 20 per cent. of the red cells contained plasmodia. Cases of such severe infection are promptly fatal unless treatment is begun near the onset of the paroxysm. Treatment consists in large doses of quinin, 22½ grains in 500 c.c. of normal salt solution intravenously, or the same dose in 1:20 dilution subcutaneously. If the parasites have matured before treatment is begun, the only hope is that the patient will survive the paroxysm, when the young forms of the next generation can be killed. This dose given intravenously and repeated in five hours will kill nearly every young parasite in the generation. If a double infection occurs, as not infrequently happens, in which both young and adult parasites are present, or if there is great toxemia or severe nephritis, the prognosis is bad. According to Dr. James an infection of 50 per cent. of the red cells, as reported by some authors, does not occur. The diagnosis of malaria need never be in doubt in untreated cases, and no untreated patient has died of malaria in the hospital without the diagnosis having been made by finding the plasmodia. Mild infections of malaria, or cases that have received treatment, in which no organisms are demonstrable, which run a course similar to malaria in every respect, are termed clinical malaria. Every case of malaria presents splenic enlargement, which usually diminishes under quinin treatment. The *x*-ray has produced good results in the relief of pain due to such enlargement. The tertian and quartan types are usually accompanied by anemia. Not so in the estivo-autumnal. The former are relapsing, especially the quartan. Dr. James after a careful study of this subject believes that from 60 to 70 per cent. of the total malaria in negroes and Spaniards at present is due to relapse. Americans who continue the treatment more faithfully seldom have a relapse. The treatment of these cases has been incomplete, possibly because of an immunity to the quinin acquired by the parasites; moreover, the parasites may disappear from the peripheral circulation, or symptoms may disappear completely when the patient is put to bed.

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[1] Deeks, W. E.: A Preliminary Report of a Hitherto Unrecognized Six-Day Fever in Ancon, Canal Zone, THE JOURNAL A. M. A., Oct. 26, 1912, p. 1511.

Two severe complications are met especially in the estivo-autumnal type. One is hemoglobinuric or Blackwater fever. The data relative to the etiology and treatment of the condition in the Canal Zone were made the subject of a complete report to the commission in 1911 by Drs. Deeks and James. It should be remembered that doses of quinin in any amount from ½ to 20 grains may produce Blackwater fever, and that it may occur as a result of malaria. It is an interesting fact that it seldom occurs in the negroes. The other complication is nephritis, which has been considered above.

The treatment for malaria in cases of moderate infection is quinin sulphate in solution (20 grains on admission, then 10 grains three times a day). Full diet is ordered. In severe cases the patients are kept in bed and given 10 grains of quinin every four hours, until improvement warrants its reduction to 10 grains three times a day. Quinin is always given in a dilute solution of sulphuric acid, 5 grains to a fluidram. Patients who cannot retain quinin given by the mouth, as well as those with very severe infections or toxic cases, are put on a liquid diet and quinin is given subcutaneously as above described. Intravenous injection of quinin is sometimes used in chronic cases with good results. The later treatment is 15 grains every six hours subcutaneously until the patient can take it by mouth. Blindness or deafness occasionally occurs after such heroic treatment, but recovery follows as soon as the medicaments are withheld.

THE LEPER COLONY

Until the commission assumed charge of the conditions affecting the health of residents of the Canal Zone and the quarantine regulations, including the cities of Colon and Panama, there was no provision for the isolation and care of cases of leprosy. These patients were to be found mingling with the people under conditions most favorable for the spread of the disease. The commission was quick to appreciate this, and promptly established a colony for such unfortunates. They are not allowed to pass quarantine, though it is possible for them to enter from inland places. The leper hospital is established at Palo Seco on the mainland across the bay from Ancon. Several buildings are provided for housing them, besides a building used as a school for the children, who are taught by one of their own number. This building also serves for religious services.

The colony consists of fifty patients, mostly negroes and Spaniards. Several members of one family are confined there. In general they are quite well contented. They are allowed a certain amount of freedom and are furnished with food, clothing and tobacco. In addition they are allowed to raise chickens and garden-stuff to be used by themselves, for which the commission pays them from $20 to $30 each month. In spite of this encouragement some are indolent and will not work or try to better their condition. These are most likely to complain of the food served them and the treatment they receive.

As a stimulus to investigation there is a well-organized medical association, which holds its meetings every month. Medical men from all over the Zone are invited to attend, and a special train is run leaving Panama at 11 p. m. It is unfortunate there as elsewhere that these men who have the desire and ability to engage in research cannot be relieved of the routine work and allowed to use their time and exercise their talent in original investigation and thus profit from the wealth of material that otherwise goes for naught.

SCHOOL FOR TROPICAL MEDICINE

Many of our medical schools are alive to the importance of a school of tropical medicine in this country. I have already referred to the importance of a knowledge of tropical diseases by every clinician. Most teachers believe thoroughly in practical courses of study, and this can best be brought about by bedside teaching. Knowledge of tropical medicine cannot be obtained from textbooks alone any more than can a knowledge of the commoner diseases. The importance of seeing the patient, taking the history, making frequent physical examinations, the work in the clinical laboratory, the treatment and subsequent course of the disease, as well as post-mortem findings is as essential to a full understanding of diseases peculiar to the tropics as of diseases studied here.

Some have suggested the establishment of schools of tropical medicine in the larger seaport towns depending on the patients who are ill on arriving in quarantine to supply the clinical material. There are several objections to this; first, the number of patients is necessarily small; second, patients ill of a disease contracted in the tropics do not take long sea voyages, especially if there is a likelihood of the disease from which they are suffering keeping them in quarantine. Most of those who have contracted diseases in the tropics and are allowed to pass quarantine are seen in the various hospitals of our larger cities. They would afford meager clinical material for students in tropical medicine. No place is so well suited for the study of tropical diseases as is a tropical port where may be studied the disease, its mode of infection, the various types of the disease, and the habits of life and the surroundings of patients, the most severely afflicted of whom could scarcely undertake a trip northward for medical treatment. It is necessary that the treatment be carried to the patients. In the western hemisphere no place is so available for such a school as the Canal Zone. Though it be depopulated, as is anticipated, except for the two cities of Colon and Panama, there will always be need of one or more hospitals, if contemplated travel reaches expectations. A single school or several schools should combine to establish such a hospital in the tropics where medical students in their final year may elect to do their work and where postgraduate work may be done. The study of the practical application of sanitation in the tropics, as well as of diseases peculiar to that area, would well repay the student or clinician beyond the fullest measure.

My thanks are due to the commission for the privileges accorded me at the hospital, to Dr. W. E. Deeks, chief of the medical clinic, to Dr. W. M. James, his first assistant, as well as to his other assistants for their very generous hospitality.

535 Beacon Street.

The Perennial Possibility of Pregnancy.—Never assume that a patient cannot be pregnant unless you have yourself taken away her uterus and ovaries, and even then you had better examine to make sure.—Arthur E. Giles in *Clin. Jour.*, London.

AN ANALYSIS OF FOUR HUNDRED AND TWENTY-SIX CEREBROSPINAL FLUIDS FROM VARIOUS PATHOLOGIC CONDITIONS *

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The use of the fluid contained in the cerebrospinal canal for the purposes of aid in diagnosis presents additional evidence of the tendency of modern medicine. Advantage is taken of all possible available means for clearing up the many obscure conditions which still constitute the bulk of the science and which have baffled the diagnostic skill of the physician from the earliest time to the present day. If any branch of medicine is in need of aid in diagnosis, that devoted to the study of diseases referable to the cerebrospinal tract is certainly the one.

It is to be borne in mind, and special emphasis is laid on the fact, that the signs and symptoms manifested by the cerebrospinal tract in the course of disease do not necessarily mean disease of this part of the body any more than the bleeding from the nose in typhoid represents local disease, bronchitis a disease of the respiratory tract, or a severe eruption a disease of the skin.

This study has been conducted in an attempt to give these symptoms their proper interpretation. No claim is laid to profound research or exhaustiveness; only along those lines which were thought practical in a laboratory of a general hospital, and with the definite purpose of aiding the visiting staff, were these examinations made.

The investigation covers a period of six years, from 1907 to 1912, inclusive, and embodies the result, in epitomized form, of examinations of 426 fluids from 317 cases.

It was deemed most practical to examine the fluids for the following characteristics:

Quantity, whether increased or diminished.

Appearance, whether clear, turbid or bloody.

The albumin and globulin content.

The capacity for reducing Fehling's solution.

The cytology, bacteriology, animal inoculation and agglutination properties; and for the past two years, complement-fixation tests were made.

The conclusions which are noted at the end of this contribution should prove of special practical value to the general practitioner, and if they differ in some respects from those generally accepted, they have nevertheless proved to be reliable and practical guides.

For the purpose of the general practitioner, the most practical classification of the cerebrospinal fluids is their division into clear fluids and turbid fluids. This one physical characteristic in itself gives immediate, important and definite information of the existing condition regardless of its chemistry and bacteriology.

Under the head of the clear pathologic fluids stands out prominently the group of the tuberculous meningitides, thirty-nine cases in all. Though as a rule clear, yet the fluid in two of these cases was decidedly turbid, and in five it contained blood, the result of injury to blood-vessels during puncture. In many that were allowed to stand for a few hours, a large fibrinous flocculus formed. This flocculus, when incorporated with the centrifugalized sediment on the smear preparation, was found often to contain in its meshes tubercle bacilli. The albumin content of the fluids as determined by the nitric acid contact test was rather large, varying from 1 to 3 mm. in thickness. In all but five of the cases there was a failure to reduce Fehling's solution. The globulin reaction was uniformly positive even in the early cases. The cytology in all but two was an abundant lymphocytosis, the two turbid ones already mentioned containing an excess of polymorphonuclear cells. One in fact was of purulent nature. No other bacteria were found in this specimen, and therefore it is not probable that the cytology was due to a secondary infection. Tubercle bacilli were found in all cases. In thirty-two, or 82 per cent. of the cases, they were found on the first examination, in six on the second and in one on the third. Therefore we are justified in saying that the presence of a fibrinous flocculus, absence of Fehling's reduction, the positive globulin reaction and an abundant cytology consisting mainly of lymphocytes should always be regarded as suspicious of tuberculosis, and a negative report given only when the search has been exhaustive. The above-mentioned results are no doubt due to the employment of a systematic method of persistent search in suspected fluids, two or three men hunting through the smear preparation for a long time, sometimes for a total of from three to six hours.

Animal inoculation is sometimes employed to confirm the bacteriologic findings when the clinical picture is atypical. In six instances the guinea-pigs on autopsy showed the typical lesions of the disease. The laboratory has been able to aid the clinician in many of these cases, in some of which the patients were admitted with diagnoses of typhoid fever, cerebrospinal meningitis, serous meningitis, sinus thrombosis due to middle-ear disease and even postconnubial insanity. The importance of finding the tubercle bacilli in these cases is apparent. In one case operation was contradicted by a report of the presence of tubercle bacilli in the fluid of a patient admitted to the hospital for lateral sinus thrombosis. So far as can be ascertained, all those cases in which tubercle bacilli were discovered in the spinal fluids ended fatally, while those in which this finding was negative followed a different course than tuberculous meningitis, or terminated in a manner to indicate other disease than tuberculosis of the cerebrospinal tract. These observations seem to disprove the prevalent opinion among general practitioners that the tubercle bacillus is found only occasionally in the cerebrospinal fluid and not until late in the disease.

Symptoms of meningeal involvement during the course of either bronchopneumonia or lobar pneumonia have always been a source of mental disquiet to the physician, and the question of the presence or absence of this complication can be decisively settled by lumbar puncture. In twenty-five cases of pneumonia showing meningeal symptoms, but four gave bacteriologic evidence of a true pneumococcic meningeal inflammation. Although the difference between the symptoms of meningeal irritation (so-called meningismus) and true pneumococcic meningitis are those of degree only, the marked differential characteristics of the spinal fluids determine the condition. When the cerebrospinal symptoms were due only to irritation, the fluids were found to be absolutely normal in every way. Here lumbar

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* From the Laboratory of the Jewish Hospital of Brooklyn.

puncture relieved the symptoms of the patient affected as well as the mind of the attending physician; for as long as the chemical and cytologic findings were a low albumin content, a reduction of Fehling's solution and a negative globulin reaction with a sparse cytology of two or three lymphocytes per microscopic field, meningitis without question of a doubt could be ruled out.

The fluids of true pneumococcus meningitis differed in no way from other purulent fluids except in the biology of the infecting organism. Turbidity of the fluid with abnormal chemical reactions, and the presence of pus with pneumococci in the smear preparations and in cultures were constant findings. In three of the four cases in which the records were available, culture from the blood of these patients yielded the pneumococcus even before the meningeal symptoms became sufficiently severe to indicate lumbar puncture. This study tends to show that the occurrence of a true meningitis during pneumonia can be determined almost instantly at the bedside by means of a lumbar puncture; the presence of a turbidity means an infected fluid; a clear fluid denotes only meningismus.

Clear fluids were obtained in fifteen cases of typhoid fever, in three cases of Brill's disease, in three of tetanus and in seventeen cases of nephritis and uremia. In the nephritic group, there was always an increase in the quantity of the fluid, and in four there was a failure of Fehling's reduction. Otherwise the fluids evidenced no abnormalities. In typhoid fever it was noted that from none of the fluids was there cultured the typhoid bacillus, nor in any could be demonstrated the presence of typhoid agglutinins by the Widal method. The amounts of fluid obtained in the entire group ranged from 6 to 65 c.c.

In serous meningitis, poliomyelitis, poliencephalitis and traumatism of the brain and skull, the latter including two bullet wounds, five concussions and four fractures of the skull, the common finding was an increase in the intraspinal pressure as evidenced by the large amounts of fluid obtained on puncture. The poliomyelitis and poliencephalitis cases, twelve in all, showed differences from the normal only in relation to the duration of the disease; the early cases (early from the point of view of date of hospital admission, that is, about one week after the onset of the disease) gave a marked lymphocytosis; the late cases gave a normal cytology. There were five such early cases, and all gave positive globulin reactions with a turbid appearance of each fluid. The three cases of serous meningitis gave negative findings. The ten traumatic cases varied. One was bloody and two were turbid, the latter yielding on cultures the *Streptococcus pyogenes*. No other abnormalities were noted.

Four syphilitic fluids were examined. In all the intraspinal content was greater than normal, the albumin ring was increased and the globulin test was positive. The cytology consisted of numerous lymphocytes and some degenerated endothelial cells. The complement-fixation test for syphilis was made in three cases, and these were positive. In two the same test was found to be positive in the blood, and in one, negative. This result is in accordance with the prevailing opinion that in cerebrospinal syphilis, although the blood may not contain to any appreciable extent syphilitic complement-fixation substances, lumbar puncture and an examination of the cerebrospinal fluid may be necessary to substantiate a diagnosis of general paresis, tabes or cerebrospinal syphilis.

Examination of the turbid fluids was less complicated than that of the clear specimens, because bacteriologically the findings were usually quite definite and the chemical tests were always abnormal.

Under this head there are seventeen cases of epidemic cerebrospinal meningitis. In this group, careful study showed that these fluids differed in no way from other infections with pyogenic organisms except that the exciting factor was the meningococcus. After repeated use of Flexner's serum it was noted that the number of bacteria diminished; most of them became intracellular, swollen, showed signs of degeneration, grew poorly on culture mediums, and in favorable cases finally disappeared. The pus cytology gradually gave way to a lymphocytosis, and that was finally replaced by a normal cell content.

In twenty-four cases of ear and nose diseases and local brain lesions lumbar puncture revealed an interesting set of conditions. There were found infections of the cerebrospinal system in eleven cases due to the *Streptococcus pyogenes*, in one to the *Staphylococcus pyogenes aureus*, in one to the *Diplococcus pneumoniae*, and in one to the *Bacillus mucosus capsulatus*. These infections followed mastoiditis, ethmoid and frontal sinus operations (performed in dispensaries) and subdural abscess. All these fluids showed the general characteristics of the infected type already described. In ten cases the findings were normal.

Included in the turbid fluids are twenty-two bloody specimens; these naturally were useless for diagnostic aid. In this connection we might sound a note of caution. In order to obtain reliable and definite information from the examination of a cerebrospinal fluid, it is of utmost importance that the specimen be free from blood, for the reason that the slightest amount of blood in the fluid submitted for examination interferes with the chemical and cytologic studies. We have observed that although the production of even a considerable hemorrhage into the spinal canal does not apparently inconvenience the patient, the blood may remain there for a comparatively long period of time, and in lumbar punctures done even a week or two later may betray its presence on test. That the presence of blood-serum from blood contamination may interfere with the cultural studies is also to be borne in mind.

The remaining eighty-three fluids are from patients suffering with a variety of general conditions; in these the puncture was done either for aid to diagnosis or for the relief of meningeal symptoms. This group, however, contains a number of fluids which though otherwise normal, showed a large lymphocyte content. The number of these cases was about thirty. We refer to the cases of intestinal auto-intoxication characterized by meningeal symptoms, and resembling tuberculous meningitis. A few of these fluids gave a positive globulin reaction, but persistent search in all failed to reveal the presence of tubercle bacilli. Three of these fluids were injected into guinea-pigs with negative results. On many of these patients repeated lumbar punctures were done (in one case seven times), and the fluids were examined again and again without finding the tubercle bacillus. Every one of these patients recovered. This class demonstrates that there are types of cases simulating tuberculous meningitis, in the spinal fluids of which tubercle bacilli cannot be found, and in which to further prove that they are not tuberculous meningitis recovery takes place.

Note is here made of the fact that from none of the fluids could the influenza bacillus be recovered, though in suspected cases the greatest care and the most favorable mediums were employed.

This leaves us with fifty-six fluids which cannot as yet be classified on account of insufficient data, and concludes the observations on the study of 426 fluids obtained from 317 cases.

Briefly, the following practical facts can be formulated from this study:

Turbidity of the fluid, when not due to the presence of blood, means an acute infection of the cerebrospinal system, and bacteriologic examination reveals the causative organism. Rarely, chronic inflammation or tuberculous meningitis gives a turbid fluid.

A clear fluid with the failure to reduce Fehling's solution, a positive globulin reaction and abundant lymphocytosis usually means tuberculosis, especially if in addition there is formation of a fibrinous flocculus on standing.

Cases of intestinal auto-intoxication with meningeal symptoms may yield fluids chemically and cytologically resembling tuberculous ones.

Search for the tubercle bacillus in suspected fluids must be persistent and exhaustive.

In typhoid fever, Brill's disease, pneumonia and occasionally in infections of other etiology in which the meningeal symptoms are a conspicuous part of the clinical picture, examination of the spinal fluid will not show the existence of infection of the cerebrospinal tract, the symptoms being due to what is termed meningismus. The latter is probably an irritative condition only.

In pneumonia, when infection does occur, the findings differ in no way from those of other pyogenic fluids, except that the causative organism is the pneumococcus.

In poliomyelitis, poliencephalitis, serous meningitis and in tetanus, an examination of the cerebrospinal fluid possesses a negative value in that the fluid does not point to any specific infection.

In cerebrospinal syphilis one may obtain a positive complement-fixation test when the blood-serum gives a negative reaction.

Diseases of, and operations on the ear and nose are responsible for a large percentage of infections of the cerebrospinal tract.

The presence of blood renders valueless the chemical and cytologic study of the fluid, and may interfere with the bacteriologic examination.

We have yet to meet a case which will result in what is commonly termed dry tap.

Lumbar puncture in the experiences recorded is a harmless procedure and an invaluable aid to diagnosis and treatment in general medicine.

We wish to express our appreciation and deep sense of obligation to the visiting and intern staff of the hospital for their hearty cooperation in facilitating this study.

350 New York Avenue—191 Hart Street.

A NEW PREPARALYTIC SYMPTOM OF POLIOMYELITIS

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"Infantile paralysis" has been a common disease for years, yet without paralysis no diagnosis has been positive. The early clinical picture is that of infection or meningitis; when properly coordinated it is only suggestive of poliomyelitis, and even with lumbar puncture there is still some degree of doubt. During the recent epidemic in Los Angeles I made a few hundred observations of a symptom in sixteen cases which seemed absolutely characteristic of the preparalytic stage. The symptom has been of great value to me, and inasmuch as it is not mentioned in any text-book or the recent literature I am submitting it to the readers of The Journal for their criticism.

NEW SYMPTOM

The symptom referred to is a peculiar twitching, tremulous or convulsive movement of certain groups of muscles lasting from a few seconds to less than a minute. The amplitude of vibration is greater than a tremor, not so constant and long as a convulsion, and more regular than mere twitching, yet it has some elements of all of these. It usually affects a part or whole of one or more limbs, the face or jaw, but it may sometimes affect the whole body. The symptom may easily be overlooked in the beginning as it usually lasts less than a second and unless the patient is disturbed does not recur oftener than every hour or so. Later the duration of the spells lengthens to a few seconds, recurring also at shorter intervals. This condition is often accompanied by a peculiar cry similar to the hydrocephalic. At times there is a slight convulsive movement, just like a chill, as mothers say, during which time the child is apparently unconscious with eyes set for a few seconds, and then he apparently becomes perfectly normal again. This brief unconsciousness during which the child's eyes are set may occur without noticeable convulsive movements. It acts thus something like a petit mal. I have observed it as a twitching of the lips with tongue running in and out and a working of jaw, preceding bulbar cases.

RESEMBLANCE TO STRYCHNIN POISONING

The phenomenon resembles those found in light cases of strychnin poisoning except that the tetanic contractions are not general and do not last for a long time. They usually involve a set of muscles with one or more of the counter muscles not affected. There is also a similar hypersensitiveness of the skin. The least stimulation of the skin is followed by slight convulsive movements with rigidity of the arms, fingers separated and wrist flexed. When the patient turns in bed, through either an external stimulus or an effort to coordinate, the movements are quick and jerky, accompanied usually with slight convulsive movements of the limbs. The least noise produces in certain cases short series of convulsive movements similar to those in strychnin poisoning, only not so general.

RESEMBLANCE TO INFECTION NEUROSES

This symptom seems to be similar to the infection neuroses described by neurologists, of which tetany and chorea are good examples. It is not unreasonable to suppose that the presence of the virus of poliomyelitis may bring about effects similar to those of chorea and tetany. A local chemical or other irritation of the nervous centers is produced with subsequent fatigue and later recuperation resulting in the peculiar motor phenomenon which I have described as a preparalytic symptom.

THEORY OF NEW SYMPTOM

Having once observed this phenomenon which, until I began to look it up, I took to be a common symptom, I at once set out to find an explanation. According to the best authorities (Flexner, Lewis, Draper, Peabody and others), during this early stage the spinal fluid contains great quantities of the virus which disappear more or less as soon as paralysis sets in. With this there is an increase in spinal pressure which throws the ganglia and cells into a highly excited state. Some areas are attacked more than others and we have a series of explosive contractions followed by rest similar to the artificial chemical excitation with fatigue manifested in a muscle-nerve preparation.

I have thus endeavored to explain the cause of the tremulous twitching, convulsive petit mal phenomena. Can we explain their peculiar local distribution? And can we explain the lack of coordination and the escape of one or more counter muscles? It will be remembered that the virus attacks not only the nerve tissue but also the vascular system. According to Peabody, Draper and Dochez there is a cellular exudate surrounding the vessels and pressing on the lumen. Edema with or without hemorrhages, large and small, into the cord is not uncommon. The blood-supply in the cord is horizontal while the nerve-supply to a group of muscles is not all derived from the same segment. The cord may be affected in some segments while not in others. This would account for the peculiar distribution and lack of coordination. The result of this condition is always noticeable in convalescence, when children have had to learn to walk and to feed themselves again, and others must learn again to talk.

The only reference found to this symptom in literature is made by Wickman, Zappert and Wilbur. Wickman observed one phase of it and but once in his many cases, while both Zappert and Wilbur observed only the muscular twitching in limbs. No one so far as I can learn has described the symptom I have just discussed. I have not worked out to my satisfaction the relation of the local symptom to the paralysis.

SOME FEATURES OF THE THEORY AND PRACTICE OF MEDICINE DURING THE SEVENTEENTH CENTURY

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(Continued from page 714)

THE PRACTICE OF MEDICINE

So much for the state of science and the theory of medicine in the early part of the seventeenth century. In regard to the practice of medicine at that period we must depend partly on indirect and collateral, rather than on direct and immediate, testimony. We must step a little aside and view it through other lenses. And the seventeenth-century literature gives us a large and harmonious idea of the usual and current conduct of medicine, for in addition to its scientific development, it produced some of the greatest names in the literature of the world, Shakespeare and Burton, Sarpi and Bacon, Sir Thomas Browne and Milton, Corneille and Racine, Molière and Cervantes. Still as one must go to Aristophanes for a picture of Athenian morals and customs during his period, so it is in Molière and Lesage that one finds the truest pictures of contemporary physicians and of the relations that they sustained to the people, during the period under investigation.

We must confess that at this time the general attitude toward the profession was one of hostility, and deservedly so. Medicine had not at all kept up with the progress of humanity and civilization. No one had arisen to revive the method or to dispute the authority of Hippocrates. The younger Scaliger, who died in 1609 and who was a friend of Montaigne and a pupil of George Buchanan, had discredited Galen, whom he styled *fimbriae Hippocratis,* the fringe of Hippocrates, but Hippocrates was still the ultimate authority in medicine. His hypotheses still ruled, though they were stamped with the name of Galen, and his precepts stil prevailed. But shrewd as was his insight and wise as were his precepts, they had held the stage too long. Their spirit was long since gone and nothing but the letter remained. Authority is as fatal to medicine as it is to religion, and medicine at least was still held in subjection to a great name. Molière found in the physicians of his time a delightful field for the exercise of his humor. Indeed, it is said that in the group of physicians who held the curious consultation in "L'Amour Médecin," the features of the four principal court-physicians are plainly to be discerned. M. Guy Patin in his "Letters" says that Molière "did not even exaggerate the customs of the physicians of his time." To be sure, it might reasonably be objected to this testimony that while M. Patin is willing to vouch for Molière, no one seems to come forward to do the same for him. Still, the portraits of Molière are inherently probable or M. Patin's evidence alone would be of little value.

"But," said the king one day to the dramatist, "you have a physician yourself, M. Molière. What does he do for you?"

"Sire," replied Molière, "he comes to see me and we talk together. He gives me advice, I neglect to follow it and I get well."

To demonstrate how fully the practice of medicine was drawing its nourishment during the seventeenth century from the inspiration of Hippocrates twenty centuries earlier, I shall translate a few passages from Molière. In "M. de Pourceaugnac" the apothecary extols the rigid observance of the rules of medicine as exemplified by his friend, the physician of the play. He says:

> *Apoth.*—It is not because we are such good friends that I say so, but it is a pleasure, a genuine pleasure, to be his patient, and I would rather die under his care than get well under that of another. For whatever may happen, you may be sure that everything is in proper order, and when you die under his care your heirs cannot reproach you.
>
> *Eraste.*—That must be a great comfort to a patient.
>
> *Apoth.*—It certainly is. One is sure of dying methodically. Moreover, he is not one of those physicians who prolong diseases. He acts quickly and loves to dismiss his patients.

In the next scene of the same play the physician, whose praises you have just heard sung, is summoned by a country lad to call on his father who is ill.

> *Countryman.*—Sir, his strength is almost gone, and he says that he suffers the greatest pain in the world in his head.
>
> *Doctor.*—The patient is a fool. In the disease that he has it is not in the head but according to Galen in the spleen that he should have pain.
>
> *Countryman.*—That may be, sir; but, moreover, he has had a diarrhea for six months.
>
> *Doctor.*—Good! That is a sign that he is loosening up inside. I will go and see him in two or three days, but if he dies before then, do not fail to let me know. It is in no way seemly for a physician to visit a dead man.
>
> *Country girl* (running up).—My father, sir, is getting worse and worse.
>
> *Doctor.*—That is not my fault. I am giving him medicines. Why doesn't he get well? How many times has he been bled?

Country girl.—Fifteen times, sir, within twenty days.

Doctor.—Fifteen times?

Country girl.—Yes, sir.

Doctor.—And he is not yet well?

Country girl.—No, sir!

Doctor.—That proves that the disease is not in the blood. We will then purge him an equal number of times to find out whether it may be in the humors, and if that does not help, we will send him to the baths.

In "L'Amour Médecin," Lucinde loses her appetite, through disappointed affection, and her father, Sganarelle, calls in four physicians, MM. Desfonandès, Tomès, Macroton and Bahis, under which names are thinly disguised MM. Desfougeras, Esprit, Guenaut and Dacquin. The maid Lisette recognizes M. Tomès and says in surprise:

Lisette.—Ah, sir, are you here!

Sganarelle.—You know the doctor, then?

Lisette.—I saw him the other day at the house of the friend of your niece.

Tomès.—And how is her coachman getting on?

Lisette.—Fine. He is dead.

Tomès.—Dead!

Lisette.—Yes.

Tomès.—That is not possible.

Lisette.—It may not be possible, but it is true.

Tomès.—He cannot be dead, I tell you.

Lisette.—And I tell you that he is dead and buried.

Tomès.—You are mistaken.

Lisette.—I saw him.

Tomès.—It is impossible. Hippocrates says that such diseases end only on the fourteenth or the twenty-first day, and it is but six days since he fell ill.

Lisette.—Hippocrates may say what he pleases, but the coachman is dead.

The four physicians then hold their consultation over the indisposition of Lucinde.

(They sit down and cough.)

Desfonandès.—Paris is an enormous city, and one must travel long distances for a little money.

Tomès.—I must confess that I have an excellent mule for the road, and one would hardly believe the distance that I ride him every day.

Desfonandès.—And I have a wonderful horse. He is an animal that never tires.

Tomès.—Do you know the distance that my mule has made to-day? I went first down in front of the Arsenal, from the Arsenal to the end of the Faubourg St. Germain, from there to the bottom of the Marais, then to the Porte St. Honoré, then to the Faubourg St. Jacques, afterward to the Porte Richelieu and from the Porte Richelieu here. And from here I must go to the Place Royale.

Desfonandès.—My horse has gone as far as that to-day besides a journey to Rueil to see a patient.

Tomès.—By the way, what part do you take in the dispute between the two physicians Théophraste and Artémius? That is a quarrel that is dividing the whole profession.

Desfonandès.—I am on Artémius' side.

Tomès.—So am I. Not but that his advice, as was manifest, killed the patient, nor but that the advice of Théophraste was much better; still, he was wrong under the circumstances, for he ought not to have had a different opinion from the elder physician. What do you say?

Desfonandès.—Certainly. One must always observe the necessary formalities, whatever may happen.

Tomès.—For my part, I am rigid and inflexible unless it be among my friends. One day three of us were called in consultation with an outside physician, when I blocked the whole affair and would not suffer an opinion to be expressed unless the order was observed. The case was urgent, but I refused to give way, and the patient died during the dispute.

Desfonandès.—You gave them a good lesson and showed them their folly.

Tomès.—A man dead is only a dead man, and is of no consequence, but a rule neglected brings disrepute on the whole profession.

Sganarelle (rushing in).—Gentlemen, my daughter is getting worse. I beseech you, tell me what you have decided on.

Tomès (to Desfonandès).—It is for you to speak.

Desfonandès.—No, sir. Speak first, if you please.

Tomès.—You are too polite.

Desfonandès.—I will not be the first to speak.

Tomès.—My dear sir!

Desfonandès.—My dear sir!

Sganarelle.—For God's sake, gentlemen, lay ceremony aside. The case is urgent.

Tomès.—Sir, we have with mature reflection, considered the illness of your daughter. My personal opinion is that it proceeds from an undue heat of the blood, and my advice is that she be bled as soon as possible.

Desfonandès.—I on the contrary declare that her illness is due to a decomposition of humors caused by overeating, and my advice is to give her an emetic.

Tomès.—I contend that an emetic will kill her.

Desfonandès.—I am sure that bleeding will put an end to her life.

Tomès.—And this is an example of your ability!

Desfonandès.—It is. I am your superior in every department of learning.

Tomès.—Do you remember the man you killed the other day?

Desfonandès.—Do you recollect the woman you sent to the other world last Tuesday?

Tomès (to Sganarelle).—I have told you my opinion.

Desfonandès (to Sganarelle).—I have given you my advice.

Tomès.—If your daughter be not bled, she will die. (Exit.)

Desfonandès.—If you bleed her, she will not live fifteen minutes. (Exit.)

Here's a how-de-do! Here's a state of things! Of course this is a comedy, and the daughter was in no danger of death. But it was no comedy to the consulting physicians. Earnest enough in all conscience they were, and sincere enough, too, doubtless, in their opinions. But it was a time when medicine was a reminiscence merely; a dull, blind servility to rule and creed, which had once been alive and generous and beneficent; which was again to become alive and generous and beneficent, but was for the time being the thing that Molière depicted. When in the same play M. Macroton gives his opinion of the daughter's case he adds, with a solemn drawl:

Macroton.—Not that your daughter may not die withal, but at least you will have done something, and you will have the consolation of knowing that she dies according to the rules.

To which M. Bahis hastens to add:

Bahis.—It is better to die according to the rules than to escape death by violating them.

Could pedantry go further? Practical pedantry perhaps could not. Speculative pedantry seems to have no limit, but it reaches its ultimate expression, its highest articulate utterance, in the character of the young physician, Dr. Thomas Diafoirus, in "Le Malade Imaginaire."

Young Dr. Diafoirus is a suitor for the hand of Angélique, the daughter of Argan. The elder Diafoirus, also a physician, brings his son to the house of Argan for the formal betrothal. After the first ceremonious greetings Diafoirus *père* says to his son:

Diafoirus.—Come forward Thomas. Make your compliments.

Thomas.—Is it proper to commence with the father?

Diafoirus.—Yes.

Thomas.—Monsieur, I am come that I may salute, recognize, cherish and revere in you a second father, but a second father to whom I venture to declare myself more grateful than to the first. He indeed begot me, but you have chosen me; he received me by necessity, but you have accepted me by your favor. What I have of him is a work of the body, but what I have of you is a work of your will; and as the faculties of the spirit are above those of the body, so much the more am I indebted to you—so much the more do I prize that prospective relationship in which I come to-day to render you, in anticipation, my very humble and very respectful duty.

When the young lady is called forward to greet her fiancé, he mistakes her for her mother and begins:

Thomas.—Madame, it is with justice that heaven has granted you the name of belle-mère, since—

Argan.—That is not my wife, but my daughter to whom you are speaking.

Thomas.—Where is she?

Argan.—She will come in soon.

Thomas.—Father, shall I wait until she comes?

Diafoirus.—Make first your compliment to the young lady.

Thomas.—Mademoiselle, as the statue of Memnon breathes forth a harmonious sound when it is illuminated by the first rays of the rising sun, so, precisely, do I feel myself animated by a sweet rapture at the appearance of the sun of your beauty; and as the naturalists inform us that the flower called heliotrope turns without ceasing toward that star of day, so my heart will henceforth turn without ceasing toward those splendid stars, your adorable eyes, as to its single pole. Suffer me then, mademoiselle, to place to-day on the altar of your charms, the offering of my heart, which neither desires nor solicits any other glory than to be, mademoiselle, for my whole life your very humble, very obedient and very faithful servant and husband.

In his character as a physician Thomas sustains his promise as a man. His father bestows on him the well-deserved praise "of binding himself blindly to the opinions of the ancients, and of never desiring to comprehend or even to hear the arguments about the pretended discoveries of the century, respecting the circulation of the blood and other opinions of the same paste."

Thomas, that he may be seen to merit his father's eulogy, at once draws a wad of paper from his pocket and offers it to Angélique saying:

I have here a thesis in which I take issue against the "circulators," and, with due permission, I will venture to present it to mademoiselle as the first fruits of my mind. Moreover, also with due permission, I will invite you for your amusement to come, one of these days, to witness the dissection of a subject on which I am to lecture.

Among all these fopperies and affectations of learning, it is refreshing to hear the clear voice of common sense in the utterances of Béralde, the brother of the patient, Argan. Béralde says:

When a physician talks to you of rectifying the blood, of tempering the bowels, and the brain, of unloading the spleen, of readjusting the chest, of repairing the liver, of fortifying the heart, of reestablishing and conserving the natural heat, and of possessing the secret of prolonging life beyond the limits of old age, he is singing you the romance of medicine. But when you come to the test, you will find nothing of all that. These are merely fine dreams, which, when you wake, leave in your mind nothing but disgust at having believed them.

Molière's arraignment of medicine was severe but probably just. Gil Blas, you will remember, learned in a few words all of the art of healing that Dr. Sangrado thought it essential for him to know. Sangrado said:[*]

Other physicians are of the opinion that the healing art is learned by the painful study of a thousand sciences as useless as they are difficult. My intention is to shorten this long road and to save you the trouble of studying physics, pharmacy, botany and anatomy. Know, then, that to cure all kinds of diseases nothing is necessary but to bleed your patients and to make them drink hot water. This is the great secret for curing all the illnesses on the earth. This marvelous secret, which I impart to you and which Nature has not been able to conceal from my profound observations, while she has remained impenetrable to my companions and colleagues, consists simply of two things, bleeding and hot water, both in abundance. I have nothing more to teach you. You now know the whole of medicine from root to branch, and if you follow my precepts, you will be as great a physician as I am.

Needless to say, so easy a road offered no temptation to stray, and Gil Blas followed it faithfully. His results he did not hesitate to record. He called his visiting list his "mortuary register" or "book of the dead." Rarely did he make a third visit to any patient. What with letting blood and filling them to the throat with copious drenches of hot water, he usually found on going to the house a second time that his patient was being dressed for interment. He made more widows and orphans than the siege of Troy. One day he addressed Dr. Sangrado:

"Sir," said he, "I call heaven and earth to witness that I follow your method scrupulously, but for all that, my patients go to the other world. They seem to insist on dying if only to discredit our remedies. To-day I came across two more setting out to be buried."

"My son," Sangrado replied, "about the same thing happens to me. Seldom do I have the satisfaction of having a patient recover after falling into my hands, and if I were not so sure of the principles that I follow, I should believe that my system is utterly wrong."

"If you will believe me," suggested Gil Blas, "perhaps it would be well to change our method. Let us try, if only out of curiosity, some chemical preparations, antimony for example. The worst that could happen could be no worse than we have proved with our blood-lettings and hot water."

"I would be glad to do so," replied Sangrado, "but for one thing. I have just published a book in which I laud to the skies the frequent use of bleeding and hot water. Shall I discredit my own work? Shall I afford this triumph to my enemies?"

Dr. Sangrado is a recognized example of many physicians of the seventeenth century. He represents those of a lower, as the physicians of Molière represent those of a higher, intellectual type during the period that produced them. The more one rises from the Sangrado type the more complicated becomes the system of practice and that of theory alike.

Ambrose Paré in his "Opera Omnia" records a favorite fomentation that he used containing sage, rosemary, thyme, lavender, chamomile, melilot and red roses, boiled in white wine. He says:

When I was in Turin, I found a surgeon famed above all the rest for his treatment of gunshot wounds, into whose favor I found a way to insinuate myself, that I might have the recipe of his balm, as he called it, wherewith he dressed these wounds. And he made me pay my court to him for two years before I could possibly get the recipe out of him. In the end, thanks to my gifts and presents, he gave it to me, which was this, to boil down, in oil of lilies, young puppies newly born and earth worms prepared with Venice turpentine. Then I was joyful and my heart made glad, that I had learned his remedy.

Montaigne, a contemporary of Paré, who also lived nearly into the seventeenth century, says in his essay on "The Resemblance of Children to Their Fathers":

I was the other day in company, where one of my fraternity [that is, one of those who like him were afflicted with stone] told us of a new sort of pills made up of a hundred and odd ingredients. It made us very merry and was a singular consolation, for what rock could withstand so great a battery? And yet I hear, by those who made trial of it, that the least atom of gravel will not stir for it.

The record and report of cases, as Bacon notes, were almost entirely neglected by the physicians of the time. Hospital reports were not yet, so far as I can discover, issued. In 1657, however, appeared a book by Dr. John Hall entitled "Select Observations on English Bodies, or Cures Empirical and Historical Performed on Very Eminent Persons in Desperate Disorders," from which much valuable information may be obtained as to the treatment of disease in the period we are considering. It is necessary to note that the rather pretentious title of the work was not chosen by Dr. Hall himself, who had been dead twenty-two years before the record of his cases was published by Dr. James Cook. Dr. Hall was the son-in-law of William Shakespeare, and was considered a very skilful and learned physician. The registration of his burial indicates this. The entry is simply in these words: "1635, Nov. 26. Johannes Hall, Medicus peritissimus."

This book is a record of his cases. One I shall reproduce, since it has the additional interest of recording an illness of his wife, Susanna, Shakespeare's daughter.

> Observation XXXIII.—My wife was troubled with the Scurvy, accompanied with pain of the Loins, Corruption of the Gums, Stinking Breath, Melancholy, Wind, Cardiac Passion, Laziness, difficulty of Breathing, fear of the Mother (i. e. of hysteria), binding of the Belly and torment there, and all of a long continuance, with restlessness and weakness. There was given this bolus: ℞ Electuary of Tamarinds ℥ ss; Cream of Tartar ʒ i. To the Back was applied,
>
> Emplastrum Oxyeroceum, which freed her from pains of the Loins and Belly, Feby 9, 1630. The tenth day, taking cold, she had again miserable pain in her joints so that she could not lye in her Bed, insomuch as when any helped her, she cried out miserably; for which I used this Ointment:
>
> ℞ Capon's Grease, oil of Sweet Almonds, of Dill and Roses, Mucilage of the Roots of Althea, drawn with Mallow Water each ℥ i. Mix them. After anointing, the foresaid Plaster was applied with good success, for she was quieter all night; but yet in the morning she was troubled with wind. Then I gave her of Sennurtus's Electuary, which is thus framed: ℞ The Conserve of the tops and leaves of Scurvy Grass ℥ iii; the flowers of Bugloss, Clove, Gilly-flowers and, Damask Roses, each ℥ ss. The flesh of Candied Nutmegs, Citron Pills, candied and cut, each ℥ i; Honey of Juniper Berries ʒ iii; Confectio Alkermes ʒ ss; Syrup of Cinnamon, Syrup of Scurvy Grass or that of Forestus, sufficient to make an electuary, to which was added Oil of Sulphur, sufficient to sharpen it. For the constipation of the Belly was used this suppository: ℞ Honey ℥ i; Spec. Hiera Picra ℈ ii (this was aloes and canella); Troch. Alhand ℈ ss; Cummin Seed ℥ ss. Make a long suppository. For the cardiac passion was used Elect. Pleresarchon. Dose ℥ ss fasting. Yea, at any hour it was used, drinking the following stilled wine after it. ℞ Fumatory, Brookline, Water-cresses, Scurvy Grass, Betony, Agrimony, Harts-tongue, each M ss (i. e. one-half manipulus or handful); Bark of Capparis Ash, Tamaris each ʒ ss; Roots of Elecampane, Polipody, each ʒ iii; Madder Liquoris, Calamus Aromaticus, Eringoes each ℥ ss; Yellow Sanders, Red Coral, Shavings of Ivory, each ʒ vi; Cloves, Mace, Cinnamon, Ginger each ʒ iii; Ceterach, Flowers of Broom, Rosemary, Marigolds, Epithyme each P. i (p = pugillus, an eighth part of a maniplus or handful); Juniper Berries ℥ i; Steel prepared according to Crato ℥ iv; White Wine lb. viii, etc. [Then followed minute directions about boiling and stirring and straining.] Dose is two to three spoonfuls in the beginning, which may be increased if there be need. And by these she was cured.

To-day the treatment would be lime-juice and spinach with a mouth wash of potassium chlorate.

The orvietanum, theriaca, or venice treacle contained sixty-one different ingredients, some of which were mutually antagonistic and many therapeutically incompatible.

Those were halcyon days for the apothecaries. Dr. Gideon Harvey, physician-in-ordinary to his majesty Charles II, wrote in 1676, in "The Family Physician and the House Apothecary," some comments on their profits from drugs:

> I have oft seen bills of apothecaries risen to 20 pounds and sometimes 30 pounds in the time of a fortnight; I have known an apothecary's bill so extravagant that the sum at the bottom of his account amounted to 50 pounds in the space of thirty days. Not long since an apothecary of our suburbs brought in bills to nine patients for less than three-quarters of a year's physick, amounting to fifteen hundred pounds.

This is a sum almost equivalent in purchasing power to $25,000 to-day, and would amount to about $1,000 a month per patient. George Butler charged in his bill (in 1633) $7.50 apiece for some pills that he put up for Mrs. Style who had a sore leg. She took three and died during the night. Goodall gives many similar instances in "The Physicians of London," 1684. A Dr. Tenant took the precaution of dispensing his own medicine—a degrading thing for a physician in the seventeenth century to do—and in his bill "he charged for one pill at six pounds, and an apozeme (decoction) at the same price."

RIVAL CLAIMANTS TO HARVEY'S DISCOVERY

It is well known that others before Harvey had worked in the same field and had had stray gleams of the truth without attaining to a full comprehension of it. This list does not, speaking strictly, include the name of Vesalius, and yet the spirit that Vesalius invoked was of far-reaching importance. It extended beyond the realm of anatomy and laid hold of the true scientific method. It consisted in the recognition of the fact that science must be free, must disclaim tradition, and throw off the chains of authority. Before Vesalius came, the students in anatomy studied not the human body but Galen, as the students in theology studied not the Bible but St. Thomas Aquinas. Martin Luther was still living when Vesalius' great work on "The Structure of the Human Body" appeared in 1543. It is not likely that he ever saw a copy of it, and he would probably have had little interest in it if he had seen it; and yet what Luther had accomplished in freeing the individual conscience from the shackles of tradition, Vesalius almost emulated in freeing science from the authority at once of Galen and of the church. To him all science owes a debt of profound gratitude, for as Luther was the father of Vesalius, so Vesalius was the father of Harvey.

Before Vesalius, then, the teaching of anatomy consisted in the discovery of new meanings and new interpretations of Galen, and rarely in actual dissections. Vesalius brought to anatomy the practice of careful observation, and established the method on which physical science has since his time advanced in its uninterrupted course—the method of dissection as opposed to interpretation, of observations as opposed to authority. He raised aloft the book of Nature in place of the book of Galen, and opened up a new path in scientific work. "On the publication of the Fabrica, the pall of authority was once and forever removed. His results were impugned and indeed corrected by his followers and rivals, but they were impugned and corrected by the method that he had introduced. The authority of Galen ceased to be invoked as the ultimate test of fact." The era of experimental science, thus inaugurated in 1543, followed the principle of induction which is now known to have guided the reasoning of men from primitive time. That principle Bacon merely formulated and systematized. That too was a great service, as it then became a conscious and understood process of reasoning, a weapon of thought and the key to modern science. It is true, as I have remarked, that before Vesalius, medicine had been a branch of philosophy and that afterward it became one of the physical sciences; but it is also true that with him the method of physical science had its origin.

To realize the importance of Harvey's theory, which opened up the channel to physiology and modern medicine, sweeping away the barrier that obstructed at its source the stream of medical science, we must for a moment examine the belief thus effectually destroyed. Foster[6] summarizes this as follows:

> The parts of the food absorbed from the alimentary canal are carried by the portal vein to the liver and are there converted into blood; here also the blood becomes endued with the natural spirits. From the liver it passes by the vena cava to the right ventricle, whence some of it passes through innumerable pores, like a sieve and invisible after death, to the left ventricle. As the heart expands it draws from the lungs, through the pulmonary vein, air into the left ventricle. This air, with the blood which has percolated into the left ventricle from the right, becoming subjected to the action of the innate heat of the heart, which is the source of animal heat, is elaborated into the "vital spirits" which flow from the left ventricle through the arteries to all parts of the body, flowing and ebbing through the same vessels, and having no connection with the blood in the veins save through the pores between the ventricles. Similarly the blood in the veins, bearing the "natural spirits," flows and ebbs from and to the right ventricle, passing into the lungs through the pulmonary artery and to all the parts of the body. The vital spirits produced in the left ventricle from the air and the few drops that enter from the right ventricle, are of a higher and more elaborate development than the "natural spirits" with which the venous blood is endued. There is still a third elaboration, of "vital spirits" into "animal spirits" in the brain, which, without any admixture of blood, are carried in a similar ebb and flow along the nerves, which were thought to be hollow during life and to close at death.

Such, briefly, was the philosophic conception of the circulation that with various glosses (among which may be mentioned a dispute as to the time of the ebb and flow, many physicians believing that the blood flowed all day and ebbed at night) and interpretations, held the scientific mind in bondage for many centuries. To this ebb and flow the term circulation could in no strict sense be applied. It was not a circulation but rather a passing of the blood to and fro. It seemed necessary to describe in detail, however briefly, this long-prevalent belief, since on an indistinct comprehension of it has arisen some uncertainty as to Harvey's right to the title of discovery of the circulation. On the words of Brutus to Portia,

> You are my true and honorable wife,
> As dear to me as are the ruddy drops
> That visit my sad heart,

the claim was founded that Shakespeare had divined the truth before Harvey. This claim was made by Thomas Nimmo, and was published in the second volume of the "Shakespeare Society's Papers." It is of course worthy of no consideration whatever.

The history of science presents no more interesting picture than the manner in which the way was smoothed to Harvey's discovery. Robert Boyle, a friend of Harvey and an eminent scientist himself, since he discovered the law of elasticity of the air, narrated the circumstances that led up to Harvey's discovery. He says:

> I remember that when I asked our famous Harvey, in the discourse which I had with him a little while before he died, what were the things that induced him to think of a circulation of the blood, he answered me that when he took notice that the valves in the veins of so many parts of the body were so placed that they gave free passage to the blood toward the heart, but opposed the passage of the venal blood the contrary way, he was invited to think that so provident a cause as Nature had not placed so many valves without design; and no design seemed more probable than that, because the blood could not well, because of the intervening valves, be sent by the veins to the limbs, it should be sent by the arteries and return through the veins, whose valves did not oppose its course at all.

The first step, however, was taken by Vesalius, and touched on the invisible pores that led a portion of the blood directly from the right ventricle to the left. In describing the heart he says:

> The septum of the ventricles, the thickest substance of the heart, abounds with little pits impressed on it on both sides. None of these can be perceived to penetrate the septum, however, and we are compelled to wonder at the handiwork of God, if it be true that the blood sweats from one ventricle to the other through passages which cannot be detected by the eye.

Vesalius thus dared to doubt the prevalent belief. The next step was taken by Servetus who notes that:

> There is no passage through the septum of the heart, but the blood is driven by a long passage through the lungs. It is in this passage rendered light-colored and from the pulmonary artery is poured into the pulmonary vein. Here it is mixed with the inspired air and by expiration is cleansed from its fumes. And so at length it is drawn in, a complete mixture, by the left ventricle through the diastole, stuff fit to become the "vital spirits."

The size of the pulmonary artery convinced him that it served some other purpose than the mere nutrition of the lungs, and the passage given shows that he had grasped something of the truth as to the pulmonary circulation. But the full significance even of the pulmonary circulation was not seen by Servetus. He merely intended to correct the opinion of Galen, and considered that only that portion of the blood which Galen had believed entered the left ventricle from the right by a process of transudation was what the pulmonary artery transmitted to the left ventricle through the pulmonary vein, while the rest of the blood fetched its round through the venous system every twenty-four hours. This was a step forward; but it was by no means the final recognition of the truth, even as to the pulmonary circulation.

The fate of Servetus was a sad one. The passage just quoted is from his "Christianismi Restitutio" a work on popular theology. He had written an earlier book on "The Errors in the Doctrine of the Trinity," for writing which he barely escaped the clutches of the Inquisition; while for this, his second work, he was seized and prosecuted by Calvin and burnt at the stake in 1553. He died at the age of 42 the Giordano Bruno of Calvinism.

Colombo, who was the professor of anatomy in Rome when he died in 1559, left in manuscript a book which appeared after his death, in which he appropriates the work of both Vesalius and Servetus without any addition of note to either. He differs from Vesalius in one point however, which alone would invalidate any claim he might have. "He opposed Vesalius in regard to the origin of the vena cava, asserting that it takes its rise from the liver, and not from the heart as the great reformer in modern anatomy had mentioned."[7] This is taken directly from Hippocrates' own words. In his book on "Aliments," he has said that "the root of the veins is the liver and the root of the arteries is the heart." Yet Colombo's work on "Anatomy" was of service in that it gave currency to the exposition by Servetus of the pulmonary circulation. In 1571 the "Quaestiones peripateticae" of Caesalpinus appeared. In this book he touched the very center and secret of the circulation—he touched it, but he withdrew his hand too soon. Not even to him was the full theory of the circulation revealed. His words are full of interest:

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[6] Foster, Sir Michael: Lectures on the History of Physiology, Cambridge, 1901.

> Of the vessels ending in the heart, some send into it the material which they carry, for instance, the vena cava into the right ventricle and the pulmonary vein into the left; some carry material away from the heart, as the aorta from the left ventricle and the pulmonary artery, nourishing the lung, from the right. To each orifice are attached little membranes (valves) whose function is to secure that the orifices leading out do not let the blood in, and that those leading in do not let it out. It follows that when the heart contracts, the arteries are dilated and when it expands they are constricted. For if the arteries were dilated and constricted at the same time with the heart, it would follow that they would be dilated at the time when the material filling them from the heart was denied them, and constricted at the time when material was flowing into them from it. But this is impossible. They therefore dilate and contract in alternation with the action of the heart.

How fine and clear this is! And it is the earliest description of the heart's action in "emptying itself during systole into the aorta and the pulmonary artery, and filling itself during diastole from the vena cava and the pulmonary vein."

Twenty-two years later, in 1593, another book entitled "Quaestiones Medicae" appeared from the hand of the same writer. In this he approaches still nearer the truth without fully perceiving it. In it he calls attention to the fact that veins when ligatured swell on the far side and not on the near side of the ligature. "But exactly the contrary ought to happen," he says, "if the movement of the blood and the spirits took place in a direction away from the heart to all parts of the body. When a channel is interrupted, the flow beyond the interruption ceases; the swelling of the veins therefore ought to be on the near side of the ligature."

"Why isn't it?" he seems to ask himself. Indeed he gives the answer, but he does not fully comprehend it when given. The explanation he cannot yet make. The circle is not complete. It almost seems to us that he has given the explanation and as if the circle of the blood were complete, but that is because we look through our own eyes and not through those of Caesalpinus. He betrays himself at the very moment when we expect the final word of full comprehension. He continues:

> Now when we are awake the movement of the native heat takes place in the outward direction, but when we are asleep it takes place in the contrary direction toward the heart. We must therefore conclude that when we are awake a large supply of blood and of spirits is conveyed to the arteries and thence to the nerves. When we are asleep, however, the same heat is carried back to the heart, not by the arteries but by the veins. For the natural entrance into the heart is furnished by the vena cava, not by the arteries. For in sleep the supply of native heat to the arteries is diminished, but it bursts into them with vehemence when we wake, while the veins are more swollen when we are asleep and shrink when we wake, as any one may see who watches the veins in the hands. When we are asleep, the native heat passes from the arteries by that communication of orifices which we call anastomosis into the veins and so to the heart.

While I have somewhat condensed the statements of Caesalpinus in these quotations, yet I have been careful to leave every argument and every description, unshorn of its strength, in all its directness and in all its logical force, as fully as an advocate could have done in his behalf. But when all is considered, it is too little to establish his title. He apprehends the circulation, but he does not comprehend it. He sees the riddle but he does not solve it. He meets the truth full in the face, but he passes it by without recognition. He translates all the words, but he cannot put the sentence together.

And all this is because, while Caesalpinus seemed to hate the very name of Galen, while he declared himself willing to "maintain that everything that Galen affirmed was wrong and that everything that Galen denied was right," while he fancied that he had entirely emancipated himself from the control of the traditions of the ancient fathers in medicine, he yet saw through Galen's glasses, he was yet in the gall of bitterness. Dr. Thomas Willis, in his preface to the works of Harvey, says that the later meaning is apt to be read into the earlier words, and does not really represent the thought that was in the writer's mind as he wrote, but that which is in our minds as we read; moreover, "The world saw nothing of the circulation of the blood in Servetus, Colombo, Caesalpinus or Shakespeare, until after William Harvey had taught and written."

Fabricius, a younger contemporary of Caesalpinus, had tried to fathom the purpose of the valves in the veins. He said:

> In my opinion they are formed by Nature in order that they may to a certain extent delay the blood, and so prevent the whole of it flowing at once like a flood either to the feet or to the hands and fingers, and becoming collected there. For this would give rise to two evils; on the one hand the upper part of the limbs would suffer from want of nourishment, and on the other the hands and the feet would be troubled with a continual swelling. In order therefore that the blood should be everywhere distributed in a certain just measure for maintaining the nourishment of the several parts, these valves of the veins were formed.

These words of Fabricius, the greatest anatomist of his time, show how little impression Caesalpinus had made, and how far his pupils were from understanding the truth concerning the circulation. That was because he did not himself understand it.

A claim has also been entered for the credit of the discovery of the circulation in the name of Paolo Sarpi, but such a claim seems impossible to substantiate. Sarpi was an intimate friend of Fabricius and of Harvey as well, and of Galileo and Lord Bacon and many other men who were eminent during the early years of the seventeenth century. His name is perhaps as illustrious as that of any of his contemporaries, but his laurels were not won in the field of the physical sciences, and the validity of the claim that has been brought in his name, as anticipating the discovery of Harvey, is not capable of demonstration. Sir Michael Foster says:

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[7] Willis, Thomas: Life of Harvey.

His claim is urged by Cornelius Consentinus, on whose statement alone it rests. Consentinus said that Sarpi, who was indeed versed in anatomy as in all the knowledge of his time, left among his manuscripts a theory of the circulation that proves his prior perception of it; and that he disclosed the fact to Fabricius who in turn informed his pupil Harvey. But Sir George Ent narrates the story differently. He says that the Venetian ambassador brought with him from London to Venice a copy of Harvey's book, a part of which Sarpi transcribed into his own note-book without any thought of claiming the credit of the discovery. This note-book, after his death, was found among his papers, and a claim entered in his name which he himself would never have sanctioned.

Candor, however, constrains us to remark that there is a strange and disquieting anachronism in this statement, clear and conclusive as it seems. Sarpi died in 1623, and Harvey's book did not appear until 1628. If to Harvey were granted the privilege of posthumous prayer, and if he continued after death to take an interest in the little triumphs of humanity, he might well ask to be delivered from the friendly offices of Sir George Ent and Sir Michael Foster. From erroneous premises to deduce a conclusion that shall be true, indicates the commission of a fatal fallacy, and constitutes a sharp attack on the truth itself. At the least, its detection suffices instantly to disable the argument. Not on false witnesses and an inaccurate chronology must be based the verdict in the case of Sarpi, but on the inherent improbability of his claim, on its lack of contemporaneous influence, and on the fact that it was never substantiated at the time, when the outcry against Harvey was so great that nothing was left undone that malice could suggest to invalidate his title to a discovery that envy sought to disparage, and enmity labored to annul.

We have thus examined the pretensions of all the claimants who are entitled to consideration except one, and his claim connot be examined, although it is in point of time the earliest of all. While a Christian emperor yet occupied the throne of Constantinople, Leonardo da Vinci was born near Empoli, in Tuscany. He was a man of most remarkable wisdom. There were few fields of learning in which he was not eminent. His "Last Supper" is considered one of the two greatest paintings in the world; his "La Gioconda" is the most famous canvas that was ever painted. In mathematics, botany, anatomy, fortifications, geology and engineering he was intimately skilled, and in some of them was centuries ahead of his time. He anticipated Bacon's recognition of observation and experience as the basis of all reasoning in science; he explained the theory of mechanical forces; many years before Copernicus he was acquainted with the annual motion of the earth; he described the camera obscura, the use of the iris, the mechanism of flight and the nature of colored shadows. He kept copious note-books, most of which have never been examined. They yet exist in manuscript, and the character of his claim to have anticipated Harvey must await the day when these old manuscript note-books may be deciphered. There is some hope that when that day comes, our knowledge of the mechanics of aviation will become illuminated, but there is no probability that another chapter will be added to the dispute concerning the circulation.

Such are the various claims that seem to threaten, however remotely, the title of William Harvey, and we have found them all insufficient to raise even a presumption of doubt as to its validity.

(To be continued)

DIFFERENTIAL DIAGNOSIS AND TREATMENT OF EPIDEMIC CEREBROSPINAL MENINGITIS *

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In 1906 the New York Board of Health supplied antimeningitis serum for use subcutaneously in cases of epidemic cerebrospinal meningitis, but it was found to be of slight avail and its preparation and use were discontinued. In July, 1910, after Jochmann, Flexner and Wassermann had proved its value when used intraspinously, the Rockefeller Institute gave the Health Department two horses immunized against the meningococcus, and a generous supply of antimeningitis serum. Since that time the Health Department has prepared it and offered the services of a consultant to every physician reporting a case of meningitis not in a hospital. In that way we have seen 247 cases, at least half of which were reported as epidemic cerebrospinal meningitis and the rest either as meningitis, kind not designated, or as tuberculous meningitis.

DIAGNOSIS

Table 1 shows what a large percentage of error there must be in the usual statistics of meningitis and how few cases of epidemic cerebrospinal meningitis there are in New York.

TABLE 1.—FINAL DIAGNOSIS OF CASES SEEN

Diagnosis	No. of Cases	Condition Suggesting Meningitis
Epidemic cerebrospinal meningitis	48	
Tuberculous meningitis	75	
Infantile paralysis	37	
Streptococcus meningitis	9	
Pneumococcus meningitis	3	
Influenzal meningitis	2	
Pneumonia	19	Rigidity of neck and Kernig sign.
Gastro-enteritis	5	
Typhoid	3	
Hysteria	1	
Acidosis	1	
Osteomyelitis	1	
Simple neurosis	1	
Tetany	3	
Serous meningitis	2	
Schönlein's purpura	1	Eruption.
Eczema	1	
Erythema multiforme	1	
Measles	1	
Typhus	3	
Syphilis of brain	1	Mental condition.
Cerebral endarteritis	1	
Miliary tuberculosis	1	
Encephalitis	1	Palsy.
Peripheral neuritis	1	
Internal hydrocephalus	1	Bulging fontanelle.
Toxic conditions	1	Convulsions.
Tetanus	1	
Diagnosis uncertain	19	
Pericarditis	1	
Normal child	1	

The cases of infantile paralysis that we have seen have been of the encephalitic rather than the myelitic type.

The streptococcus, pneumococcus and influenzal cases could not have been differentiated except by lumbar puncture, though the history of middle-ear disease, injury such as fracture of the skull, operation on the nose, etc., often made us suspicious.

In the cases of pneumonia, gastro-enteritis, hysteria, simple neurosis, acidosis, typhoid, osteomyelitis and serous meningitis, the rigidity of the neck, and in some cases a Kernig sign was probably what caused the physician to report the case as meningitis. In the case of Schönlein's purpura, one of the cases of typhus, and the eczema, erythema multiforme and measles cases, the eruption was largely responsible for the diagnosis of meningitis. Two of the cases of typhus had already been diagnosed and we were asked to do a lumbar puncture in order to relieve pressure. The mental condition seemed to have suggested meningitis in the cases of brain syphilis, endarteritis and miliary tuberculosis. The meningismus coming early, before there are any signs of pneumonia, is the most difficult of all these conditions to distinguish from true meningitis. Often by the time we reach the case the real diagnosis is apparent. In view of the mistakes made in diagnosis I shall give a brief summary of the main points to be considered.

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* From the Research Laboratory of the New York City Department of Health.

* Read before the Internal Medicine Section of the New York Academy of Medicine, Nov. 7, 1912.

Cases of epidemic cerebrospinal meningitis and infantile paralysis usually give a history of a sudden onset as against a slower onset in tuberculous meningitis. The patient's mental condition is generally good in meningococcus meningitis unless it is a fulminating case. In tuberculous meningitis there is often a history of irritability followed by increasing stupor from which it is often impossible to arouse the child. In infantile paralysis the patient is often apparently stuporous, but he can be roused and made to answer intelligently. Patients with epidemic cerebrospinal meningitis show marked rigidity of the neck; tuberculous patients are apt to have slight or moderate anteroposterior rigidity, but none laterally.

TABLE 2.—CHARACTERISTICS OF SPINAL FLUIDS

	Pressure	Amount, c.c.	Appearance	Cytology	Bact.	Alb.	Glob.	Animal Inoc.
Normal	Normal.	5-10	Clear.	Very few cells.	Sterile.	±	—	Negative.
Meningismus	Increased.	10-100	Clear.	Very few cells.	Sterile.	±	—	Negative.
Infantile paralysis	Increased.	20-100	Clear: sometimes slight fibrin web.	Early polynucleosis; later lymphocytosis up to 95 per cent.; endothelial cells.	Sterile.	+-++	+-++	Negative or pneumonia.
Tuberculous meningitis.	Increased.	30-120	Clear; fibrin web.	Lymphocytosis up to 95 per cent.	Tubercle bacilli.	++-+++	++-+++	Tuberculosis in 4 weeks.
Epidemic cerebrospinal meningitis	Increased.	5-120	Cloudy.	Polynucleosis up to 98 per cent.	Meningococcus.	++-++++	++-++++	
Meningitis due to other organisms.	Increased.	20-100	Cloudy.	Polynucleosis up to 98 per cent.	Infecting organisms.	++-++++	++-++++	

In infants the rigidity of epidemic cerebrospinal meningitis is so easily overcome as to make one often doubt its existence; but when the infant is turned on the side, the head is markedly retracted. We have found Brundinski's and MacEwen's signs much more useful than Kernig's. Brundinski's consists in the flexion and eversion of the legs and arms when an attempt is made to flex the head on the chest, and the drawing up of one leg when the other is passively flexed. MacEwen's is a change from the normal in the percussion note over the lateral ventricles, due to increased intraventricular pressure.

The fever is higher in infantile paralysis and epidemic cerebrospinal meningitis than in tuberculous meningitis. In cerebrospinal meningitis it runs an irregular course. In infantile paralysis it usually stays up only a short time and falls by lysis. Paralyses are not common in meningococcic meningitis, are often present one day and gone the next in tuberculous meningitis and usually improve slowly in infantile paralysis. Convulsions occur in all three conditions. Projectile vomiting is not uncommon with tuberculous meningitis

These are the general points of differentiation, but sometimes it is impossible to be sure clinically with which of the three conditions we are dealing. The surest means is by the examination of the spinal fluid, but this is not always certain. Epidemic cerebrospinal meningitis in almost all cases gives a cloudy fluid from which the infecting organism can be isolated. Both tuberculous meningitis and infantile paralysis give a clear fluid under increased pressure. If the tubercle bacilli can be found in the stained sediment after centrifugating the fluid, the diagnosis is easily made. Dr. Hemingway made a record in finding tubercle bacilli in cerebrospinal fluids at the Babies' Hospital, but there repeated punctures were done and sometimes a search of several hours was necessary. We rarely make more than one puncture, and seldom have more than an hour to spend searching. At the Babies' Hospital fluids were allowed to stand until a fibrin web formed. Ours are usually shaken a good bit before they reach the laboratory and we often have to centrifuge them at once. We usually trust to guinea-pig inoculation for the final diagnosis when we do not find the bacilli.

Table 2 shows the characteristics of spinal fluids.

TREATMENT

The treatment of epidemic meningitis may be divided into prophylactic, specific and general. The prophylaxis consists in quarantining cases and looking for carriers. Last spring we were called to see a 6-months-old Greek baby. The mother had come over in the spring of 1911 at the time when there was an epidemic of meningococcic meningitis in Greece, and the baby was born six months later. A culture from the mother's nasopharynx showed abundant meningococci. She had never had meningitis and did not develop it. There was no way of being positive that the baby was infected by her for she may have acquired the meningococci from the baby; but it seems probable that she was the carrier.

Now, when we go on cases, we make cultures from the throats of those coming in contact with the patient. We have not yet had sufficient experience in ridding carriers of their meningococci to know what is the best means, but we hope to find out this winter. Dr. Sophian found that the injection of meningococcic vaccine was effective. Hachtel and Hayward in Baltimore used a spray of antimeningitis serum effectively. In some experiments which Miss Bertha Warren and I made at the Research Laboratory last winter we found that of the usual disinfectants used in the throat argyrol in a strength of from 15 to 25 per cent. was the most effective in killing meningococci *in vitro*.

The specific treatment consists in the intraspinal injection of antimeningitis serum. We always inject the serum if we find a cloudy fluid on lumbar puncture, because if the disease is meningococcic meningitis the sooner the serum is injected the better, and it does no harm even if some other organism is the cause of the trouble. We always warm the serum and allow it to run in slowly by gravity. The amount administered depends on the amount withdrawn; we usually inject serum a little less in amount up to 40 c.c. than the cerebrospinal fluid withdrawn. Using change in blood-pressure as a guide to the dose, as suggested by Dr. Sophian, is probably a good thing, especially for those who have had little experience in administering the serum. I do not like to give a definite opinion about its value until I test it further. Most of our work is done in tenements with no one to help but the attending physician, so that its use is usually impracticable for us.

In an ordinarily severe case we do a lumbar puncture, draw off all the fluid we can and inject serum every day for four days. Further injections depend on whether the fluid is sterile or not, the patient's temperature, and his general condition. The rigidity of the neck is frequently late in disappearing, and if the patient is improving in every other way that does not disturb us. Dry taps occur now and then without disturbance of the communication between the meninges of the brain and cord. We had a case in Brooklyn in which after the first two or three times we repeatedly obtained no fluid; and yet 10 c.c. of serum ran in readily. The patient, a 6-months-old infant, seemed moribund when first seen, but recovered completely. We have had a serum rash in but one case. For cases that threaten to become chronic we prepare autogenous vaccine. Whether or not it helps we shall not be able to say until we have tried it longer.

Patients who develop basic meningitis, in which the communication between the meninges of the brain and cord is cut off, have never recovered in our experience. We have sent several such into the hospitals, and brain puncture was done; but it has been of no avail. Dr. Sophian had the same experience in Texas during the epidemic last spring.

For general treatment we always recommend the administration of hexamethylenamin (urotropin) because experiment has shown that after its administration formaldehyd is found in the cerebrospinal fluid. We advise the use of sedatives when a patient is in much pain or very restless, in order that enough sleep may be obtained. The diet should not be too limited, for the duration of the disease may be prolonged. The conjunctivitis sometimes present is best treated with argyrol. The bladder must be watched, for many cases develop retention. Meningococci are sometimes found in the urine, and this must be remembered in ordering the hygiene of the sickroom.

Before the use of the serum the mortality averaged 75 per cent. Our mortality since using the serum has been about 50 per cent. Six cases developed basic meningitis and five cases were fulminating. During an epidemic basic and fulminating cases do not occur in such a large proportion. Several patients we did not see until late in the disease, and many were receiving poor care as far as nursing went. Dr. Sophian went to Texas for the New York Health Department during the epidemic last spring, and he had a mortality of 28 per cent. in the hospital. Dr. Flexner's analysis of the results in 1,300 cases agrees very well with this. The prognosis is better for children than for adults.

AN UNUSUAL CASE OF LEUKEMIA

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The following case of leukemia presented several features of unusual clinical and pathologic interest. Like many cases of leukemia, its type was very irregular and in the absence of any definite knowledge of the etiology of this disease, its classification, if any be attempted, provides a wide field for discussion.

History.—The patient was a well-developed, robust man, aged 23, a hotel waiter, who had come under observation for the early secondary stage of syphilis eighteen months before his death. The inguinal nodes at this time were slightly swollen, but the spleen and liver were not apparently enlarged. The urine showed no special change. His blood was not examined at this time. He had suffered from gonorrhea five months previous to his coming to the hospital, but denied any other illness before this. There was no history of any previous enlargement of the lymph-nodes. He had originally come from Greece but had been in the United States for seven years. His parents were both alive and healthy. He had one brother who also gave a history of having acquired syphilis recently. In this brother the cervical and axillary nodes had recently become somewhat enlarged, and the spleen and liver were both slightly larger than normal. He had not, however, noticed these himself. The blood also showed practically the same picture as did the patient's in the early stages. He returned shortly afterward to Greece, so that the further course of his disease could not be traced. The patient remained in the hospital for five weeks, and was treated with intramuscular mercury injections. These were continued at his home for six months, and for the next four months he took internal mercury treatment.

Examination.—A few weeks after this time, about six months before his death, the patient reentered the hospital, complaining of swelling of the nodes of his neck, which had recently commenced. The axillary and inguinal nodes were also found to be slightly enlarged. The spleen extended 3 inches below the costal margin. The liver also was slightly enlarged, its lower border being palpable 3 inches below the costal margin in the right midclavicular line. His blood-serum gave a positive Wassermann reaction and the blood-count at this time showed marked anemia:

Red blood-corpuscles	3,400,000 per c.mm.
Hemoglobin	55 per cent.
Leukocytes: Differential count	52,000 per c.mm.
Polymorphonuclear leukocytes	10.5 per cent.
Transitionals-polymorphonuclears to myelocytes	3.4 per cent.
Myelocytes (finely acidophil granular)	5.6 per cent.
Eosinophil polymorphonuclears (coarse granular)	1 per cent.
Eosinophil myelocytes (coarse granular)	1.3 per cent.
Small lymphocytes	11.2 per cent.
Medium-sized lymphocytes	30.7 per cent.
Large lymphocytes	19.3 per cent.
Large mononuclears, clear cytoplasm, vesicular nucleus	8 per cent.
Medium-sized mononuclears, finely basophil granular	1 per cent.
Large-sized mononuclears, finely basophil granular	2.9 per cent.
Mast cells	0.7 per cent.
Normoblasts (compared with leukocytes)	4.1 per cent.
Megaloblasts (compared with leukocytes)	0.3 per cent.

The patient's weakness increased rapidly. The cervical nodes, as well as those in all the lymphoid situations throughout the body, became rapidly larger, and breathing through the nose became progressively more difficult. He developed effusions, which had frequently to be removed, from his left pleural cavity, and occasionally also from the right. The spleen increased considerably in size and the anemia became much more pronounced. The leukocytes in the blood varied from 30,000 to 73,000, a rather larger number being present just before death. The relative proportions remained about the same. The eosinophils, however, both polymorphonuclears and eosinophils, and the neutrophil myelocytes became slightly increased, the neutrophil polymorphonuclears slightly reduced, while the large, finely basophil granular mononuclears rose finally to 8.9 per cent. The number of normoblasts remained proportionately about the same, but the megaloblasts had increased to 2.7 per cent. on the day of the patient's death. The red blood-corpuscles had become progressively reduced, as also had the hemoglobin, the color-index, however, being always under 1. No malaria parasites were found in the blood at any time. The temperature had a slight daily variation, as an average rising in the evening to between 99.5 and 100 F., but sometimes reaching 100.8 as a maximum and 97.6 as a minimum. Various medications, including arsenic, mercury and iron, were used with no apparent improvement. The patient died in an extremely asthenic but well-nourished condition.

Necropsy.—A few hours after death, the lymph-nodes all over the body were found greatly enlarged, firm, elastic, more or less discrete, and of a pink color, although some were dark purple from hemorrhage. In the axillae and groins some of these had attained the size of a hen's egg. Microscopically, the nodes were shown to be enlarged, not only by infiltration of cells from the blood, but also by an active proliferation locally.

An opening into the thorax revealed several large lymph-nodes in the anterior inner part of the right vault of the diaphragm. One large hemorrhagic node was situated at the inner anterior part of the left vault, close to the attachment of the pericardium. The outline of the pericardium was regular and its outer surface smooth; on section, it was found to be enormously thickened. Posteriorly it measured 5 mm. in the middle and 1 cm. in the upper part. The lower portions in the region of the apex were only moderately thickened. Anteriorly, however, between the levels corresponding to the fourth rib and the upper border of the manubrium sterni, there was a special thickening, about 4 cm. in diameter. This was in direct continuity with the pericardium and extended below the level of the fourth rib, gradually becoming thinner toward the apex, where it was only about 3 mm. in thickness. This extensive pericardial thickening was firm, apparently fibrous and of a pale yellowish-pink color. In its upper part it included several small lymph-nodes, into some of which there were hemorrhagic extravasations. The bronchial nodes were considerably larger, some of them also being dark red from hemorrhage. Microscopically, this condition in the upper part of the pericardium was found to be composed for the most part of fairly dense fibrous tissue, which included very frequent, rather ill-defined, lymphoid foci which resembled closely the structure of the hyperplastic infiltrated lymph-nodes in other situations. This mass did not correspond to a tumor growth, but seemed to be the result of hyperplasia of the anterior mediastinal nodes and most probably also of the thymus. No Hassall's corpuscles, however, were found. In addition to this lymphoid hyperplasia, the thickening around the pericardium was associated with an extensive chronic inflammatory matting, and leukemic infiltration, also, to some extent had assisted in the process. The inner surface of the pericardium was smooth and there was no excess of fluid in the pericardial sac. There were no evidences of tuberculosis in the nodes throughout the body or in the pericardial thickening. Nor were there any signs which made syphilis in any way a certain factor; no spirochetes were found in any of the tissues examined in various situations throughout the body. The left pleural cavity contained a large amount of blood-stained fluid. The pleura showed a chronic thickening due, as seen microscopically, to leukemic infiltration and chronic inflammation. The heart was dilated and flabby.

The spleen weighed 900 gm. and was 21 cm. long by 14 cm. wide. It was of a dark reddish color and moderately firm. The malpighian bodies were markedly enlarged, appearing as white spots through the section. Microscopically, the perivascular spaces were considerably distended by accumulation of cells. The sinuses also were frequently almost filled, for the most part with small mononucleated cells. All the types seen in the blood were to be observed in these sinuses. There seemed, however, to be a very considerable proliferation of the lining endothelium. In some of the cells of this proliferation there were apparent distinct evidences of new formation of nucleated red blood-cells. Some of the endothelial cells also seemed to be the seat of a deposit of coarse eosinophil granules, at first, apparently deposited around or on one side of the nucleus. These coarsely granular cells often attained considerable size and all possessed a homogeneous small darkly stained nucleus. Some of them could be observed in process of direct division, and some also could be observed in the perivascular tissues. They never, however, assumed quite the appearance of the eosinophil myelocytes as observed in the peripheral blood.

The liver was moderately enlarged, weighing 2,150 gm. and, microscopically, showed a moderate deposit of hemosiderin pigment in the liver cells, and a considerable infiltration in the portal spaces, consisting mostly of lymphocyte-like cells, although the other types seen in the blood were also represented. Many of these cells were situated perivascularly, but the capillaries themselves frequently were crowded with nucleated cells. To some extent, in the perivascular spaces, but more in the interior of the vessel, there could be observed a relatively large number of coarsely granular eosinophil cells, mostly small, frequently appearing attached to the vessel wall, and containing small, round, homogeneous, darkly stained nuclei, which were similar to those observed in the spleen. The lining endothelium of the capillaries, in isolated places in the interior of the lobules, also showed considerable proliferation, some of this apparently assisting in the production of leukocyte types, such as were seen in the blood. To a small extent also the formation of nucleated red blood-corpuscles could be determined.

The kidneys were extremely enlarged, the left weighing 700 gm., the right 750 gm. They were, for the most part, pale, yellowish-pink and contained numerous small hemorrhages, chiefly in the cortex. Microscopically, the enlargement was due, not only to the hemorrhages, but also to a very extensive leukemic infiltration. In the perivascular spaces, besides a large number of small, mononucleated cells, small clumps of relatively large cells could frequently be observed, having some of the appearances of myelocytes, and generally containing numerous fine acidophil granules. Some of these myelocyte-like cells, although not quite resembling any type found in the peripheral blood, could also be seen isolated in the kidney capillaries. The intestines showed no specially abundant aggregations of lymphoid tissue. The bone-marrow was unusual for a case of leukemia, being dark red in color; in several situations examined it was almost wholly erythroblastic. There was a relatively small infiltration of leukocytes from the blood but only a very slight formation of polymorphonuclears, myelocytes and eosinophils. The reason for this almost exclusively erythroblastic marrow may have been that the destruction and loss of red blood-cells was specially severe, and that the usual site of new erythrocyte formation, the bone-marrow, had become practically entirely devoted to its production, assisted to a considerable extent, as has been mentioned, by the spleen and liver. A great proportion of the leukocytes found in the blood were evidently derived from some other source than the bone-marrow. The greater part of the lymphocyte-like cells, for instance, were evidently derived from proliferative processes in the lymph-nodes, and from endothelial surfaces in other tissues. In connection with the consideration of the development of the neutrophil and eosinophil myelocytes in the blood, it may be again noted that numerous coarsely granular eosinophil cells were found in apparently all stages of formation in the spleen, to a less extent in the liver and occasionally in the lymph-nodes.

Clumps of large, very finely acidophil granular mononuclear cells were also found in the kidneys. These clumps, of course, may have been formed by local proliferation from some of the cells which had penetrated from the blood and locally developed, but they also presented evidences that some of them had entered the blood subsequently. These may have been responsible for the production of some of the myelocytes observed in the peripheral blood. Occasionally also in the peripheral blood, myelocytes of both types were found in process of division. These evidences would lend support to Maximow's idea that myeloid tissue may be formed from any endothelial surface in the body, and not only from the bone-marrow. It is also possible to demonstrate experimentally that extensive extramedullary blood formation, both leukoblastic and erythroblastic, may occur in anemia produced by hemorrhage or blood-destructive poisons.

In conclusion, this case presented several interesting features, being for a considerable time a more or less mixed type of leukemia. Anemia, although usual in leukemia, was in this case particularly evident and was described by von Leube as "leukanemia" or leukemia of the red blood-cells. One might place it in the category described by von Leube as "leukemia" or leukemia of either variety associated with anemia of the pernicious type.

Lymphosarcoma may be associated with a moderate increase of lymphocytes in the blood, and there may also be considerable anemia. Sternberg has designated a type, which in some way resembles this case, as "leukocarcinomatosis," or an associated lymphosarcoma with leukemia. The present case, however, varies from the type described by Sternberg, in the blood-picture, and in there being no definite evidences of tumor growth in the anterior mediastinum, lymph-nodes or elsewhere.

Lymphadenoma has also to be considered as a possibility. The glandular enlargement was, however, too uniform. The great splenic enlargement was also against this. In some cases of lymphadenoma there may be a slight leukocytosis, but rarely to the extent found in this case. There was no evidence in the enlarged nodes or in the internal organs of the necrotic or fibroid nodules so usually observed in lymphadenoma. The mass in the mediastinum, which seemed markedly to thicken the pericardium, consisted of hyperplastic lymphoid cells, embedded in old inflammatory tissue, but suggested neither lymphadenoma nor lymphosarcoma.

The case seems to be placed most correctly in the category of leukemia. The leukocytes were never very greatly increased in number, to the extent so commonly observed in leukemia. The lymphocytes were increased proportionately more than any other type, yet all forms of leukocytes were increased quantitatively. The blood-picture was one of a mixed type, which is not altogether uncommon in leukemia. This case was, however, very rapid in its course. It illustrated well the different sources from which the various types of leukocyte can be derived.

The extreme infiltration and proliferation of leukocyte-like cells in the lymph-nodes all over the body, and in the kidney and spleen, with no such changes to any marked extent in the lungs, liver, intestine or other organs, are also of interest, indicating that the cause of this reaction was exerted specially in certain positions. The great enlargement and matting of the mediastinal nodes is quite unusual in leukemia, and, at least clinically, made the diagnosis a subject for considerable speculation. This leukemic condition followed soon after syphilis had been acquired, and although it has no place in the recognized sequelae of syphilis, yet the question has to be asked whether syphilis was merely a coincident process, a modifying condition or even the essential etiologic factor. The patient's brother had apparently developed the same condition, but also had a history of having acquired syphilis.

Whatever may have been the causative factor in this disease, there must have been a very severe toxic process which rapidly destroyed all the elements of the blood and had stimulated the extensive evidences of regeneration observed in the blood and certain tissues.

A COMBINED GRAVITY AND SYRINGE METHOD FOR THE INTRAVENOUS INJECTION OF SALVARSAN

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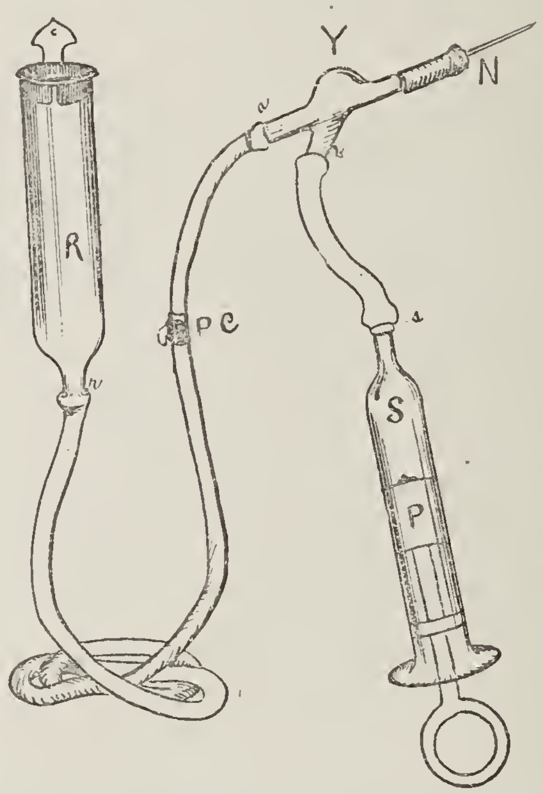
In order to overcome some of the difficulties of the gravity and the syringe methods and at the same time to retain the advantage of each, I have devised a simple and inexpensive apparatus for administering salvarsan intravenously.

The principal parts of this new apparatus are shown in the accompanying diagram. In the figure, *R* represents a glass cylinder to receive the solution which is to be injected. To cylinder *R* is attached at the point *r* a piece of rubber tubing provided with a pinch-cock, *P C*. This constitutes the gravity part of the apparatus.

The syringe portion of the apparatus is represented by *S*, which is the barrel of a glass syringe into which fits the piston *P*, consisting of a glass stem packed with heavy firm cord. The piston can readily be removed from the barrel so that the two parts can be easily and thoroughly cleaned. At the point *s* of the syringe is fitted a small piece of rubber tubing.



Apparatus combining the gravity and syringe methods, for the intravenous injection of salvarsan. *R*, reservoir, connected with Y tube at arm *a*; *S*, syringe, connected with Y tube at arm *b*; *N*, needle, connected with Y tube at arm *c*; *P C*, pinch-cock; this is of the one-motion variety and can be operated by one hand.

The essentially new part of the apparatus is a Y-shaped tube, *Y*. The stem constituting the base of the Y has protruding from the upper surface a small glass bulbous chamber connected with the main lumen. This glass chamber serves a double purpose. In the first place, it helps to maintain a continuous flow of fluid from the gravity chamber *R* through the needle while the syringe *S* is being filled with fluid; second, it serves as a trap for air-bubbles which may accidentally enter the apparatus at some point during its use. This chamber will absorb and detain about 2 c.c. of air.

To arm *a* of this *Y* tube is attached rubber tubing leading from the gravity cylinder; and to arm *b* is attached the tubing from the syringe. The exact connections will depend on which arm is employed, it being always most convenient to have the syringe on the outside, where it can be manipulated more readily. This makes the apparatus suitable for use on either arm, whereas the ordinary two-way stop-cock syringe is most conveniently used on the left arm, since in this position the stop-cock is directed upward.

The apparatus is used in the following way: After sterilization, the cylinder *R* is filled with some freshly distilled water which is to be used in preparing the solution of the drug. By opening the pinch-cock all the air is allowed to leave this portion of the apparatus. The cylinder is now suspended from a gravity pole. Now the syringe *S* is filled with water and the air driven out by pressing the piston upward. Then the connections with the Y tube are made as above described. By lowering the Y tube and opening stop-cock *P C* the air is driven out of the stem of the Y tube directly connected with the tubing leading to the cylinder *R*. The piston of the syringe is now propelled forward, thus driving out the remaining air from the Y tube. The apparatus freed of air is now ready for use.

The needle is inserted into the vein in the usual manner and the piston of the syringe drawn slightly toward the operator. A successful puncture is indicated by a reflex column of blood in base of the Y tube. As soon as this is noted, the Y tube is fixed to the patient's arm by applying a piece of adhesive plaster at the junction of the needle and the Y tube. With the pinch-cock closed, pressure is made against the piston, thereby reinjecting the column of blood back into the vein and slowly introducing fluid into the vein. Meanwhile an assistant has ample time to prepare and add the solution of salvarsan to the water in the cylinder *R*. When the syringe has been emptied of its contents, it is refilled by opening the pinch-cock and pulling the piston slowly. Experiments have shown that even during the period of filling the syringe the gravity continues to force the solution through the needle into the vein, so that at no time is there any stasis in the system.

The importance of this continual current cannot be overestimated, since it prevents the formation of clots and the clogging of the needle during the act of refilling the syringe, a difficulty often met in the ordinary two-way stop-cock syringe.

When the syringe has been refilled, the pinch-cock is again closed and the contents of the syringe expelled into the vein. The syringe can thus be filled and emptied by drawing from the reservoir cylinder *R* until the latter is completely emptied. If for any reason the Y tube or syringe should break or if any other difficulty be encountered during the administration, the whole may be quickly converted into a gravity apparatus by disconnecting the Y tube and inserting between the tubing leading from the reservoir *R* and that leading to the needle, a straight cannula.

The advantages of this apparatus over the others commonly in use are the following:

1. The principal parts of the apparatus are inexpensive and all glass, thus assuring cleanliness and easy sterilization.

2. The time of injection is reduced to a minimum and the amount of assistance needed greatly lessened; indeed, in case of necessity the whole procedure can be carried out by one person (by opening the pinch-cock while the solution is prepared).

3. The maintenance of a continuous current through the needle, which prevents clots and clogging of the needle.

4. The apparatus furnishes a safeguard against the entrance of air with the solution, by the bulbous portion of the Y tube, which will entrap and detain 2 c.c. of air.

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Cystitis in the Female.—Curable cystitis in the female is tantamount to infection from below—by way of the urethra. Obstinate cystitis is nearly always due to infection from above—by way of the ureter.—Fenwick in *Clin. Jour.*, London.

A CASE OF PSEUDOHERMAPHRODITISM

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History.—The patient, Lillian K., aged 4, was the fourth of five girls and weighed 8½ pounds at birth. She was breast-fed, walked at eight months, and suffered from marked bow-legs. The mother noticed that she was exceptionally active and rough in play with the other children. "She loved to run and jump like a boy." The mother first noticed a swelling in the right groin when the child was 2 years old. This caused no discomfort and completely disappeared in the recumbent position. There was a gradual increase in size and extension downward as the child grew older, until it finally reached to the right labium majus. At the age of 3 years the child contracted whooping-cough and a swelling appeared in the left groin, similarly located but smaller than that on the right. The family physician at this time made a diagnosis of double inguinal hernia and advised wearing a truss. Several were tried but on account of discomfort and inefficiency they had to be discarded. Operation was then decided on.

Family History.—The mother and father are first cousins. No history of lues or addiction to alcohol was obtainable in either. The mother has given birth to five healthy children and has had no miscarriages. A history of hernia or malformation in other members of the family was not obtainable.

Examination.—The general appearance of the child was that of a healthy little girl. On standing and increase of intra-abdominal pressure a swelling appeared in each groin above Poupart's ligament. The right labium majus was noticeably larger than the left. The swellings gave an impulse on coughing and reduced spontaneously on lying down. About midway in the left inguinal canal was felt a firm body about the size and shape of a bean. At the time this was thought to be an ovary or an enlarged lymph-node. Further examination was negative.

Operation.—Double herniotomy was done under ether. When the sac on the right side was opened a small body, which was bound to the labium by a strand of tissue, came into view. It was about the size of a bean, firm and completely covered by peritoneum of the sac. This had been overlooked in the external examination. It was thought to be an ovary or a testis, more likely the former. The index-finger, readily admitted to the abdominal cavity by the internal ring, could palpate no structure which might be taken for the uterus. The sac was ligated at the neck and all structures in the inguinal canal were removed. The internal ring was closed completely. On the left a similar condition was found with the glandular body located higher in the canal. The sac was separated and ligated and the other structures of the canal placed inside the abdomen. The internal ring was closed.

Examination of the external genitalia was then made. The right labium majus showed some rugae and might be taken for a rudimentary scrotal half. No sign of a penis was present and there was no distinct clitoris, the labia minora meeting in this position to form a fold. The labia majora and minora were well marked. There was a distinct vestibule, an annular hymen and just above the opening, the urethra. The vaginal opening was large and a probe could be introduced a distance of 2 cm. Careful examination revealed no other abnormality.

Pathologic Report.—The specimen removed consisted of a flat piece of tissue, one surface of which was covered by peritoneum. A cord-like structure extended down the middle and ended in an enlargement which seemed to surround a firm body at the lower extremity. This body was oval, whitish and measured 10 by 9 by 5 mm. Microscopic section showed this to be a testis with epididymis and vas deferens. The arrangement of the convoluted tubules was typical. The cells lining the tubules were very indistinct in outline and the nuclei stained poorly. The intertubular connective tissue was increased in amount and numerous groups of interstitial cells were present. Although numerous sections from different parts were examined, no trace of ovarian tissue was found.

This case is an example of the most common form of pseudohermaphroditismus masculinus. Numerous such cases are recorded which come to the surgeon primarily for herniotomy or removal of an inguinal tumor. Neugebauer[1] collected reports of forty-two herniotomies in which errors of sex were discovered. In thirty of these, girls or married women, herniotomy demonstrated testicles, and once herniotomy showed a female who had been brought up as a boy. In four other cases operation was done to determine the character of genital glands in labia majora of young girls and testes were found in each instance.

The question arises as to the proper method of procedure in such cases and it seems only rational, when such a condition is suspected, to remove first a piece from the gland for microscopic section under local anesthesia. Before puberty the ovary should be replaced inside the abdomen, and a testicle into the scrotum or its representative, as in the undescended testicle operation. Several operators have replaced the testicle inside the abdomen only to have a prompt recurrence of the hernia. After puberty it is best to remove a non-functionating undescended testis, because of its tendency to become the seat of a malignant growth. Numerous instances of removal of both testes in girls are recorded, but this does not seem justifiable before puberty. It is well known that the great majority of cryptorchid testes are hypoplastic and never produce spermatozoa, although a case is reported by Hirschfeld[2] of a pseudohermaphrodite, 20 years of age, with external genitalia of female type and no testes to be found, with active spermatozoa present in the secretion from the urethra after masturbation.

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A NEW AND INEXPENSIVE INTRATRACHEAL INSUFFLATION OUTFIT

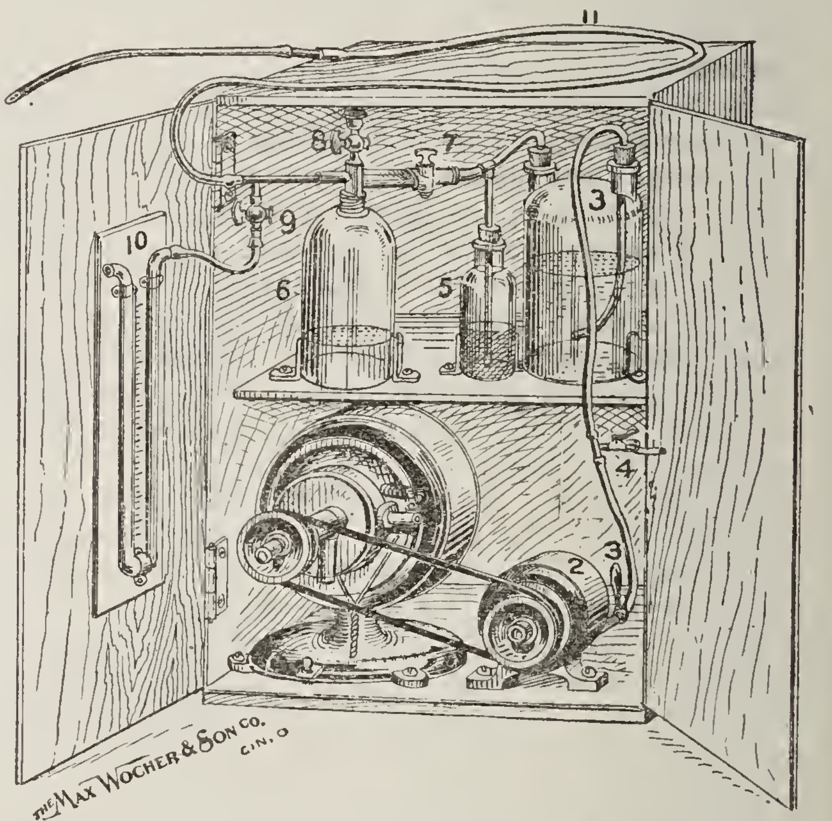
Moses Salzer, M.D., Cincinnati

Anesthetist to the Jewish Hospital

Intratracheal insufflation anesthesia is a method of etherization of such great value in selected cases that all hospitals should be equipped with an apparatus for its administration, and all anesthetists should be familiar with the technic. An apparatus of this sort is also of great value in resuscitative work as a substitute for artificial respiration. Most of the apparatus on the market, however, cost in the neighborhood of $250, which is prohibitive in many instances. The accompanying illustration shows an apparatus which has given perfect satisfaction in my hands, embodies all the advantages of practically every machine on the market, and can be profitably sold at about one-fourth the price of any other machine. The construction is exceedingly simple. It weighs about 40 pounds with the case and can be easily carried.

The apparatus itself consists of a 1/10-horse-power motor with a rheostat connected with a rotary blower (2), such as dentists use. This blower has an attachment (3, lower right-hand corner) by which, together with the rheostat on the motor, the most exact adjustment of the air-pressure can be made with a minimum of noise from the motor. From the rotary blower (2) the air passes through a Wolff bottle (3, upper right-hand corner), where it is washed. At 4 a T tube is inserted to which an ordinary foot-bellows can be attached in case of emergency or when no electricity is available. Connected with the tube leading from the Wolff bottle by a T is the safety arrangement (5), which consists of a bottle of mercury into which a glass tube dips, the distance being regulated according to the pressure desired. If it is desired to maintain a pressure of 20 mm., the tube dips 20 mm. into the mercury, and any pressure in excess of this, as during a fit of coughing or spasm of the glottis, will cause the excess air to bubble through the mercury. The current of air passes from the other limb of the T to the bottle (6) containing ether, which is so constructed that the valve (7), a three-way valve, allows the air to pass straight across without taking up any ether, or any part or all of the air can be made to pass over the surface of the ether. The turning of this one valve alone regulates the depth of anesthesia. At 8 is an ordinary automobile priming-cup which serves the double purpose of relieving the pressure at stated intervals, as is advised by Meltzer, and also as a means of filling the ether bottle (6). At 9 is attached the manometer (10) which is fastened to one of the doors of the case. The tube leading from the apparatus to the intratracheal catheter is shown at 11. Before using the apparatus it is well to attach the catheter which is to be used, then turn on the motor and by means of the rheostat and the escape valve (3, lower right-hand corner), on the blower obtain the desired pressure, which can be read off on the manometer.

After the anesthesia has been started the only manipulation necessary is to control the depth of anesthesia by valve 7. If desired, the pressure can be periodically released by quickly turning valve 8. Needless to say, this apparatus can also be used for pharyngeal insufflation and other methods of ether vapor anesthesia.



Apparatus for intratracheal insufflation.

ANURIA—PERHAPS HYSTERIC

F. J. Sheahan, M.B., Delhi, Ont.

Surgeon to Michigan Central Railway; Coroner for Norfolk County

An interesting case of complete anuria of eight days' duration occurred in a young man of previous good health with the exception of occasional polyuria at varying intervals.

Anuria may develop in four ways: (1) following intense congestion in acute nephritis; (2) in renal stone when calculi block both ureters; (3) when the suppression is perirenal, resulting from (*a*) fever and inflammatory processes, (*b*) acute poisoning by phosphorus, turpentine or lead, (*c*) collapse after operations or injuries and in the collapse stage of cholera and yellow fever; (4) hysteric anuria.

The case which I propose to report does not come under any of these headings with the possible exception of the fourth. But the correctness of classifying this case under hysteric anuria I think is doubtful. The patient had at no time previously shown any hysteric tendencies; his family history on this score was entirely negative.

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[1] Neugebauer: Hermaphroditismus beim Menschen, 1908; Brit. Gyn. Jour., 1903, xix, 226.

[2] Hirschfeld: Deutsch. med. Wchnschr., 1911, xxxvii, 1193.

The patient, G. M., a farmer aged 25, height 5 feet 6 inches, weight 150 pounds, to all appearances in perfect health, with previous good history with the exception of a slight polyuria which occurred for about ten or twelve hours every month or two, developed the following condition: In the forenoon of Jan. 4, 1913, he noticed a diminution in the quantity of urine; by 3 o'clock that afternoon complete anuria had developed. This condition persisted until January 11. On the 5th and 6th he continued his work as usual; on the morning of the 7th he consulted me by telephone. I advised him to go to bed and promised to come to see him. On my arrival I found the patient dressed, seated by the stove and feeling quite comfortable, having experienced no pain or discomfort since the attack began. He stated that he had been in excellent health before the condition developed. On examination he was somewhat puffed under the eyes, but had no other objective symptoms. I passed a catheter; there was no urine in the bladder. The kidneys were not tender on pressure, or enlarged; temperature normal; pulse 82, with somewhat high tension; liver normal in size, with no tenderness; lungs clear; heart sounds clear; no enlargement; apex-beat in fifth interspace; stomach normal; bowels somewhat active; the patient had been taking salts; brain clear, active and apparently normal; pupillary reflexes normal. I advised him to come to my office for cystoscopic examination, which he did, making the trip without mishap. Examination with the cystoscope showed that the bladder was normal; the ureteral openings were clearly visible, but no urine was coming from either. I catheterized the ureters and without difficulty passed the instrument into the pelvis of each kidney. There was no obstruction. It was clearly a case of complete cessation of function of both kidneys. I advised him to continue the salts and drink water freely. I prescribed a saline diuretic and infusion of digitalis; cupped the loins; applied hot applications; employed pilocarpin to produce sweating; gave large warm saline enemas and irrigated the bladder with saline solution, thinking that possibly the act of voiding the fluid might have a reflex action on the kidneys.

These measures were apparently of no value. I saw the patient again on the 8th; his condition was much the same with the exception that he complained of periodic headache. I still persisted with the treatment described. On the 9th his condition was similar; there was some swelling of the ankles and wrists; the patient was quite bright and versatile. On the 10th his condition had decidedly changed; headache was pronounced and continuous; patient vomited twice during the day and once during the night; pupils contracted; temperature was 97.4; there was occasional twitching of the muscles; the patient had now developed a condition of extreme general anasarca such that he could not close his hands or get his fingers together; his lips protruded; his eyes were almost swollen shut; the skin of his legs was shiny and glistening, and his scalp would remain dented on pressure. I immediately ceased the measures I had been using and put him on a mixture of apocynum, 5 grains, iris versicolor 1½ grain, hyoscyamus 4 grains to the fluidram. A 1-dram dose was given every three hours. About 3 p. m. on the 11th, exactly eight days from the beginning of the attack, the kidneys began to functionate; the patient passed urine very freely, so that in six hours he completely filled a 5-quart vessel; and after that at longer intervals he continued to void urine freely. By evening of the 12th at my next visit he was greatly improved. Since then he has progressed steadily.

Urinalysis: Color pale and watery; reaction slightly acid; specific gravity 1.006; albumin absent; sugar absent; microscopic urates, amorphous phosphates, a few oxalate crystals, some squamous epithelial cells, evidently from the bladder.

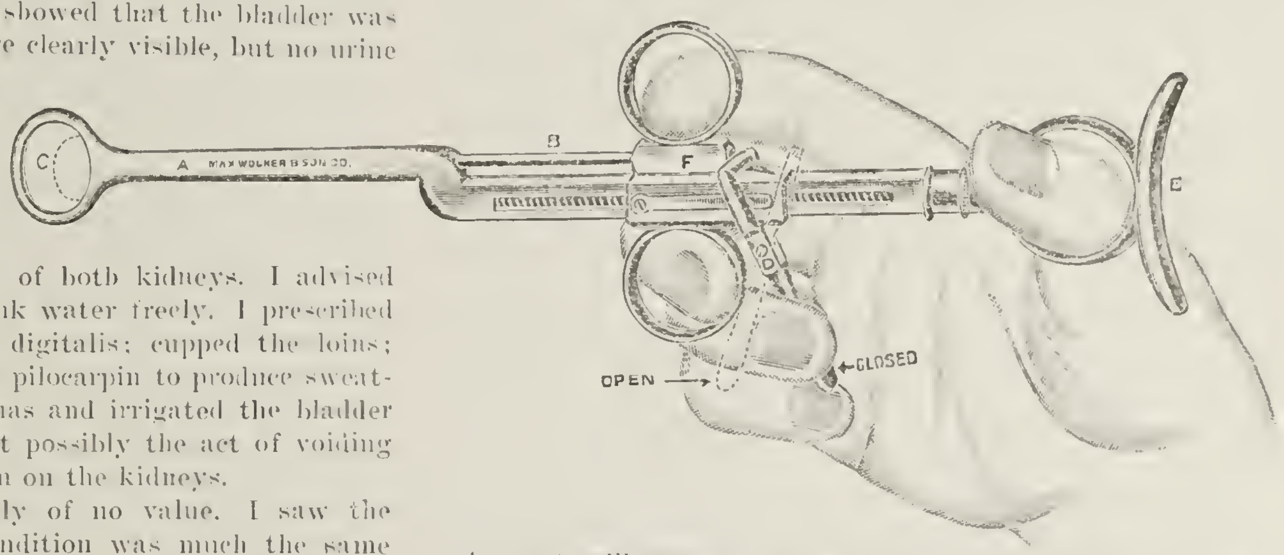
Could this have been hysteric anuria? From this point of view we must admit that there are very few cases in which the suppression is complete, as often on passing a catheter some urine will be found in the bladder. There are some interesting cases reported, one being by Charcot of a hysteric young woman in whom the suppression lasted eleven days, and another by Bailey of a young girl aged 11 who passed no urine from October 10 to December 12. On consulting the literature it will be noted that this condition develops in persons of hysteric tendencies, who at times manifest the disease in other forms, and is more frequent in females. The question of hysteric deception must be taken into account. In this case, however, such deception is out of the question. Is it a condition which may develop as a complication of polyuria or transient polyuria? The latter symptoms he had occasionally shown and even then to no appreciable extent. Is it a forerunner of diabetes insipidus and produced by a toxemia coexistent with the early manifestations of that disease?

I think it was clearly demonstrated that the kidneys resumed their functions as the result of a powerful renal stimulant. The problem is, what was the cause of this condition? The question is an open one.

A NEW TONSILLECTOME

W. Edwards-Schenck, M.D., Cincinnati

The pathologic tonsil has impressed the profession with the value of measures for its removal and this necessity has resulted in many efforts by capable operators to perform the operation as rapidly and safely as human ingenuity permits. Hence the literature shows a number of instruments devised for this special operation



A new tonsillectome. *A*, fenestrated cannula with lips to conceal wire loop; *B*, eyeletted rod. A short wire 3½ inches long is threaded into two eyelets forming a loop which is easily removed. There is no kinking of wire, as in the Beck instrument. *C*, wire loop drawn taut engaging tonsil ready for *D*, lever that locks carriage *F* to ratchet-screw *E*. Dotted lines show position of lever when carriage *F* is free from the rachet-screw *E*. Note how easily the third finger locks or releases carriage *F* from ratchet *E*, thus leaving the left hand free. *E*, ratchet screw with thumb ring to complete removal of tonsil; *F*, carriage with finger-rings of sufficient diameter for the largest hand. This prevents instrument from accidentally leaving the hand when it is slippery from blood or other moisture.

An article by Dr. Joseph C. Beck,[1] with illustration of the tonsillectome he devised and uses, covers this operation fully and explicitly, and I can do no better than to endorse his method and refer the reader to the article. His instrument, however, lacks certain salient features that I have endeavored to incorporate in the new instrument herewith illustrated.

Early in 1911, I experimented by lashing the fenestrated part of a McKenzie guillotine to a tonsil-snare, thus stiffening the wire so that, with the finger, the tonsil could be pushed into the fenestra (after the method long in use by Dr. Victor Ray with the McKenzie guillotine). In this way I succeeded in getting the wire down to the base of the tonsil and easily snaring it encapsuled. This crude instrument was quite satisfactory but it was clumsy and from it was evolved the new one which is fully described under the illustration.

If the tonsil is adherent to the pillars, it should be dissected free, then fed into the fenestra (A) and the instrument held firmly down to the base of the tonsil with the *left forefinger* and the wire loop (*C*) drawn as taut as the operator's strength permits and, if this is not sufficient to remove the tonsil, then carriage (*F*) should be locked by means of the lever (*D*) and the operation finished by means of the ratchet-screw (*E*). In many instances, depending on the strength of hand of the operator, the ratchet-screw will not be needed.

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[1] Beck, J. C.: Tonsillectomy with a Single Instrument, the Tonsillectome, The Journal A. M. A., Jan. 27, 1912, p. 240.

The same wire loop can be used to remove the second tonsil by reversing the movement of the ratchet, when the wire will present at the end of the cannula and be easily replaced in the groove of the fenestra.

This method is practically bloodless compared to that with the various cutting instruments.

19 West Seventh Street.

IRRIGATION OF THE SPINAL CANAL AS A PRELIMINARY TO THE INTRODUCTION OF FLEXNER'S ANTIMENINGITIC SERUM

D. I. Hirsch, M.D., Monroe, La.

The use of serum in epidemic meningitis has so lessened the mortality of this dread disease that we are now able to classify it along with antidiphtheritic serum, but the mortality is still too high. This may be due in some cases to delayed administration, in others to the severe or fulminating character of the cases, and in still others to the presence of thick or purulent fluid which prevents the serum from permeating to all of the recesses of the tract. My object is not to go into details, but to mention a few points which may be of aid in the treatment of this condition.

According to Flexner, the serum produces its beneficial effects by acting directly on the meningococci, the multiplication of which it inhibits. The damage which is thus inflicted leads to dissolution of the cocci, which are made more susceptible to ingestion by the phagocytes. Thus it is that the cerebrospinal fluid quickly fails to yield cultures of the meningococci though they may still be discovered by direct microscopic inspection. The persistence or progression of the infection arises from the inaccessibility of the diplococci in thick exudate in isolated parts of the membrane or in the blocked-up cerebral ventricles. In view of these facts it would be reasonable to modify Robbs' procedure and irrigate in all cases, not limiting irrigation to those cases in which the fluid is purulent. In a large portion of the cases in which the serum is given early, the results are marvelous. It is in those cases in which the gratifying results are not to be had and in those in which treatment is delayed that one would expect to get the best results from irrigation. As it would be impossible to determine beforehand which cases will improve, and as the procedure is harmless, would it not be wise to irrigate in all cases? The two most valuable results of irrigation are the removal of a large number of cocci and the preparation of the field for the reception of the curative serum, which would more than compensate for the loss of a few leukocytes.

TECHNIC

Remove from 30 to 40 c.c. of fluid by lumbar puncture; then with a small syringe, using gentle pressure, introduce 30 c.c. of normal salt solution 100 F. into the canal; allow this to return; repeat this three times in those cases in which the fluid is cloudy, and, in the purulent cases, repeat until the fluid returns clear. Now, the canal should be clear, all obstacles removed and the serum better able to do its work.

REPORT OF CASES

Case 1.—The patient, a colored boy, aged 14, had been sick seventy-two hours. The symptoms were delirium and rigid neck. Kernig's sign was positive; this patient complained of headache and pain in limbs. Fluid was withdrawn and 30 c.c. serum administered. The fluid was thick, containing many Gram-negative diplococci. There was no improvement in the next twenty-four hours. The following day another puncture was made, the irrigation being used before the serum was given; in twelve hours patient was conscious and entirely free from pain, the only symptoms that remained being the stiff neck and the Kernig sign. The patient recovered.

Case 2.—The patient a colored girl, aged 11, was taken with a chill, January 15, at 3 p. m. She had no headache and no pains. A mild purgative was given. January 15 at 6 a. m. the patient was unconscious. I took this to be a fulminating case. Spinal puncture was made; the fluid was examined and found positive. A second puncture was made at 9 a. m.; 20 c.c. of fluid were withdrawn altogether as 15 c.c. had been taken for examination. The canal was irrigated as described above. At 4 p. m. the patient was normal except for a rigid neck. The canal was irrigated daily for three days. Patient recovered.

As this is a harmless procedure, those who are so unfortunate as to have to treat meningitis might find it of some benefit.

Therapeutics

DISTURBANCES OF THE HEART

(Continued from page 749)

TOXIC DISTURBANCES

Under this head it is not proposed to consider disturbances of the heart due to infections, to cardiac disease, or to localized or general acute or chronic disease, but to discuss disturbances due to the absorption of irritants from the intestines, and to alcohol, tobacco and caffein.

It is hardly necessary to repeat that various toxins which may seriously irritate the heart may be absorbed from the intestines during fermentation or putrefactive processes in either the small or the large intestines. The heart may be slowed by some, made rapid by others, and it is often made irregular. The relation of the absorption of intestinal toxins to increased blood-pressure has already been described, and the necessity of removing from the diet anything that perpetuates or increases intestinal indigestion in all cases of high blood-pressure has already been referred to several times. The indications that such a condition of the intestines is present are irregular action of the bowels, a large amount of intestinal gas, sometimes watery stools, often a coated tongue, and the presence of indican in the urine.

Intestinal Putrefaction.—The most successful management of intestinal putrefaction is to remove meat from the diet absolutely. Laxatives in some form are generally indicated, and one of the best is agar-agar. Of course aloin and cascara are always good laxatives, with an occasional dose of calomel or saline, if such seem indicated. Some of the solid peroxid-of-hydrogen-carrying preparations (magnesium peroxid, calcium peroxid, see N. N. R., 1912, p. 174) have been advised as bowel antiseptics, but they are not more successful than many of the salicylic acid preparations, and perhaps none is more efficient than salol (phenyl salicylate) in a dose of 0.3 gm. (5 grains), three or four times a day. Washing out the colon with high injections is often of great value, but should not be continued too long lest the rectum become habituated to distention and bowel movements not take place without an enema.

Lactic acid bacilli, best the Bulgarian, are often of value in intestinal fermentation. A tablet may be eaten with a little milk-sugar or a small lump of cane-sugar after each meal. Or yeast may be taken in the form of brewer's yeast, a tablespoonful in a glass of water, two or three times a day, or one-sixth of an ordinary compressed yeast cake dissolved in a glass of water and taken once or twice a day. Or various forms of lactic acid fermented milk may be successful.

Any particular food that causes fermentation in the intestine of the subject should be eliminated from his diet; in other words, the patient must be individualized as to fruits, cereals and vegetables but, as above stated, meat should ordinarily be withheld for a time at least.

Alcohol.—The effect of alcohol on the body will evidently have to be considered a very important factor for a long time to come, in spite of the educational influence exerted on the public, and especially on the young, by the publication of facts concerning the dangers of alcohol, and in spite of the increase of total abstinence and no-license cities, counties and states. How true the statistics may be is hard to estimate, but statistics are quoted to indicate that the consumption of alcoholic drinks is at least not decreasing even in the United States.

Enough has already been said of the value and limitations of alcohol as a therapeutic agent. As a beverage, when constantly used, it is likely to cause obesity, gastric indigestion, arteriosclerosis, myocardial degeneration, chronic nephritis and cirrhosis of the liver. Its first action is undoubtedly as a food, if not too large amounts are taken, and therefore it is a protector of other food, especially of fat and starch. A habitué, then, especially if he has reached the age at which he normally adds weight, increases his tendency to obesity, and the first mistake in his nutrition is made. If he takes too much alcohol when he eats or afterward, his digestion will be interfered with. Sooner or later, then, gastritis and stomach indigestion develop, with consequent intestinal indigestion. If he takes strong alcohol, like whisky, on an empty stomach, he may sooner or later cause serious disease of the mucous membrane of the stomach, first chronic gastritis, and later atrophy of the glands of the stomach. Alcohol with meals which contain meat tends to the production of an increased amount of uric acid. Alcohol taken before meals on an empty stomach causes sudden vasodilatation after absorption. It goes quickly to the liver, irritates it, and little by little causes congestions of the liver, so that sooner or later sclerosis of this organ develops.

Alcohol probably causes arteriosclerosis not by its action *per se*, but indirectly by causing gastro-intestinal indigestion and insufficiency of the liver, as a result of which more toxins circulate in the blood, tending to produce arteriosclerosis. Sooner or later these irritants cause kidney irritation, and chronic interstitial nephritis may develop. Just which process becomes the farthest advanced and finally kills the patient is an individual proposition and cannot be foretold. The finale may be cirrhosis of the liver, uremia, arteriosclerosis, apoplexy or myocarditis with dilatation or coronary disease.

While small, more or less undiluted doses of alcohol, as whisky or brandy, may cause quick stimulation of the heart by reflex irritation of the esophagus and stomach, vasodilatation occurs as soon as the alcohol is absorbed, and if large doses are absorbed, vasomotor paresis may occur, temporarily at least.

During acute fever processes with an increased pulse-rate, provided shock or collapse is not present, small or medium-sized doses of alcohol, by dilating the peripheral blood-vessels and increasing the peripheral circulation, may relieve the tension of the heart and slow the pulse by the equalization of the circulation. Some of this action may be due to the narcotic effect of alcohol on the cerebrum. Alcohol may thus in many instances act for good. Overdoses, as shown by cerebral excitation, flushing of the face and increased pulse-rate, will do harm; in fact, many a patient with a serious illness, as typhoid fever or pneumonia, is made delirious by alcohol, and the delirium is not a complication of the disease. Large doses of alcohol in shock or collapse are contra-indicated.

Chronic overuse of alcohol may cause chronic myocarditis and fatty degeneration of the heart, with later weakening of the heart muscle and dilatation.

In acute alcohol poisoning the pulse may become very rapid and weak, and the patient may die of heart failure. This is often seen in delirium tremens. The administration in this condition of enormous doses of digitalis by the stomach is inexcusable, and the reason that such patients survive such digitalis poisoning is that the stomach does not absorb during this cardiac prostration.

A treatment as successful as any in this heart weakness in delirium tremens is morphin sulphate, 1/4 grain, and atropin, 1/150 grain, given hypodermatically, with the administration of digitalinum hypodermatically for its later action on the heart. If the heart is contracting very rapidly, an ice-bag over the precordia will often quiet it. If the pulse is very weak, the cerebral sedatives more frequently used in delirium tremens, such as chloral, bromids, paraldehyd, etc., are generally contra-indicated. A hot foot-bath and an ice-cap on the head sometimes aid in establishing a more general equalization of the circulation. It may often be necessary to administer strychnin, although if the patient is greatly excited it should be withheld as long as possible. For the same reason camphor, coffee and other cardiac stimulants which cause cerebral excitation should be withheld.

If the patient is in alcoholic coma, the pulse is generally slow, although it may be of low pressure unless the patient is otherwise diseased. Caffein or coffee is here indicated, and the patient should be kept warm lest he lose necessary heat. The stomach should be emptied by an emetic, often best by apomorphin hypodermatically, unless the pulse is excessively weak. Strychnin may also be given, and digitalin, hypodermatically, if it seems indicated. Camphor is another cardiac and cerebral stimulant that is valuable in these cases.

The treatment of an actual degeneration of the heart from overuse of alcohol is similar to the same condition from other causes.

Caffein.—Caffein can irritate and cause irregularity and tachycardia, especially in certain persons. In fact, some can never take a single cup of coffee without having an attack of palpitation, and many times when coffee and tea have been unsuspected by the patient as the cause of cardiac irritability, their removal from the diet has stopped the symptoms, and the heart has at once acted normally.

Caffein is a stimulant and tonic to the heart, increasing its rapidity and the strength of the contractions. It is also a cerebral stimulant, one of the most active that we possess among the drugs. It increases the blood-pressure, principally by stimulating the vasomotor center and by increasing the heart strength. It acts as a diuretic, not only by increasing the circulatory force and blood-pressure, but also by acting directly on the kidney. This action on the kidney contra-indicates the use of caffein in any form, except in rare instances when there is acute or chronic nephritis. The increased blood-pressure caused by caffein also contra-indicates its use when there is hypertension. Caffein first accelerates the heart and later may slow it and strengthen it; but if the dose is large or too frequently repeated the apex of the heart ceases to relax properly and there is an interference with the contraction of the ventricles, the heart muscle becomes irritable, and a tachycardia may develop.

Therefore when a heart has serious lesions, whether of the myocardium or of the valves, with compensation only sufficient, the action of caffein in any form is contra-indicated. The fact that it raises the blood-pressure, thus increasing the force against which the heart must act, and that it irritates the heart muscle to more sturdy or irregular contraction, indicates that a patient with a heart lesion or with a nervously irritable heart should never drink tea and coffee or take caffein in any beverage.

Many patients cannot sleep for many hours after they have taken coffee or tea, as the cerebral stimulation of caffein is projected for hours after its ingestion. Caffein does not absorb so quickly and therefore does not act so quickly when taken in the form of tea and coffee as it does when taken as the drug or as a beverage which contains the alkaloid. Persons who are nervously irritable, excited and overstimulated cerebrally, with or without high blood-pressure, should not take this cerebral and nervous excitant. This is true in early childhood and in youth, and continues true as age advances, in most persons. It is a crime to present caffein as a soda fountain beverage to children and young persons when the excitement of the age is such as already to overstimulate all nervous systems and all hearts.

A considerable majority of persons over 40 learn that they cannot drink tea or coffee with their evening meal without finding it difficult to sleep. Such patients, of course, should omit this stimulant. Some patients have already recognized this fact and its cause; others must be told. The majority of adults are probably no worse and may be distinctly benefited by the morning cup of coffee and the noon coffee or tea, provided that the amount taken is not large. It seems to be a fact that the drinking of coffee is on the increase, especially as to frequency. Certainly the five o'clock tea, with women, is on the increase, and we must deal with one more cerebral and nervous excitant in our consideration of what we shall do to slow this rapid age.

Tobacco.—In spite of the fact that a large number of men to-day do not smoke, more and more frequently every clinician has a patient who smokes too much. The accuracy with which he investigates these cases depends somewhat on his personal use of tobacco, and therefore his leniency toward a fellow-user. Perhaps the percentage of young boys who smoke excessively is larger than the percentage of men. Whether the term "excessive" should be applied to any particular amount of tobacco consumed depends entirely on the person. What may be only a large amount for one person may be an excessive amount for another, and even one cigar a day may be too much for a person—as much for him as five or more cigars for another.

The internal revenue report shows that the use of tobacco is on the increase; from July 1 to Oct. 1, 1912, 1,000,000,000 more cigarets were used in the United States than for the same three months of 1911. During the same period of three months, in which a total of 3,800,000,000 cigarets were consumed, 1,950,000,000 cigars were also used. It is therefore seen that in spite of the public school instruction as to the physiologic action of tobacco and its harm, and in spite of the antitobacco leagues, the consumption of tobacco is enormously on the increase.

The most important action of nicotin is on the circulation. Except during the stage when the person is becoming used to the tobacco habit, in which stage the heart is weakened and the vasomotor pressure lowered by his nausea and prostration, the blood-pressure is always raised during the period of smoking. The length of time the increased pressure continues depends on the person, and it is this diminishing pressure that causes many to take another smoke. The heart is slowed by the action of nicotin on the vagi, as these nerves are stimulated both centrally and peripherally. An overdose of nicotin will paralyze the vagi. The heart action then becomes rapid and perhaps irregular. The heart muscle is first stimulated, and if too large a dose is taken, or too much in twenty-four hours, the muscle becomes depressed and perhaps debilitated. The consequence of such action on the heart muscle, sooner or later, is a dilatation of the left ventricle if the overuse of the tobacco is continued.

There is, then, no possible opportunity for any discussion as to the action of tobacco on the circulation. Its action is positive, constantly occurs, and is always to be considered. The only point at issue is as to whether such an activity is of consequence to the individual. The active principle of tobacco is nicotin, besides which it contains an aromatic camphor-like substance, cellulose, resins, sugars, etc. Other products developed during combustion are carbon monoxid gas, a minute amount of prussic acid and in some varieties a considerable amount of furfural, a poison. From any one cigar or cigaret but little nicotin is absorbed, else the user would be poisoned. It is generally considered that the best tobacco comes from Cuba, and in the United States from Virginia. While it has not been definitely shown that any stronger narcotic drug occurs in cigarets sold in this country, it still is of great interest to note that a user who becomes habituated to one particular brand will generally have no other, and the excessive cigaret-smoker will generally select the strongest brand of cigarets. The same is almost equally true of cigar smokers.

Besides the effect on the circulation, no one who uses tobacco can deny that it has a soothing, narcotic effect. If it did not have this quieting effect on the nervous system, the increased blood-pressure would stimulate the cerebrum. Following a large meal, especially if alcohol has been taken, the blood-vessels of the abdomen are more or less dilated by the digestion which is in process. During this period of lassitude it is possible that tobacco, through its contracting power, by raising the blood-pressure in the cerebrum to the height at which the patient is accustomed, will stimulate him and cause him to be more able to do active mental work. On the other hand, if a person is nervously tired, irritable, or even muscularly weary, a cigar or several cigarets will increase his blood-pressure, take away his circulatory tire, soothe his irritability, and stop temporarily his muscular pains or aches and muscle weariness. If the user of the tobacco has thorough control of his habit, is not working excessively, physically or mentally, has his normal sleep at night and therefore does not become weary from insomnia, he may use tobacco with sense and in the amount and frequency that is more or less harmless as far as he is concerned. If such a man, however, is sleepless, overworked or worried, if he has irregular meals or goes without his food, and has a series of "dinners," or uses a lot of alcohol, which gives him vasomotor relaxation, he finds a constantly growing need for a frequent smoke, and soon begins to use tobacco excessively. Or the young boy, stimulated by his associates, smokes cigarets more and more frequently until he uses them to excess.

Just what creates the intense desire for tobacco to the habitué has not been quite decided, but probably it is a combination of the irritation in the throat, especially in inhalers, of the desire for the rhythmic puffing which is a general cerebral and circulatory stimulant, for the increased vasomotor tension which many a patient feels the need of, for the narcotic, sedative, quieting effect on his brain or nerves, for the alluring comfort of watching the smoke curl into the air, or for the quiet, contented sociability of smoking with associates. Probably all of these factors enter into the desire to continue the tobacco habit in those who smoke, so to speak, normally.

The abnormal smokers, or those who use tobacco excessively, have a more and more intense nervous desire or physical need of the narcotic or the circulatory stimulant effect of the tobacco, and they smoke more and more constantly. They are largely inhalers, and frequently cigaret fiends.

It is probable that tobacco smoked slowly and deliberately, when the patient is at rest, and when he is leading a lazy, inactive, non-hustling life such as occurs in the warmer climates, is much less harmful than in our colder climates where life is more active. Something at least seems to demonstrate that cigaret-smoking is more harmful in our climate than in the tropics.

It has been shown by athletic records and by physicians' examinations of boys and young men in gymnasiums that perfect circulation, perfect respiration and perfect normal growth of the chest is not compatible with the use of tobacco during the growing period. It is also known that tobacco, except possibly in minute quantities, prevents the full athletic power, circulatorily and muscularly, of men who compete in any branch of athletics that requires prolonged effort.

The chronic inflammation of the pharynx and subacute or chronic irritation of the lingual tonsil, causing the tickling, irritating, dry cough of inhalers of tobacco is too well known to need description.

Many patients who oversmoke lose their appetites, have disturbances from inhibition of the gastric digestion, and may have an irregular action of the bowels from overstimulation of the intestines, since nicotin increases peristalsis. Such patients look sallow, grow thin and lose weight. These are the kind of patients who smoke while they are dressing in the morning, on the way to their meals, to and from their business, and not only before going to bed, but also after they are in bed. It might be a question as to whether such patients do not need conservators. The use of tobacco in that way is absolutely inexcusable, if the patient is not mentally warped. Cancer of the mouth caused by smoking, blindness from the overuse of tobacco, muscular trembling, tremors, muscle cramps and profuse perspiration of the hands and feet are all recognized as being caused by tobacco poisoning, but such symptoms need not be further described here.

The reason for which physicians most frequently must stop their patients from using tobacco, however, is that the heart itself has become affected by the nicotin action. The heart muscle is never strengthened by nicotin, but is always weakened by excessive indulgence in nicotin, the nerves of the heart being probably disturbed, if not actually injured.[1] The positive symptoms of the overuse of tobacco on the heart are attacks of palpitation on exertion lasting perhaps but a short time, sharp stinging pains in the region of the heart, less firmness of the apex-beat, perhaps irregularity of the heart, and cold hands and feet. Clammy perspiration frequently occurs, more especially on the hands. Before the heart muscle actually weakens, the blood-pressure has been increased more or less constantly, perhaps permanently, until such time as the left ventricle fails. The left ventricle from tobacco alone, without any other assignable cause, may become dilated and the mitral valve become insufficient. Before the heart has been injured to this extent the patient learns that he cannot lie on his left side at night without discomfort, that exertion causes palpitation, and that he frequently has an irregularly acting heart and an irregular pulse. He may have cramps in his legs, leg-aches and cold hands and feet from an imperfect systemic circulation. In this condition if tobacco is entirely stopped, and the patient put on digitalis and given the usual careful advice as to eating, drinking, exertion, exercise and rest, such a heart will generally improve, acquire its normal tone, and the mitral valve become again sufficient, and to all intents and purposes the patient becomes well.

On the other hand, a heart under the overuse of tobacco may show no signs of disability, but its reserve energy is impaired and when a serious illness occurs, when an operation with the necessary anesthesia must be endured or when any other sudden strain is put on this heart, it goes to pieces and fails more readily than a heart that has not been so damaged.

If a patient does not show such cardiac weakness but has high tension, the danger of hypertension is increased by his use of tobacco, and certainly in hypertension tobacco should be prohibited. The nicotin is doing two things for him that are serious; first, it is raising his blood-pressure, and second, it will sooner or later weaken his heart, which may be weakened by the high blood-pressure alone. Nevertheless a patient who is a habitual user of tobacco and has circulatory failure noted more especially about or during convalescence from a serious illness, particularly pneumonia, may best be improved by being allowed to smoke at regular intervals and in the amount that seems sufficient. Such patients sometimes rapidly improve when their previous circulatory weakness has been a subject of serious worry. Even such patients who were actually collapsed have been saved by the use of tobacco.

Whether the tobacco in a given patient shall be withdrawn absolutely, or only modified in amount, depends entirely on the individual case. As above stated, no rule can be laid down as to what is enough and what is too much. Theoretically, two or three cigars a day is moderate, and anything more than five cigars a day is excessive; even one cigar a day may be too much.

(To be continued)

Relative Cost of Health and War.—To kill a soldier in war, according to statistics based on the late unpleasantness between the British and the Boers in South Africa, cost forty thousand dollars. To save the life of a citizen in the Panama Canal Zone costs $2.43 per capita of population, reports Colonel Gorgas, head of the sanitary force of the Zone. From which it would seem that it is much more economical to save a citizen than it is to kill a soldier. But we are so blind that while we willingly tax ourselves hundreds of millions of dollars to carry on a war, we grudgingly give up a paltry sum for the support of health boards—so little, indeed, that the health boards are unable to do much more than give advice, which advice is usually not acted on to any noticeable extent. —*Druggists Circular.*

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[1] Those who wish to read further of the general physiologic effects of tobacco are referred to our article in this department, May 8, 1909, p. 1495, and to an editorial on "Some New Evidence on the Tobacco Question," The Journal, Nov. 16, 1912, p. 1798.

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SATURDAY, MARCH 15, 1913

THE BLOOD IN ANAPHYLACTIC SHOCK

Under the influence of scientific investigation the unique biologic phenomenon which has been designated as anaphylaxis is slowly beginning to unfold its character and disclose the underlying chemical reactions which are responsible for its remarkable manifestations. It has previously been noted that the injection of foreign protein into the circulation is followed by a noteworthy response in the nature of the appearance of enzymes of the proteolytic type capable of digesting the new substance introduced into the blood. One is at once inclined to ask the significance of the newly developed plasma enzyme. Is it provided by the organism to disintegrate the foreign protein and thus give an opportunity for its physiologic removal from the blood-stream? And, if so, are the proteolytic digestion products responsible for the phenomena of the so-called anaphylactic shock? It is well known that the protein derivatives of the proteose or peptone type are capable of inciting in animals responses which have much in common with the anaphylactic collapse seen in certain species.

The existence of a latent period between the injection of the sensitizing dose of protein and the actual exhibition of the condition of hypersensitiveness has complicated the experimental analysis of the situation and rendered a hypothesis much more difficult to formulate. The acquired proteolytic power of the serum may be manifested very soon after the first injection, so that it becomes evident that the presence of the enzyme and of the foreign protein in the circulation does not of itself suffice to occasion the anaphylactic shock.

It has been observed, furthermore, that during the stage of so-called anti-anaphylaxis the capacity of the serum to digest the sensitizing protein is largely or entirely lost. Abderhalden[1] has lately examined the blood of sensitized guinea-pigs which were reinjected after an interval of eighteen days. He observed that in blood removed within half an hour after the reinjection the presence of diffusible (peptone-like) compounds giving the biuret reaction could be shown in the serum obtained. The possibility of the formation of peptone in the circulation during the stage of anaphylactic shock was thus demonstrated. The practical importance of this finding in a clinical way becomes apparent. The possibility of detecting proteolytic enzymes in the blood-serum enables one to foretell the danger of an anaphylactic collapse if a second injection of a previously used antigen is attempted. Inasmuch as the method — incubation of the serum and dialysis, followed by examination of the diffusate for protein by the biuret or some other delicate test — is quite within the possibilities of clinical use, it may turn out to be feasible hereafter, by the simple expedient of a diagnostic laboratory test, to avoid the hidden dangers of anaphylactic response which lurk unsuspected in the blood.

HEALTH OF THE AMERICAN INDIAN

In spite of the fact that the Office of Indian Affairs has recently made its eighty-first annual report to the Secretary of the Interior,[1] it is only in the last few years that the United States government has fully recognized its obligations to the redskin. The present policies are admirable even though of recent development. They center about the individual Indian and Indian family. It is their endeavor to educate each Indian in a knowledge of health and sanitation which will prolong his race and fit him in reality to associate and compete with white Americans. They seek either to place each Indian on a piece of land of his own, on which he can support his family, or to give him an equivalent opportunity in some industry or trade.

The last decade has seen a notable increase in the total school attendance of Indian children in government, public and mission schools, from 24,120 in 1902 to 39,397 in 1911; and yet in 1911 there were 24,000 Indian children of school age who were not in any school. In the past year special attention has been paid to the health and physical development of Indian pupils, and the Indian Office has sought particularly to deal effectively with the need for social and recreational development among the Indians. Along this line was the work of a committee appointed by the Russell Sage Foundation and the National Recreation and Playground Association to cooperate with the government bureau in a study of the communal life of the Indians, especially as to their recreations and social activities. In the Indian school dormitories out-door sleeping-porches are being made a feature; 500 cubic feet of air-space per child is the minimum allowed in the dormitories.

As in all primitive races, alcohol is one of the Indian's deadliest foes, and to keep it from him requires unceasing vigilance. During the year 1912, 1,480 cases of illegal supplying of liquor to Indians were prosecuted, in addition to 846 pending from the previous year. In these there were 1,002 convictions, 267 dismissals and 32 acquittals. From the point of view of the public health of the Indian, the introduction of alcoholic liquors among them is a most serious question, and the efficient enforcement of the national laws forbidding it is to be commended. It is of interest to note that during 1912 a conviction was secured for this offense in Washington, D. C., showing that the Indian's thirst for alcohol follows him far from home, that he can obtain it in the very shadow of the capitol, and that the law is applicable everywhere.

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[1] Abderhalden, E.: Weitere Studien über Anaphylaxie, Ztschr. f. physiol. Chem., 1912, lxxxii, 109

[1] Ann. Rep. 1913, Indian Office, Dept. of the Interior.

In 1912 the Indian Office had under its supervision 300,930 Indians;[2] in recent years the Indian population has been steadily increasing. The accompanying tables, supplied by the Commissioner of Indian Affairs, indicate a steadily progressing increase in the Indian population, and show the changes in the numerical strength of tribes in which there was a marked increase or decrease. In general, health conditions in schools and on reservations are far from satisfactory, even though definite progress is being made. The death-rate in the Indian country is 35 per thousand, as compared with 15 per thousand for the country as a whole. No exact figures are as yet available for the infant mortality, but it is very high.

Tuberculosis was probably the most destructive disease. Of 42,645 Indians examined for disease last year, 6,870, or 16.11 per cent., were tuberculous. On the White Earth Reservation in Minnesota 600 out of 3,300 Indians had tuberculosis. On the Blackfeet Reservation in Montana, one-third of those examined had the disease. Of the total population of the Colorado River Reservation in Arizona, 20 per cent. had tuberculosis. At the Mescalero Reservation School in New Mexico, where the climate is nearly ideal, 5 per cent. of the children were tuberculous. Over one-fourth of the Indians of the Pine Ridge Reservation in South Dakota had tuberculosis. Even in southern California over 10 per cent. of the Indians suffer from the disease. Yet in all the United States there is no tuberculosis sanatorium for adult Indians, and there is provision for only 175 children of school age with incipient tuberculosis.

During the year a prize composition contest was held for special study and papers on tuberculosis. About 20,000 Indian children competed, and 561 prizes were awarded. Wide-spread interest in health and hygiene was aroused by this means. The three tuberculosis sanatorium schools were improved and enlarged. The one at Fort Lapwai, Idaho, can now accommodate 100 children. The Phoenix sanatorium in New Mexico is now of distinct value in caring for incipient cases in the Southwest. The sanatorium at Laguna, New Mexico, meets the need of those cases requiring an institution at a high altitude.

Of the 42,645 Indians examined, over 16 per cent. were likewise suffering from trachoma, and on the Kiowa, Comanche and Apache reservations 71 per cent. of the schoolchildren had trachoma. The Indian Service is developing a corps of ophthalmologists to cope with these conditions. Under their direct supervision last year over 3,000 patients were operated on and over 8,000 were treated by the regular school and agency physicians.

The campaign of education in health and hygienic living has been continued by means of stereopticon lectures, pamphlets, school training, and through the medium of visiting nurses, field matrons and women industrial teachers. It is hoped soon to make provision for dental services by means of traveling dentists or by contract with local dentists when practicable.

For the fiscal year 1913 an appropriation of $250,000 has been asked from Congress to defray the expenses of a special health campaign, but only a part of this has so far been granted. Full provision for this work cannot be too earnestly urged. The Indian medical service is sadly underpaid and overworked, and is totally unable in its present status to cope with existing conditions successfully. The inferior pay and small chance for promotion[3] do not attract the best class of candidates. Congress should see to it that these things are speedily remedied.

TABLE 1.—STATISTICS OF INDIAN POPULATION

Fiscal Year	Indian Population	Indians Under Supervision Indian Office, Including Five Civilized Tribes	Indians Within Reach of Contract or Regular Physicians	Indians Receiving Medical Relief from Indian Office
1903	263,233	241,252	*	*
1904	274,206	246,855	*	*
1905	284,079	256,415	*	*
1906	291,581	261,596	*	*
1907	298,472	264,227	*	*
1908	300,412	269,192	*	40,000†
1909	300,545	*	172,707	45,000†
1910	304,950	272,664	175,218	50,000†
1911	322,715	296,320	176,796	55,000†
1912	327,425	300,930	176,176	60,000†

* No record. † Estimated.

TABLE 2.—CHANGES IN THE STRENGTH OF TRIBES

Name of Tribe and State	Population 1902	Population 1912	Increase (+) or Decrease (—)
Eastern Cherokee, North Carolina..	1,431	2,078	+ 647
Navajo, Arizona and New Mexico..	21,837	30,244	+8,407
Piegan, Blackfeet, Montana.......	2,082	2,613	+ 531
Pueblo, Arizona and New Mexico...	8,334	9,349	+1,015
Sioux, South Dakota............	17,103	20,333	+3,230
Yakima, Washington	2,313	3,046	+ 733
Confederated, Flathead, Montana...	2,581	2,281	— 300
Crows, Montana	1,870	1,731	— 139
Jicarilla-Apache, New Mexico......	802	680	— 122
Uinta, Uncompahgre and White River Ute, Utah................	1,661	1,183	— 478
Winnebago, Wisconsin	1,377	1,243	— 134

THE NUTRITION INVESTIGATION OF THE ILLINOIS PELLAGRA COMMISSION

The report of the biochemical work under the auspices of the Illinois Pellagra Commission[1] includes a series of dietary studies by A. F. Wussow and H. S. Grindley of the University of Illinois. These were conducted at the Peoria State Hospital where the ravages of pellagra have been particularly noticeable. It has been impossible hitherto to extend these nutrition investigations very far; nor have they, as yet, thrown any light on the etiology of the baffling disease. Incidentally, however, the presumable nutritive value of certain typical dietaries furnished to inmates of a large state charitable institution can be estimated from the statistics which have been compiled. Perhaps when similar data have been collected from other comparable institutions in which pellagra has not appeared, something regarding its possible relation to diet will come to light.

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[2] In the editorial Health Work Among Indians, THE JOURNAL A. M. A., May 18, 1912, p. 1515, the number was given as 310,926. This was taken from the latest available encyclopedic reference.

[3] Compare Physicians in the Indian Service, Current Comment, THE JOURNAL A. M. A., Feb. 8, 1913, p. 454.

[1] A condensed report of the Illinois Pellagra Commission is given in the Archives of Internal Medicine, August and September, 1912, pp. 123, 219.

Whatever the result may be, these new studies have an independent value in connection with the debated problem of the dietary standards which prevail or which should be adopted for public institutions such as hospitals for the insane. It may be replied that there is no dearth of statistics to serve as guides in this matter. If this be admitted in a general way, it must at once be added that the facts and figures available are in many cases of limited value. Practically all of the earlier results were determined from statistics of the food-supplies and average populations taken from the books of the institution, and not ascertained by actual experiment. Atwater showed in one instance that the discrepancies between such crude estimates and the more accurate determinations of actual food consumption may amount to 33 per cent.

Although there is a fairly general agreement among students of nutrition regarding the total energy requirement of healthy men under various conditions of activity, one finds less unanimity when the protein needs are taken into consideration. Without attempting at this time to defend or define either a "high" or a "low" protein plane as the optimum of nutritive success, we shall content ourselves with the facts ascertained at Peoria. The nutritive values of the food consumed in the "general" diet at the Illinois institution averaged 73 gm. of protein and 2,568 calories per man per day. These figures are for the entire hospital population, including employees. They are distinctly lower than the "standards" usually assigned, and somewhat lower than the figures reported in earlier dietary studies in similar American institutions.[2] The most unusual feature of the Peoria study is the fact that the diet was chiefly vegetable in nature. Whereas in the average American dietary animal foods constitute nearly 40 per cent. and vegetable products about 60 per cent. of the ingredients, in the Peoria institution only 8 per cent. consisted of foods of animal origin.

It is well known that comparatively inactive persons, such as constitute the usual groups of the insane, require less food than hard-working persons. Yet when one takes into consideration the moderate total intake in the daily dietary of the hospital cited, as well as the reputed lower digestibility of a diet containing a large proportion of vegetable foods, it may be questioned whether the total amount of the nutrients furnished should not be increased or at least their character altered. This is the general conclusion tentatively reached by the Illinois report. Allowing a safe margin and taking into consideration the needs of the ordinary patients rather than those of the more active employees or extreme invalids, the following provisional standard is proposed: per man per day: protein, 90 gm.; energy, 2,700 calories; per woman per day: protein, 72 gm.; energy, 2,200 calories. To these must be added a fair allowance for waste and shrinkage which should not exceed from 12 to 15 per cent.

Other more specific recommendations are also made. It is suggested that in consideration of the character of the people for whom the standard is designed, at least 40 or 50 per cent. of the protein of the diet should be derived from animal foods. By this is not meant meats exclusively. Eggs, milk and other dairy products may be included. The diet should at all times possess a variety; especially should it contain an abundance of fresh fruits and vegetables, in season, to insure an abundance of desirable food "accessories" and mineral nutrients. The Illinois report suggests that since practically each state institution has its own large gardens and farms, it ought not to be a difficult matter to furnish the provisions just cited. Further recommendations regarding the preparation and serving of food and other hygienic features are self-evident.

Additional data have been secured in regard to special corn diets and corn-free diets used in the Peoria Hospital. They give no immediate clue to the solution of the pellagra problem, and these dietaries as furnished certainly cannot be considered as excessive, although probably adequate for the patients' needs. Judged by the moisture content, acidity, the presence of molds and other microorganisms, and the presence of insects, the corn-meal used in the Illinois state institutions appears, on the average, to be of good grade. It was found to be of better quality than the corn-meal obtained from a number of other sources, including Alabama and Italy. Quite aside from any contribution to the pellagra question, the broader problems of diet in public institutions are well worthy of continued investigation by methods which are accurate and persons who are competent.

IS "BOB VEAL" TOXIC?

Laws which are in force in various countries, notably in the United States, forbid the sale of veal under one month of age for use as human food. There is a widespread belief that "bob veal," as the flesh of these very young calves is popularly called, has properties detrimental to health so that its consumption is liable to be followed by untoward symptoms. Diarrhea is occasionally ascribed to the ingestion of young veal. An inspection of representative books on hygiene fails to disclose any evidence for the justification of this popular notion regarding bob veal. It is well known that the flesh of younger animals is richer in water and more tender than that of older ones of the same species. The proportion of the nutrient substances increases with age. Older animals likewise yield more of the extractive bodies; so that soup prepared from veal is by no means comparable with that yielded by the meat of fattened cattle. Veal is commonly regarded as more difficult of digestion than beef, the reason being assigned to differences in the texture of the flesh.

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[2] Compare Atwater, W. O.: Dietaries for Hospitals for the Insane, Final Report, Thirteenth Annual Report, State Commission in Lunacy, New York, 1900-1901; Dietary Studies in the Connecticut Hospital for the Insane, Annual Report, Conn. Agric. Exper. Sta., Storrs, 1899. Pratt, H. A., and Milner, R. D.: Dietary Studies at the Government Hospital for the Insane, Bull. 150, Office Exper. Sta., U. S. Dept. Agric., 1904. Knight, Pratt and Langworthy: Dietary Studies in Public Institutions in Baltimore, Bull. 223, Office Exper. Sta., U. S. Dept. Agric., 1910.

Prof. P. A. Fish of Cornell University has reported a series of experiments in which bob veal was compared with market veal and with beef in respect to some of its properties.[1] Although the experiments indicate quite a satisfactory line of demarcation between the younger bob and older veal, there are occasional individual exceptions, and the method of distinguishing between old and young veal as yet cannot, therefore, be declared infallible. Dietetic experiments were also carried on in which bob veal was eaten in seven families aggregating twenty individuals ranging from 2 to 60 years of age. The statement that the flesh of bob veal has a laxative effect and induces diarrhea was not confirmed in a single instance throughout the work. The health in all cases was apparently normal; nor did any family refuse a second helping when another carcass became available.

In all veal there is a deficiency of fat as compared with beef. In bob veal this deficiency is naturally somewhat more pronounced, because fat is a result of growth and age under proper nutritive conditions. In the use of bob veal this deficiency may be overcome to a considerable extent by cooking the veal with pork or other fat.

Professor Fish is of the opinion that bob veal is in no way injurious when used as human food. The desirability of changing the present regulations and existing legal restrictions regarding the sale of very young veal is thus thrown open for discussion. The subject is one which should not be dismissed or settled by a few haphazard experiments or hasty generalizations.

GOVERNOR SULZER'S SPECIAL MESSAGE ON PUBLIC HEALTH

One of the most significant occurrences of the winter in the public health campaign is the report of the special commission appointed by Governor Sulzer on public health in the state of New York, and the transmission of the report to the state legislature by the governor, accompanied by a special message, pointing out the importance of this subject. This is probably the first time a state executive has taken such an advanced position regarding the duty of the state to protect the lives and health of its citizens. The governor's message opens with the statement that the protection of the life and the promotion of the health of its citizens are among the first duties of the state, and that there is no more important subject in public administration than public health. After reviewing the circumstances which led to the appointment of the special commission, the work which it has done and the character of the report which it has made, the message then criticizes the present public health administration in the state of New York. In order to permit of a comparison between the conditions which Governor Sulzer describes and those found in other states, it must be borne in mind that New York has probably one of the most effective health departments in the country, and that if such conditions are found in the Empire State, the situation in most of the other states is probably worse.

Governor Sulzer points out that there is no well-coordinated system of public health administration in the state, and that the local boards of health, consisting of the county supervisor, justice of the peace and other local authorities, can hardly be regarded as qualified agencies for stamping out disease. He also asserts that there is no reason why, under proper management, the death-rate in the country should not be much lower than that in the city. He further shows that the fees paid to members of town and village boards of health amount to from $70,000 to $100,000 per year, for which expenditure no results are obtained. He is particularly emphatic in showing the economic value of modern public health administration. "An outbreak of small-pox in any city or village involves serious losses to its business men, most of which are clearly avoidable. It may be conservatively stated that the saving that would result from the efficient control of preventable diseases other than tuberculosis throughout the state would be not less than $10,000,000 per year. Efficient public health administration pays. The motto of the New York City Health Department, 'Public health is purchasable within natural limitations, and any community can determine its own death-rate,' should be made the motto of the state."

After reviewing the results of the campaign against tuberculosis, and asserting that "the people have determined that tuberculosis must be conquered," the governor adds: "Another thing: The loss of 7,000 babies in this state per annum must be stopped. The remedy is simple—state-wide registration of births, and in industrial centers a sufficient number of infant-welfare stations." Every reader will doubtless agree with him that 1,128 deaths per annum from typhoid fever is at least 1,000 too many, and that by controlling infectious diseases, and by creating increased interest in public health, the average of physical vigor, efficiency and productiveness can be greatly increased.

Regarding the report of the commission itself, nineteen special recommendations are made for immediate consideration. The more important of these are:

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[1] Fish, P. A.: Bob Veal and the Public, Am. Vet. Rev., 1912, xli, 178.

That the term of office and compensation of the state health commissioner be made such as to secure and retain the most efficient man available for that purpose.

That a public health council be established with power to adopt sanitary regulations.

That the state commissioner of health exercise supervision over local health authorities.

That the state outside of New York City be divided into at least twenty sanitary districts with an expert sanitary supervisor in each, devoting his full time to health work.

That the health officers in towns and villages receive an annual minimum salary equivalent to at least fifteen cents per inhabitant.

That the model law on vital statistics, with such changes as may be necessary, be substituted for the present law.

That each city and county be authorized to employ trained nurses for the care of the sick.

That a bureau of child hygiene and a bureau of public health nursing be added to the State Department of Health.

Other recommendations are: state provision for incipient cases of tuberculosis, county hospitals for tuberculosis, adequate laboratory facilities, local contagious disease hospitals and extension of the educational work of the State Department of Health.

In addition to the subjects covered in its positive recommendations, the commission also states that there are a number of questions of great importance which should be taken up at the earliest possible moment, but on which it is not yet ready to report. These subjects include the establishment in medical colleges of systematic courses of instruction in sanitary science, the requiring of a health certificate as a condition for a marriage-license, the establishment of industrial plants in connection with tuberculosis hospitals, a general study of the results of sanatorium treatment of tuberculosis, the regulation of housing in cities of the second and third classes, and the better protection of water-supplies.

RAILWAY SANITATION

The advance of the railways of the country in applied sanitation has been marked. When one recalls the conditions allowed to exist in railway cars twenty years ago the present state of cleanliness is comparatively satisfactory. The railways are indeed to be commended for their gradual introduction of hygienic regulations that keep their cars, in spite of the numbers of people who travel in them every day, in a state that is not likely to endanger health. There remains, however, one phase of railway sanitation that will soon have to be dealt with; though it is a difficult phase, there is no doubt that improvement of present conditions must come without delay. It would seem to be better for the railways to take up the problem of their own initiative rather than be forced into it by legal regulation.

We are referring to the present mode of disposing of the sewage of trains. In former years when population was less dense and when trains were not nearly so frequent and crowded, it was perhaps not so much to be deprecated that the railways should scatter sewage over the right of way. Now that railways cross thickly populated tracts of territory, and express-trains pass through towns of considerable size without stopping, the crude disregard of hygiene in this matter is entirely out of keeping with present-day sanitary science, particularly as the railway rule is to have the toilets locked only during the times of stopping at stations, which gives opportunity for the scattering of offensive material, distinctly dangerous to health, even on the streets of towns.

There is danger in the present arrangement in the fact that railways frequently cross streams that are connected with water-supplies, and the present custom of disposing of the contents of railway water-closets may well prove a source of contamination of drinking-water. It will not be long before the general public wakes up to this serious danger. Now that we are carefully disposing of sewage in connection with our cities and are no longer allowing ordinary waterways to be contaminated as they formerly were, protection of our smaller streams will surely come to be felt as a necessity.

At present the Pullman Company makes arrangements for the disposal of sewage when cars stand on sidings in smaller towns waiting to be picked up by through express-trains during the night. There is no reason why there should not be an extension of this system that will protect the public, especially its water-supplies. Already boards of health in certain states have issued orders that water-closets shall be closed in certain portions of the state in which there is obvious danger of the contamination of the water-supply. This is of course only a makeshift, and most of us would have little confidence in the absolute safety afforded by any such arrangement. Undoubtedly the proper disposal of sewage would be somewhat expensive and would require special appliances. One device for this purpose is already on the market, and doubtless American inventive genius can be depended on to work out others.

PNEUMONIA PREVENTION

The end of the winter, far from bringing a termination to the danger from pneumonia, in reality marks the beginning of the season when this disease becomes an extremely serious cause of increase of mortality. This is true particularly in large cities. In recent years this increase has become more and more marked and is all the more striking because of the decrease in deaths from other infectious diseases. Pneumonia has been aptly termed the "Captain of the Men of Death," displacing tuberculosis which for so long occupied that "bad eminence."

It is not too much to say that the most important problem before the medical profession at present is the reduction of the death-rate from pneumonia. Considering the nature of the disease and the intense strain which it imposes on the heart, it is probable that the only hopeful outlook for any considerable reduction in pneumonia mortality is through the prevention of the disease. The prospect of a cure for it, in the popular sense of that term, has grown less as we have learned more about the disease. Especially in the case of those in whom the disease is complicated by any affection of the heart, kidneys or lungs the prognosis is always most unfavorable. Once the disease has begun, we have to deal with an ever-increasing mechanical difficulty which only a vigorous constitution can hope to overcome.

While the incidence of pneumonia is greatest during the colder portion of the year it is not dependent entirely on low temperature. The disease occurs at all seasons and in all climates. It does not work its greatest ravages in the colder climates, but is rather rare in the cold of high altitudes and is almost never known to occur within the Arctic circle. In spite of all their suffering from cold, Arctic explorers escape this danger. Hence we must assume that cold acts in conjunction with some other factor in the production of the disease. Pneumonia is favored by lack of sunlight and it occurs among those who are much exposed to dust or who have to breathe the emanations from the lungs of other people. Catarrhal processes affecting the air passages prepare the soil for the implantation of the germ of pneumonia. It is particularly a disease of city life and crowded living.

The ubiquity of the bacterial cause of pneumonia, which often exists in the bronchi for a variable time without causing the disease, indicates that it alone is incapable of producing pneumonia. The so-called predisposing causes, therefore, assume a peculiar importance because they are measurably under our control, while for the present the pneumococcus is beyond our reach.

With our present knowledge the prospects are hopeful for the control of pneumonia in the future. Our housing problems in the large cities are being slowly but surely solved, and doubtless before long most of the poor will be housed nearly as well as the laborers at Panama. At least health regulations will prevent that crowding of sleeping- and living-apartments which makes rebreathing of air inevitable. The improvement of means of rapid transit in the large cities will enable an increasing number of persons to live in the suburbs; besides there is a definite movement on the part of manufacturers to establish themselves in suburban territory and draw their employees around them, rather than to settle in a crowded neighborhood as heretofore, because in such a neighborhood labor is abundant and cheap.

There is special significance for the individual in these observations on the prevention of pneumonia. Its avoidance is largely a question of personal prophylaxis and of certain precautions that prevent the development of the disease by lessening the predisposition to it. Men in middle life, particularly those above 50, must learn during unsettled weather to avoid crowds, especially when fatigued and when they have been for a number of hours without eating. Late at night, when for any reason a meal has been missed, crowds are dangerous. If this lesson could be generally learned there would be less pneumonia among the well-to-do classes. The principal danger comes in crowded street-cars, which if possible should be avoided at rush hours. It needs to be emphasized that the danger from overcrowding is greatly enhanced by fatigue and going without food. In a word, the prophylaxis of pneumonia is now much clearer than it was. Like all the other infectious diseases, instead of being a more or less inevitable dispensation it has come to be recognized as due to certain definite factors which can be greatly lessened by public and individual hygienic regulations.

Current Comment

DRUG JOURNALS—HIGH CLASS AND OTHERWISE

The "patent-medicine" curse stands in the same relation to pharmacy as the "ethical proprietary" evil to medicine. The "proprietary" encourages unscientific prescribing and careless diagnoses on the part of the physician; the "patent medicine" leads many druggists to assume the functions of the physician and to prescribe for diseases of which they are ignorant. Fortunately there are signs of better things in both professions. As the more enlightened physicians, with the aid of the better medical journals, are striving to remove the blight of the proprietary evil, so the better class of pharmacists with the cooperation of a few high-grade drug journals, are doing their best to abolish the "patent-medicine" curse. Among the pharmaceutical publications that are doing good service to the profession they represent, the *Druggists Circular* of New York occupies a preeminent position. This journal stands for all that is best in pharmacy, exposing the weak spots in the profession and unmasking pharmaceutical frauds without fear or favor. No better illustration of its attitude can be given than the following excerpt from an editorial in the current issue discussing "counter-prescribing" by druggists. The *Druggists Circular* says that "for a man who is not a duly licensed physician to hold himself out as being able to give professional advice about bodily ailments, especially such insidious diseases as diabetes, and by so doing to hinder the sufferer from taking a course which might lead to his cure or improvement, comes perilously near to being murder." The editorial continues: "The time has passed, if it ever existed, when the druggist who undertakes to prescribe for diabetes can shield himself behind the 'poor innocent' cry. Druggists worthy of the name now understand very well that to take a remedy put up at wholesale by a manufacturer who has never even so much as seen the patient supposed to be suffering with diabetes is not the best thing for the patient to do. If there are any druggists who do not know this, the sooner they learn it the better it will be for humanity." These sentiments, we believe, are those held by all right-thinking druggists. Unfortunately, there are drug journals that cater to the men to whom pharmacy is a trade instead of a profession. Just as in the medical world there are publications whose ethics rise no higher than the counting-house so in pharmacy there are drug journals that appeal essentially to the mercenary element in the profession. The *Meyer Brothers' Druggist,* a house organ published in Missouri, is typical of the latter. In the advertising pages of the February issue of this journal appears an advertisement of a cruel and worthless fraud, Fulton's Diabetic Compound. The advertisement which, of course, was addressed to druggists, ran as follows:

> *Patient.* "What have you that is good for kidney trouble?"
>
> *Druggist.* "Everything; all the standard preparations. But there is only one that gets such results that patients are requested to advise with them if not recovering. The rest sidestep such letters."
>
> Mr. Druggist, if you will change places with your customer and put yourself in front of the counter and imagine yourself having kidney trouble, can't you see that the above question and answer would settle the matter? In fact, isn't it the very information that you would be hungry for?
>
> The simple statement given above, as small as it is, is selling a gross a year for druggists even in villages.

This miserable suggestion for "counter-prescribing" may be followed by a certain type of druggists. To such as would do so, we commend the sentiments expressed by the editor of the *Druggists Circular.* He holds that the proper place for medicine-fakers — if they have any place outside of close confinement — is on a soap-box at the county fair, for he insists that there is no room for them within the honorable profession of pharmacy.

THE RIGHT WAY AND THE WRONG WAY

In the Medical Economics Department of this issue is a summary of a few of the bills introduced in the various state legislatures on public health topics. In California alone, over one hundred bills have been introduced. In Colorado between fifty and seventy-five measures of different kinds bearing on public health have been reported so far. Most of these bills are drawn by persons with but slight knowledge of the sociologic problems involved, without any experience in sanitary matters, and often with little knowledge of existing conditions in the state. The results of legislation produced under such conditions can be only what they have been for the last fifty years, namely, confusion and inefficiency. As shown in one of the preceding editorials, Governor Sulzer and his special commission have adopted a better plan. The people of New York will reap the advantages. It is earnestly to be hoped that governors of other states will profit by this example, and will endeavor to elevate health conditions by a careful and intelligent inquiry into existing facts and the devising of adequate methods by which these conditions can be remedied, rather than by the presentation of a mass of hastily drafted, ill-digested measures on every conceivable phase of public health regulation. The weaknesses of our method, or rather lack of method, of enacting health laws are common to our entire legislative system. Physicians as practical scientists should lead the way in devising better and more accurate methods for health organization.

PRACTICAL PSYCHOTHERAPY

The need is great for sympathy and insight to perceive all aspects of cases which involve the mind as well as the body, and for a philosophy whereby a physician shall himself "see life steadily," and also "see it whole," and so assist his patient to a like view. To dispel false ideas which surround death with horror is surely an obvious duty; equally obligatory is it, when discussion is not feasible, to fill a patient's thoughts with all that can make his remaining life peaceful and happy. The belief is too general that psychotherapy consists in deceiving the patient for his own good. This is the method of a charlatan — but in such a rôle a physician can never be more than an amateur; for the charlatan succeeds best when he first deceives himself, and the true physician, not able for an instant to deceive himself, is but ill adapted to an elaborate deceiving of others. The physician who has a unifying philosophy of his own is thereby able to dispense with makeshifts and to speak convincingly to his patients, administering hope with truth, courage with frankness — and his sincerity will deepen public confidence. This confidence, surely due to science and disinterested motives, is often sacrificed unwittingly by the physician himself. He administers a therapeutic lie at the earnest solicitation of the patient's friends. Presently one of those friends falls ill, and the physician is puzzled to know why this new patient fails to respond to his words of encouragement and good cheer. The physician whose statements, uniformly squaring with facts, bear witness to his skill and to his sincerity, is the only one fitted to command the respect of the public and to inspire his patients with confidence in himself and hence with faith in his words.

THE SEAT OF HYDROCHLORIC ACID FORMATION IN THE STOMACH

Not long ago[1] we called attention to the recent contentions that, contrary to the current assumption, free hydrochloric acid is not formed within the cells of the gastric mucous membrane, but is presumably liberated on its surface. The parietal cells, to which the function of acid production has usually been assigned by a sort of process of exclusion, are neutral or alkaline even when hydrochloric acid is making its appearance in the interior of the stomach. Dr. López-Suárez[2] has gone a step further and asserts that the parietal cells are not primarily concerned in the acid production. It may reasonably be expected that the portions of the mucosa involved in the formation of hydrochloric acid or its precursor must contain a store of chlorid in some form. These newer observations, made by microchemical methods, indicate that in contrast with the chief cells of the gastric glands the parietal cells are either devoid of chlorid or at any rate very deficient therein. The question of their actual function is thus again brought into debate as it was many years ago. They may, of course, exert an indirect influence on the secretory act. The rapidity with which the act of secretion supervenes on a stimulus sent to the stomach makes it more than probable that the precursor of the hydrochloric acid — whether it be a simple chlorid or some labile organic chlorin compound — is stored in some abundance in the cells in readiness for the speedy functional response. If this be true, then those regions of the mucosa in which acid production is localized should exhibit a greater richness in chlorin than does the remainder of the secretory membrane. The hypothesis appears to be in correspondence with the facts, for the fundus portion as a rule has a larger content of chlorin than does the membrane of the pyloric region where the secretion is frequently alkaline in reaction. The contrasts are not large, yet they are sufficiently distinct to merit further consideration. Perhaps the chemical physiology of gastric secretion will experience some decided revision in the near future.

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[1] The Hydrochloric Acid of the Gastric Secretion, editorial, The Journal A. M. A., Jan. 25, 1913, p. 284.

[2] López-Suárez, J.: Zur Kenntnis der Salzsäurebildung im Magen, Biochem. Ztschr., 1912, xlvi, 490.

THE ENZYME CONTENT OF SALIVA

The question of variations in the amylolytic power of the saliva is scarcely one that is likely to elicit the interest of physicians. The saliva of practically all human individuals is so conspicuously endowed with starch-digesting power that minor percentage differences are at best of only incidental significance. Other features and functions of the secretion of the salivary glands quite overshadow this one. From a purely theoretical aspect certain features involving variations in the output of enzyme deserve more than passing notice. Not only have alterations in the digestive efficiency of the saliva been associated with different periods of the day, with the ingestion of food, with sex and with age, but it has repeatedly been alleged that there is some relation between the character of the diet and the relative richness of the saliva in enzyme. This statement involves more than appears on the surface. It virtually postulates that our digestive secretions are wonderfully responsive to the character of the food intake. Here, then, is a sort of adaptation to diet. Every assumption of this sort deserves the closest scrutiny and calls for corroboratory investigation; for the principle of adaptation is one which may, if established, be applied to therapeutic ends. Diet has been credited with innumerable possibilities, and the readjustment of the functions thereby is one of the many. A recent investigation by Hirata[1] in Japan serves to confirm the contention of Mendel and his co-workers[2] in this country that as yet the evidence in relation to salivary adaptation belongs in the category of "not proven." Hirata maintains that the amylolytic power of human saliva collected at different periods of the day has essentially the same value. The variations are minimal. The digestive capacity remains unaltered by the incidence of meals and the character of the diet. It is independent of the volume of saliva secreted, of sex and (except in infancy) of age; neither have significant variations been made out in patients representing a series of diseased conditions. From the experience already on record, these negative findings are only what might have been expected.

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[1] Hirata, G.: Ueber die diastatische Kraft des menschlichen Mundspeichels. Biochem. Ztschr., 1912, xlvii, 167.

[2] Mendel, L. B., and Underhill, F. P.: Jour. Biol. Chem., 1907, iii, 135; Mendel: Medical Record, August 27, 1910.

Medical News

ALABAMA

Salvation Army Dispensary.—A free dispensary has been opened in Anniston under the auspices of the Salvation Army Drs. J. W. Landham and Baxter Rittenberry are in medical charge of the institution.

State Association Meeting.—Plans for the entertainment of the delegates in attendance at the annual meeting of the Medical Association of the State of Alabama, to be held in Mobile, April 15-17, include a ball game April 16, a reception for delegates and the ladies on the same evening and a boat ride down the bay, April 17. Dr. P. J. M. Acker is chairman of the committee on arrangements.

Memorial Hospital Opened.—The John A. Andrew Memorial Hospital at the Tuskegee Normal and Industrial Institute was formally opened and dedicated, February 21. The hospital, which was donated by the granddaughter of the war governor of Massachusetts has been erected at a cost of $50,000. At the dedicatory exercises, addresses were made by the Hon. Seth Low, chairman of the board of trustees of the institute; principal Booker T. Washington; Drs. John A. Kenney, medical director of the hospital; George C. Hall, Chicago; U. G. Mason, Birmingham, and W. A. Warfield, surgeon-in-chief of the Freedmen's Hospital, Washington, D. C. Clinics were held in connection with the dedication of the hospital under the direction of Dr. John A. Kenney, the medical director, the physicians named above, and Dr. C. V. Roman, Nashville, Tenn.

ARKANSAS

Bequeaths Professional Property to Physicians.—By the will of the late Dr. William Elza Green, Little Rock, his medical library is bequeathed to the physicians of the city, and his cabinet of surgical instruments and other instruments to his friends of the medical profession.

New Officers.—Pike County Medical Association at Delight, February 20: president, Dr. N. J. Slaughter, Delight; secretary-treasurer, Dr. R. Q. McClure, Glenwood.——Sevier County Medical Society at DeQueen: president, Dr. W. E. Wisdom; secretary-treasurer, Dr. C. E. Kitchens, both of De Queen.——Franklin County Medical Society at Ozark: president, Dr. W. M. Wear, Etna; secretary-treasurer, Dr. Thomas Douglass, Ozark.——Randolph County Medical Society at Pocahontas: president, Dr. H. L. Throgmorton; secretary, Dr. G. M. Black, both of Pocahontas.——Phillips County Medical Society at Helena: president, Dr. H. M. Thompson, Marvell; secretary, Dr. W. R. Orr, Helena.——Boone County Medical Society at Harrison: president, Dr. L. H. Callen, Bellefonte; secretary, Dr. F. B. Kirby, Harrison.

CALIFORNIA

Dinner to Dr. Moore.—Dr. B. F. Church, Redlands, gave a dinner, February 11, to forty physicians of that city in honor of Dr. Ross Moore, Los Angeles, who later made an address on "Diagnosis in Mental and Nervous Diseases."

Popular Medical Lectures.—Stanford University Medical Department will continue the series of lectures inaugurated by Cooper Medical College. The first was given February 7 by President Jordan on "Eugenics" and succeeding lectures are given on alternate Friday evenings.

Hospital Notes.—The cornerstone of Pomona Valley Hospital was laid at Pomona, February 8. The building is to cost $50,000 and will be a two-story and basement structure of fireproof construction.——The College of Physicians and Surgeons of the University of Southern California together with the Home Mission Society of the Methodist Episcopal Church, South, has established a free medical clinic at Seventh and Mimosa Streets, Los Angeles.——Dr. William D. Dunn, Imperial, has offered a tract of 150 acres of land and a house to be used as a sanatorium for the treatment of tuberculosis.

Personal.—Dr. J. L. Benepe, San Jose, was painfully injured in an automobile collision, recently.——Dr. H. J. Trachman, Santa Rosa, has returned after six months of study in Vienna.——Dr. Louis G. Reynolds, Sacramento, sailed for Europe, March 1.——Dr. M. V. Mulcahy, San Jose, has been appointed physician of the California Division of the Modern Woodmen of America.——Dr. Henry Sherry has been reelected president of the Pasadena Hospital Association.——Dr. Madeline E. Johns, San Francisco, was attacked by an insane man with murderous intent February 3, and seriously injured.

ILLINOIS

County Hospital Contract Awarded.—The St. Clair County Board of Supervisors, on March 1, awarded the contract for the building of the addition to the County Hospital, Belleville. The building will have extensive porches for tuberculosis patients and the expense of construction is estimated at about $15,000.

Trip to Panama.—Among those who made the trip to Panama under the auspices of the Illinois State Medical Association were the following: Dr. and Mrs. E. P. Raab, Belleville; Dr. and Mrs. E. J. Brown, Decatur; Dr. and Mrs. H. H. Roberts, Maywood; Dr. and Mrs. F. W. Werner, Joliet; Dr. and Mrs. Geo. M. Peairs, Joliet.

Antituberculosis Association Issues Bulletin.—The first issue of the *White Plague Bulletin*, published by the Winnebago County Antituberculosis Association, appeared last month. It is a four-page leaflet containing a list of the officers, a notice of the students' tuberculosis essay test, notes on the hygienic treatment of tuberculosis, and a report on the work which has been done by the local Visiting Nurses' Association during the year.

Medical College Transferred to University.—The ceremonies in connection with the formal transfer of the College of Physicians and Surgeons to the University of Illinois were held March 6. The principal address of the occasion was delivered by President James of the university; Dr. D. A. K. Steele, president of the college, handed over the deed and bill of sale to the university, and Mr. W. L. Abbott, president of the board of trustees of the university, accepted the gift. Addresses were also made by Dr. W. E. Quine, dean of the college, Dr. Arthur R. Edwards, dean of Northwestern University Medical School, and Dr. A. D. Bevan of Rush Medical College. It is announced that the present staff of instructors, lecturers and employees will be retained at least until June 30.

Personal.—Dr. Hartwell C. Howard, Champaign, has celebrated the sixty-third anniversary of his graduation from Starling Medical College. Dr. Howard is now said to be the oldest active practicing physician of the state.——Dr. Frederick K. Sidley, Peoria, was painfully injured in a street-car accident, February 28.——Dr. and Mrs. S. M. Wylie, Paxton, have returned from the South.——Dr. R. R. Greene, Braidwood, is ill at his home as the result of a cerebral hemorrhage.——Dr. C. C. Atherton, a member of the staff of the Elgin State Hospital, has been appointed senior physician at the Lincoln State School and Colony.——Dr. C. H. Ayling, Gridley, who has been ill with erysipelas, is reported to be improving.——Dr. Herman Milbacher, Aurora, sustained painful injuries in a fall, March 2.

Chicago

Additional Appropriation for Health Department.—The finance committee of the city council on March 5, voted to appropriate an additional sum of $15,000 for the fight against contagious diseases.

County Hospital Cornerstone Laid.—The cornerstone of the new Cook County Hospital was laid March 8. The dedicatory exercises were in charge of President A. A. McCormick of the board of county commissioners.

Tuberculosis Society Organized.—The Children's National Tuberculosis Society has been incorporated by Drs. C. Vermeren, C. B. Saunders and Paul Burmeister, to maintain camps and homes for the treatment of tuberculosis.

Personal.—During the stay of Dr. S. Weir Mitchell in Chicago, in addition to his address before the Physicians' Club, he was entertained at dinner by Dr. and Mrs. Nathan S. Davis and at a luncheon by Mrs. Cyrus Hall McCormick at which Dr. Mitchell read selections from his poems.——Dr. and Mrs. C. F. Klaus and son, Dr. and Mrs. C. C. Eldred, Drs. E. E. Kolar and F. J. Patera have started on a trip to the Canal Zone.——Dr. and Mrs. Frank X. Walls sailed for the Mediterranean, March 15.——Dr. Joseph Shanks has been appointed chairman of a committee to establish a free dispensary to the poor on the northwestern side of the city.

INDIANA

New Officers.—Indiana Society of Anesthetists: president, Dr. E. A. Guedel; secretary-treasurer, Dr. H. L. Connor, both of Indianapolis.

Hospital Opened.—The new St. Vincent's Hospital, Indianapolis, was opened for patients, February 15. It is a five-story fire-proof building occupying an entire block, and containing 325 rooms. Special operating-rooms have been equipped for the gynecologic and eye, ear, nose and throat departments and the hospital also has a large clinic amphitheater.

Personal.—Dr. Carleton B. McCulloch, Dr. and Mrs. J. Rilus Eastman and Dr. and Mrs. L. C. Cline, Indianapolis, have started on a trip to South America and the Canal Zone.——Dr. Henry Jamison, Indianapolis, has sailed for Italy.——Dr. Charles E. Ferguson, Indianapolis, is taking a pleasure trip to Egypt.——Dr. and Mrs. J. E. Hoover and Dr. John M. Cunningham, Indianapolis, who have been spending the winter in Florida, have returned.——Dr. H. B. Shacklett, New Albany has been reelected a member of the board of directors of the Indiana Association for the Study and Prevention of Tuberculosis.——Dr. H. G. Morgan has been elected a vice-president and Dr. W. F. King, Indianapolis, secretary-treasurer of the Indiana Sanitary and Water-Supply Association.

KENTUCKY

Personal.—Dr. D. S. Roberts, West Point, was seriously injured in a runaway accident, February 28.——Dr. R. B. Gilbert, Louisville, was seriously and Dr. Amos Davis, Owensboro, slightly injured in a collision between the ambulance in which they were going to the Jewish Hospital and an automobile, February 27.——Dr. J. N. Powell, Corydon, is reported to be critically ill.——Dr. Charles W. Stroup, Ludlow, has been appointed a member of the clinical staff of the children's department of Miami Medical College, Cincinnati.

Vital Statistics.—By the report of Dr. J. N. McCormack, secretary of the State Board of Health, the birth returns for 1911 numbered 60,372, and for 1912, 61,199. The deaths for 1911 were 30,583, and for 1912, 29,649. The deaths from consumption for 1911 were 5,181, and for 1912, 4,728. Typhoid showed a reduction in prevalence and fatality, being 1,035 in 1911 and 758 in 1912. Diphtheria showed a slight gain, being 545 in 1911 and 687 in 1912. Cancer shows an increase, 909 in 1911 and 943 in 1912. The year 1912 shows 39 per cent. of the deaths were from diseases that can and ought to be prevented.

LOUISIANA

Leper at Calhoun.—Dr. Thomas E. Wright of the State Board of Health has discovered a case of leprosy in Calhoun The diagnosis was confirmed by Dr. Isadore Dyer and the patient has been taken to the Lepers' Home for treatment.

Against Expectoration.—Dr. Oscar Dowling, president of the State Board of Health, has had distributed in New Orleans 5,000 signs warning the public against spitting on sidewalks in street cars and public places and that violators of this rule will be prosecuted.

Porter Holds Dual Position.—At the meeting of the State Board of Health, February 25, a motion was passed that Dr. Sidney S. Porter, chief of the Rockefeller Hookworm Commission, be elected to the position of chief sanitarian of the state irrespective of the position he at present holds.

Personal.—Dr. F. H. Carruth, Lobdell, fractured his right forearm March 1 while cranking his automobile.——Dr. Charles Faget, New Orleans, is reported to be seriously ill with diphtheria.——Dr. Wiltz M. Ledbetter, Shreveport, formerly city physician, is reported to be critically ill at the Shreveport City Hospital, following an operation for appendicitis.

Object to Importation of Charity Patients.—The authorities of Charity Hospital of New Orleans, under instructions from the board of administrators, has notified health officials of Mississippi and Alabama that the practice said to obtain in these states of sending their destitute sick to the hospital is considered an imposition and will no longer be permitted.

The New Hotel Dieu.—It is reported that the contract for erecting the new Hotel Dieu buildings has been awarded. This contract calls for the construction of the laundry, power-house, free clinic, operating wing to house the Bruguieres Memorial, and an addition with 100 beds. This contract calls for about $200,000 of the $500,000 to be expended in the construction of the institution.

Inspection Completed.—Dr. S. S. Goldwater, New York City, who has been making an inspection of the Charity Hospital, New Orleans, has completed his work and left for St. Louis and Cincinnati. Local members of the profession declare that Dr. Goldwater's visit has resulted in the elimination of opposing factions, and bringing up cooperation and work for the good of the institution. Dr. Goldwater's formal report will be forthcoming later.

French Hospital Dedicated.—The renovated and modernized French Hospital, New Orleans, one of the oldest institutions of its kind in the United States and conducted by the Société Française de Bienfaisance, was dedicated with simple ceremonies, February 23. The medical staff of the institution consists of Drs. George Joseph Tusson, Marion Sims Souchon, J. J. Laurans, A. D. Mouledous, O. L. Pothier, J. A. Estopinal and J. O. Weilbaecher.

MARYLAND

Baltimore

Children's Ward for Hospital.—A children's ward is planned at St. Joseph's Hospital to cost $18,000. Of this amount, $3,000 is already in hand.

Hospital for South Baltimore.—Plans for the South Baltimore Eye, Ear and Throat Charity Hospital are being selected, and it is reported that work on the new hospital will begin before April 1. It is to be a three-story building, 65 by 90 feet.

Personal.—Dr. John C. Hemmeter has recovered from his recent illness and resumed his lectures at the University of Maryland.——Dr. Henry Barton Jacobs has been reelected president of the Maryland Association for the Prevention and Relief of Tuberculosis.

Another College Merger.—The union of the University of Maryland Medical Department and the Baltimore Medical College is said to be practically assured, the faculties having agreed on the terms of merger. The members of the faculty of the latter institution will retain their positions in the new school and three of them will become members of the University Board of Regents. The merger will not take effect until after the present session and the terms of agreement will be submitted to the university regents next week.

MASSACHUSETTS

Plan Hospital for Palmer.—A meeting was held in the rooms of the Palmer Business and Social Club, February 14, to consider the establishment of a hospital in the town of Palmer.

New Hospital.—Mrs. Emma Wing has given her residence in Palmer to be used as a hospital for the city, and her daughter has agreed to defray the expense of building and equipping an operating department and pathologic laboratory.

Celebrates Anniversary.—Dr. William Sidney Severance, dean of the medical profession of Greenfield, entertained the members of the Greenfield Doctors' Club, February 19, at a banquet in honor of the sixtieth anniversary of his graduation in medicine.

Work of the Boston Dispensary.—The second issue of the *Boston Dispensary Quarterly* is devoted chiefly to the work of the dispensary in caring for children. The institution cared for more than 17,000 children during the last year. The children's work at the dispensary is divided into: the new hospital; the general medical out-patient clinic for the cure, study and prevention of the diseases and problems of infancy and childhood; the service in the various medical and surgical specialties, provided by the appropriate clinics of the dispensary; treatment of sick children in their homes, the only city-wide service of the kind in Boston, provided by its district physicians, who care annually for approximately 5,000 children, mostly cases of acute illness; the teaching of medical students of the Harvard and Tufts Medical schools, and the provision of opportunities for scientific research; social service, provided primarily through the Social Service Department, also through the Instructive District Nursing Association, and carefully worked-out plans of cooperation with the chief philanthropic, educational and municipal agencies in Boston; team work with the public school system; and cooperation with the school physicians and school nurses, by which about 4,000 school children annually are given needed treatment in its clinics, on reference from the medical authorities of the school system.

MISSOURI

Luncheon to Dr. Lumsden.—The St. Joseph-Buchanan County Medical Society gave a luncheon in honor of Surgeon L. L. Lumsden, U. S. P. H. S., March 6.

New Officers.—Barton County Medical Society at Lamar: president, Dr. G. D. Allee; secretary-treasurer, Dr. A. B. Stone, both of Lamar.——Lafayette County Medical Society at Lexington: president, Dr. J. W. Mann; secretary, Dr. J. Q. Cope, Lexington.

New Hospital.—The Methodist Deaconess Hospital Association, St. Joseph, which now conducts Ensworth Hospital, has decided to purchase residence property at Fifth and Farion Streets for $20,000 and to erect thereon a fireproof, four-story, hospital building. The new building is to be completed within two years.

Milk Commission Seeks Incorporation.—Drs. George C. Mosher, Andrew W. McAlester, J. E. Hunt, Frank C. Neff, A. G. Nuh and Edwin H. Schorer, all of Kansas City, the Medical Milk Commission of the Jackson County Medical Society, seek a decree of incorporation in a petition filed in the circuit court, March 1. The commission is formed to examine, test and certify milk from such dairies as may request this service, and no charge is to be made for this work.

Personal.—Dr. W. P. Bradley, Windsor, has been elected superintendent, and Drs. C. B. Simcoe, Jefferson City; J. W. Dawson, Eldorado, and W. B. Summers, Conway, have been appointed assistant physicians at State Hospital No. 3, Nevada.——Dr. Bondurant Hughes, Keytesville, has been appointed superintendent of the State Tuberculosis Sanatorium, Mount Vernon.——Dr. W. S. Fast, St. Joseph, has been appointed superintendent of the Nebraska Institute for the Feeble-Minded, Beatrice.——Dr. A. C. Pettijohn, superintendent of the St. Joseph City Hospital, was operated on for the removal of gall-stones in Rochester, Minn., February 21.——Dr. T. R. Thornton, Lee's Summit, fell on an icy walk near his home, February 20, fracturing his right arm near the wrist.

St. Louis

Special Quarters for Inebriates.—The board of police examiners has provided special quarters for inebriates and drug addicts in the city hall, and dispensary physicians will be constantly on duty.

New Dispensary Dedicated.—The Holy Cross House Dispensary, 2500 North Twelfth Street, was dedicated by Bishop Tuttle, March 2. Last year the dispensary department treated more than 1,000 patients. It is to be in charge of Dr. R. L. Hild.

Hospital Saturday and Sunday Receipts.—It was announced at the annual meeting of the Saturday and Sunday Association, February 18, that the largest collection in the history of the Association was that taken last fall, amounting to $47,837.03.

The New Children's Hospital.—Earth was broken, February 22, for the new Children's Hospital at King's Highway and the Wabash tracks. The building is to cost $170,000 and has been given by Mrs. John Fowler in memory of her mother, the late Mrs. Elizabeth J. Liggett.

Personal.—Dr. James M. Scott, Kansas City, a pioneer in *x*-ray work in the United States, was obliged to have his right arm amputated above the wrist recently as the result of early experiments with the Roentgen ray.——Dr. and Mrs. M. B. Clopton and Dr. and Mrs. H. G. Mudd sailed for the Caribbean Sea and the Canal Zone, March 4.

NEW JERSEY

Personal.—Dr. Federico Luongo has been appointed a member of the Board of Health of Orange.—Dr. G. N. J. Sommer, Trenton, has returned from a visit to the west coast of Florida.

New Cottages at Epileptic Village.—During this month three new cottages will be opened at the State Village for Epileptics, Skillman. Two of these will be for regular patients and will accommodate about thirty each. The third will be a cottage for feeble-minded men to be filled by transferring from the Vineland Training School, male patients, wards of the state, who were committed to the institution in their youth, and have since become adults.

New Surgical Society.—The Society of Surgeons of the State of New Jersey was organized at Trenton, January 15, and the following officers were elected: president, Dr. Robert M. Curts, Paterson; vice-presidents, Drs. Edward M. Zeh Hawkes, Newark, and Paul M. Mecray, Camden; secretary, Dr. G. N. J. Sommer, Trenton; treasurer, Dr. Henry Spence, Jersey City, and chairman of the committee of scientific work, Dr. Philander A. Harris, Paterson. The object of the society is to bring into one organization all surgeons of the state and to advance the interest of surgical science. The active membership at present is limited to visiting surgeons of recognized public hospitals and the associate membership to assistant surgeons and others who are making a specialty of surgery.

Medical Staff Elected.—At the annual meeting of the managers of Mercer Hospital, Trenton, the following medical staff was elected: medical director, Dr. George H. Parker; consulting surgeons, Drs. Thomas H. Mackenzie and Joseph M. Wells; consulting physicians, Drs. Samuel S. Stryker (Philadelphia) and William A. Clark; consulting neurologist, Dr. Henry A. Cotton; attending surgeons, Drs. Nelson B. Oliphant, George H. Parker and David B. Ackley; attending physicians, Drs. Paul L. Cort, George R. Moore, Walter A. Taylor and William A. Newell; gynecologists, Drs. Joseph B. Shaw and Edward S. Hawke; ophthalmologists, Drs. Charles F. Adams and Charles J. Craythorn; roentgenologist, Dr. Charles H. Holcomb, and pathologist, Dr. Frederick S. Hammond.

NEW YORK

Haverstraw Institution Presents Report.—The New York State Hospital for Crippled and Deformed Children, West Haverstraw, has submitted its twelfth annual report to the legislature. During the year forty-four new patients were received and 103 were treated; this is twenty-one more than during the preceding year. Of the number treated 40.48 per cent. were afflicted with tuberculosis of the joints or spine.

Think Ellis Island Passes Feeble-Minded.—The State Board of Charities, in making recommendations to the governor for enlarging the facilities for caring for defectives in this state, lays special emphasis on the fact that it is generally conceded that the facilities at Ellis Island for discovering the feeble-minded who seek to enter there, are entirely inadequate and that this matter must be given primary consideration. The communication points out that there are 30,000 defectives of which number the state makes provision for only 6,000.

New York City

Brooklyn Plans Night Camp on Ferry Boat.—The tuberculosis committee of the Brooklyn Bureau of Charities favors the establishment of a night camp for tuberculosis patients on a ferry boat which is now used as a day camp for tuberculosis and is moored in the East River.

Open-Air Wards at Mount Sinai.—The new open-air roof wards of Mount Sinai Hospital were opened for inspection March 7. They are the gift of Albert E. Goodhart and Charles A. Wimpfheimer and are intended not only for tuberculosis patients, but for all who require such outdoor conditions.

Personal.—Dr. Milton J. Strahl, Brooklyn, who has just completed his four years' course as resident physician in the Williamsburg Hospital, was given a dinner by the interns of the institution, February 28, at which he was presented with a set of surgical instruments.——Dr. Horace Greeley of the division of communicable diseases of the health department and borough chief of Brooklyn, since 1905, has been transferred to the division of contagious diseases as diagnostician and will make his headquarters at Staten Island.——Dr. B. F. Knause has been appointed borough chief of Brooklyn.——Dr. G. A. Merrill has been placed in charge of the Brooklyn Eastern District tuberculosis clinic, vice Dr. Knause, transferred.——Dr. John Addison Fordyce has been appointed professor of dermatology in the College of Physicians and Surgeons to succeed Dr. George T. Jackson, resigned.

Disappearing Diseases.—Dr. Guilfoy, the Registrar of Vital Statistics of New York has recently published some interesting figures from former records showing what modern methods have done in the way of abolishing certain diseases. Asiatic cholera was formerly a frequent visitor to the city, there being 5,000 deaths from this scourge in Manhattan and the Bronx in 1849, 2,500 in 1854, and 1,100 in 1866. During the last thirty-six years there have been only 11 deaths from this disease. Typhus fever was prevalent from the year 1868 onward, there being 200 deaths attributed to it in 1893. If the same death-rate from malarial fever had prevailed in 1912 as in the period from 1880 to 1890, there would have been 1,400 deaths from this cause; the number that actually did die from it was 20. The most striking conquest has been made in the case of small-pox which was practically always prevalent prior to the year 1876. Since that time the epidemics have become milder and of shorter duration until last year there were only two deaths from this disease in a population of over 5,000,000 people.

Hospital News.—In the new general post-office opposite the Pennsylvania Terminal an emergency hospital is to be established and also a disinfecting plant and a steam drying plant where the clothes of mail carriers who get caught in the rain may be cared for and the mail bags may be disinfected.——Announcement has been made that the old home of the New York Nursery and Child's Hospital, on the east side of Lexington Avenue between Fiftieth and Fifty-First Streets, will be sold at public auction on March 12. The hospital will concentrate all its work for the present in its New York Infant Asylum holdings at Amsterdam Avenue and Sixty-First Street.——At the annual meeting of the directors of the German Hospital the report of the officers showed that 48,228 patients had been treated in the institution during the year 1912. Of this number 6,935 were treated in the hospital department. In the dispensary department 106,849 consultations and treatments were given. The medical staff comprises about 140 physicians. The demands on the institution make new additions necessary but in spite of many liberal contributions, the fund is not sufficient to cover the cost of the contemplated buildings.

Fighting the Dispensary Abuse.—The County Medical Society is making a determined fight to have the law in regard to abuse of dispensary privileges enforced. The law which has been on the statute books for fourteen years and has never been enforced provides that any person who obtains medical or surgical treatment from any licensed dispensary on false representation shall be guilty of a misdemeanor and on conviction shall be fined not less than $2 or more than $250. Imprisonment may be inflicted until the fine is paid. The committee of fifteen appointed by the county society to investigate existing conditions has found that during the year 1911, 665,000 new patients were treated in the dispensaries of the city, and that in 1912 these figures were exceeded. As is was impossible to make an investigation of so many cases it was decided to investigate 1,000 cases chosen from thirteen representative dispensaries. An expert social worker was employed and her investigations showed that the great fault with these institutions was the lack of uniformity in keeping records. An interesting fact brought out by the investigation was that a considerable proportion of the applicants were not residents of New York at all. Of 157 persons applying in a limited period, fifty-seven were from out of town. The committee suggests a campaign of publicity in order that the public may understand that with very few exceptions physicians are giving their services freely in the dispensaries and the present laxity in the enforcement of the dispensary law is robbing both physicians, philanthropists, and the worthy poor, who because of the crowded condition of the dispensaries do not receive the careful treatment to which they are entitled. The committee further advised that the city be districted and that each institution refuse applicants living out of its district and it also recommended that the county society give its support to the associated outpatient clinics.

OHIO

State Society Meeting.—At a meeting of the council of the Ohio State Medical Association, held February 27, it was decided to hold the next meeting at Cedar Point, September 2-3-4.

The New State Hospital.—The new State Hospital for the Criminal Insane, Lima, will be completed in September of next year; it will have cost nearly $2,000,000 and will represent eight years of investigation and work.

Hospital News.—A new infirmary for Lucas County, to accommodate 150 patients and to be erected on a site adjoining the present county hospital at a cost of $100,000, is recommended by the medical staff of the institution.——A hospital is to be erected in Newark, to cost $60,000, to be three stories in height and of fireproof construction.

Personal.—Dr. Robert C. Longfellow has been chosen exalted ruler of the Toledo lodge of Elks.——Dr. A. J. Shoemaker has been appointed night physician at the State Penitentiary, Columbus, vice Dr. A. Delaplane.——Dr. H. J. Powell Van Buren, who has been seriously ill, following an operation four months ago, has recovered and resumed practice.

PENNSYLVANIA

Hospital Addition Almost Ready.—The new private ward addition to the York Hospital erected at a cost of $25,000, is so nearly ready that it will be opened April 1.

New Officers.—Reading Medical Association, February 28: president, Dr. Walter M. Bertolet; secretary, Dr. Claude W. Bankes.——South Scranton Physicians' Association, February 27: president, Dr. M. H. Quinn; secretary-treasurer, Dr. Grace McMahon.——The Medical Club of Harrisburg has applied for a charter. The president is Dr. Samuel Z. Shope and the secretary, Dr. J. Harvey Miller.——Womans Medical Society, Pittsburgh: president, Dr. Lula Robin Goldsmith, Pittsburgh; recording secretary, Dr. Viola Allison, Tarentum.

Personal.—The house of Dr. H. G Diefenderfer, Beaverdale, was destroyed by fire, February 24, with a loss of $3,500, partially covered by insurance.——Dr Laurence A. Sheridan has been appointed a member of the Board of Health of Wilkes-Barre.——Dr. William F. Marks, for thirty-three years a member of the Reading Board of Health, has resigned.——Dr. C. D. Miller, Pottsville, who has been ill for four weeks, has gone to Hot Springs, Va., for treatment.——Dr. B. F. Shires, Patton, who underwent operation, February 24, in a hospital in Philadelphia, is reported to be doing well.

Philadelphia

Rush Society Lecture.—Dr. Theodore C. Janeway of Columbia University delivered the third lecture of the Rush Society, March 14. His subject was "Nephritic Hypertension."

Diphtheria Building Added to Municipal Hospital.—A new structure accommodating 120 patients and for the exclusive use of diphtheria patients, has just been completed at the Hospital for Contagious Diseases at a cost of $122,680.

Transfer Insane From Blockley.—The Philadelphia General Hospital transferred fifty-four patients to the Norristown Insane Asylum, March 5, that institution having been relieved of some of its patients by the opening of Rittersville Asylum.

Baby-Saving Show in New Quarters.—The baby-saving show opened at the Benson School at Twenty-Seventh and Wharton Streets on March 5, and will remain until March 15. The show, given under the auspices of the Child Hygiene Association, has arranged for lectures for each evening.

Ask Children's Aid in Mosquito War.—Director Cooke of the Department of Public Works, has issued a circular printed in large primer type and short words and containing illustrations for distribution among children. The circular describes the way that mosquitoes multiply and tells children how they may help in driving out the pests. Boy Scouts and other organizations are invited to act as agents of the department in promoting the campaign.

Personal.—Dr. William H. Wells has been appointed assistant professor of obstetrics in Jefferson Medical College.——Dr. George M. Coates has resigned as city medical inspector in the Bureau of Health.——Dr. S. Solis-Cohen, medical adviser to the Jewish Consumptive Institute, has resigned.——Dr. Thomas McCrae has been appointed a visiting physician to the Pennsylvania Hospital.——The home of Dr. Robert N. Downes, one of the oldest practitioners of Germantown, was damaged by fire to the extent of about $10,000, March 2.

Cleeman Dormitory.—Plans for the new Cleeman Dormitory at the University of Pennsylvania are now in the hands of the architects and work will commence on the buildings so soon as the Cleeman estate is settled. The dormitory will be erected in the large quadrangle and will project from the new memorial gate toward the west, forming the third side of a smaller quadrangle within the larger one. The building will cost about $50,000 and will be called Cleeman Hall, in honor of Dr. Cleeman's brother, Ludwig C. Cleeman, in whose memory it is erected.

Phipps Institute Near Completion.—The new building of the Phipps Institute for the Treatment of Tuberculosis is nearing completion and will be opened to patients in three weeks, although the formal opening and dedication will not take place for at least six weeks. The building is of brick with white marble trimmings and is five stories in height in addition to a light and well-ventilated basement. It has a frontage of 132 ft. and contains two wings, the structure standing clear of any other edifice. The basement contains museum, lecture room, library, boiler plant, domestic science classrooms for nurses, laundry and mechanical and emergency rooms. All the first floor is given over to the general offices, waiting room for visitors and patients, examination quarters, and other rooms needed in administration work. The second floor contains doctors and nurses' quarters, laboratories, technical and experimental sections. The third, fourth and fifth floors are devoted entirely to patients. On all these floors open-air porches are constructed facing Starr Garden Park.

Conference on Mental Hygiene.—A conference to discuss mental hygiene under the auspices of the National Committee for Mental Hygiene, will be held in Philadelphia, March 17-22, inclusive. On March 15 there is to be a discussion, antecedent to the opening of the conference, at a long table luncheon at the Hotel Walton, at which Dr. D. J. McCarthy is to preside and at which addresses will be delivered by Mr. Clifford W. Beers, secretary of the National Committee, on "Necessity for Organized Work in the Conservation of Mental Hygiene"; by Dr. Elizabeth C. Spencer, Norristown, on "What the State is Doing and Can Do to Conserve Mental Health"; by Dr. Joseph S. Neff on "The Maintenance Responsible for Mental Health and How to Meet This Responsibility"; by Mrs. Thomas S. Kirkbride on "Mental Health and a Progressive Social Conscience"; by Dr. Oliver P. Cornman, Philadelphia, on "Mental Hygiene as a Factor in Education," and by Dr. Woods Hutchinson, New York City, on "The Relation of Eugenics to Mental Health."

WASHINGTON

Sanatorium Changes Hands.—The Tacoma Private Sanatorium at North First Street and Tacoma Avenue was sold, March 1, by the American Casualty Company to Drs. S. L. Blair, G. M. Steele and E. A. Montague. The hospital is a three-story building with accommodation for thirty-five patients. Dr. Blair will remain as superintendent of the institution.

Health of Washington.—The ninth biennial report of the State Board of Health for 1911-12 shows that the state of Washington has an efficient board of health and that it keeps close observation of all conditions relating to health and sanitation. Statistical tablets are shown of the proceedings and the state conferences of health officers are set forth at length in the report.

Personal.—Dr. C. A. Betts, M. R. C., U. S. A., has resigned and will enter private practice at Seattle about April 1.——Dr. J. T. Coleman, mayor of Chehalis, has been appointed health officer of Lewis County.——Dr. A. B. Cook, Colville, has moved to Anacortes.——Dr. James B. Eagleson, Seattle, fractured his right wrist and sustained severe cuts and bruises by the overturning of his automobile, February 25.

GENERAL

American Medical Colleges Establish Branches in China.—The University of Pennsylvania has opened a medical college in Canton; Harvard Medical School has begun a similar work at Shanghai, while the new Yale University at Chang-Sha has established a medical department.——There are practically no medical missions in Japan, although two of the foreign hospitals are still maintained. Japan now has her own medical science along modern lines.

State and Federal Quarantines Combine.—State and national health officials have arranged that beginning March 1, both the Pennsylvania state and the federal quarantine inspections of shipping inbound for Philadelphia shall be made at Marcus Hook. Formerly ships bound up the Delaware were boarded at Reedy Island by the federal quarantine officials and two hours later the examining process was repeated by the state quarantine authorities at Marcus Hook.

Medicine and Surgery at the Exposition.—The Panama-Pacific International Exposition to be held in San Francisco in 1915, announces that the exhibits in the domain of liberal arts will be especially interesting and significant. The mechanical side of surgery will be represented by a full collection of instruments and appliances and there will be also demonstrations of the most intelligent, modern methods employed in the prevention and mitigation of disease.

Alton Surgeons' Meeting.—At the meeting for organization of the Chicago and Alton Railway Surgical Association in Springfield, February 27, a general discussion was held on the formation of a hospital association, having in view the building of a hospital for the benefit of employees of the line, the following officers were elected: president, Dr. M. W. Pifard, Kansas City, Mo.; vice-president, Dr. James A. Clyne, Joliet, Ill., and secretary-treasurer, Dr. M. B. Titterington, Jerseyville, Ill.

Life Insurance Examiners Meet.—The medical section of the American Life Convention met in Hot Springs, Ark., February 26-28. The annual address was given by Dr. H. A. Baker, Pittsburgh, and papers were presented on "The Medical Director as a Substantial Factor in the Establishment and Development of a Legal Reserve Life Insurance Company," by Mr. Isaac Miller Hamilton, Chicago; "The Examiner Can Greatly Aid in the Conservation of Health," by Dr. J. T. J. Battle, Greensboro, N. C.; "Educating the Life Insurance Examiners," by Dr. W. S. Kendrick, Atlanta, Ga.; "The Rating of Appendicitis Applicants," by Dr. James H. Wroth, Albuquerque, N. Mex.; "Blood-Pressure," by Dr. C. R. Dudley, St. Louis; "The Standardization of the Medical Blank," by Dr. H. B. Miller, Lincoln, Neb.; "Some Vital Features of the Medical Blank," by Dr. Albert Seaton, Indianapolis; "Prognostic Value of Slight and Transient Albuminuria," by Dr. Henry Wireman Cook, Minneapolis, and "An Insurance Problem," by Dr. Frank W. Foxworthy, Indianapolis. The next meeting will be held in St. Paul, Minn., August 19-21.

FOREIGN

Deaths in the Profession Abroad.—In addition to those mentioned elsewhere, the profession has lost recently Prof. G. Vassale, of the chair of general pathology at the university of Modena, Italy. He was one of the leaders in the therapeutic utilization of internal secretions.——M. Albanese, professor of pharmacology at Rome, noted for his works on the ketones, adrenals, xanthin bodies, etc., and for his calling attention to the viscosity of the blood as an important property of organic fluids.——P. Niehans, professor of surgery at the university of Berne, aged 64.——K. Thue of Christiania, author of works on pulmonary tuberculosis, endocarditis and leukemia, aged 54.——F. J. A. C. Howitz, formerly professor of gynecology and obstetrics at the university of Copenhagen, and author of the ten-volume work "Gynaekologiske og Obstetriske Meddelelser." His name is best known by his introduction of thyroid treatment for myxedema. He was 84 years old.——Sir Colvin Colvin-Smith, M.D., Aberdeen, L.R.C.S., Edinburgh, K.C.B.; honorary surgeon to Queen Victoria and King Edward and surgeon-general under King Edward V; a veteran of the Indian Mutiny, Burma War and Egyptian Campaign; died at his home in London, March 1, aged 83.——Rt. Hon. Balthazar Walter Foster, First Baron Ilkeston, P.C., 1906, M.D., Erlangen, Germany, 1864; L.R.C.S., Ireland, 1860; L.K.Q., Coll. Phys., Ireland, 1860; F.R.C.P., London, 1873; professor of medicine in Queen's College, Birmingham, from 1868 to 1892; president of the council of the British Medical Association from 1884 to 1887; a distinguished member of the Liberal party; parliamentary secretary to the Local Government Board from 1892 to 1895; died at his home in London, January 31, aged 73.

LONDON LETTER

(From Our Regular Correspondent)

London, Feb. 22, 1913.

Stringent Measures Against Bovine Tuberculosis

The Board of Agriculture has issued a stringent order which aims at destruction of every cow found to be suffering from tuberculosis of the udder or to be giving tuberculous milk, as well as of all bovine animals suffering from tuberculosis with emaciation, as these are known to disseminate freely the germs of the disease. In confining the order to these forms of tuberculosis the board has not lost sight of the fact that it may be possible to take further action in the light of experience gained; but it feels that heroic measures taken at present would only defeat their own object. As the expense in the first five years is likely to be heavy, the government during that period will refund to local authorities half the compensation paid. In the event of an animal which is slaughtered by order being shown on post-mortem examination not to have consumption, the owner is said to have the full value and an extra $5.

Leprosy in London

The Metropolitan Asylum's Board (which controls all the hospitals for infectious diseases in London) has had under consideration a letter from a local municipal body, the Greenwich borough council, asking that leprosy should be made a notifiable disease, and hospital accommodation provided for the treatment of cases. Acting on the advice of their medical officer, the board has declined the application. The medical officer states that although there are always a number of lepers in this country, there is only one instance on record (in Ireland) of a previously healthy person developing the disease in these islands. In that case the man had been in the habit of sleeping in the same bed with his brother, who was a leper, and when the latter died wore his clothes. There is no doubt, he adds, that leprosy is contagious, but in a low degree, and that prolonged and intimate contact is necessary to permit of the spread of infection. The idea that leprosy is dangerously infectious is firmly rooted in the public mind, and is maintained by the deaths from leprosy which occur from time to time in the ranks of those who tend the sufferers from this disease. No count is taken, however, of the much larger number who escape infection. One sisterhood has had charge of a leper colony for fifty years, and during that time no sister has contracted the disease. The medical officer thinks that lepers who can be maintained in their own homes with proper sanitary precautions may safely be left there, and that those living in unhygienic conditions can be treated in the London hospitals or infirmaries without any risk to the other inmates.

Nostrums in Australia

In Australia the traders in nostrums are much exercised at certain recent legislation directed against the evil. The council of the Melbourne chamber of commerce has endorsed the protest made by the Sydney chamber of commerce against the regulations of the Board of Health of Western Australia requiring the publication of the formulas of infants' and invalids' foods and proprietary medicines. Replying to the protest, the minister, Mr. W. C. Angwin, has issued a statement that the regulations have been made under the provisions of the health act, which provide for the formulas appearing on the label or being deposited with the commissioner of public health. The health act contains certain drastic powers in connection with "patent medicines," and it is in order to have them effectively carried out that these regulations are now adopted. The sale of "patent medicines," for instance, containing deleterious drugs, may be prohibited, and the depositing of the formulas with the department will materially assist in the detection of any such deleterious substance. The regulation provides an alternative. The formulas may be deposited with the department instead of appearing on the bottle. All formulas deposited will be maintained in strict confidence. In regard to infants' and invalids' foods, the department is quite willing to permit the depositing of the formulas confidentially in the same manner as with "patent medicines." In the case of both "patent medicines" and infants' foods, the public should be able to know exactly what is being bought; when makers are unwilling to take the people into their confidence, then the public health department should know exactly what is there. Undoubtedly a great deal of fraud is perpetrated in this matter, and it is to prevent that, and also prevent injury to health from a use of such medicines and food that these regulations are now put forward.

PARIS LETTER

(From Our Regular Correspondent)

Paris, Feb. 7, 1913.

Distribution of Physicians in Paris

In the *Bulletin Médical,* Dr. Desescuelle has published an article in which the distribution of Paris physicians by *quartiers* is given. Paris is divided into twenty *arrondissements,* each of which comprises four *quartiers.* Of these eighty *quartiers* there are forty in which there are less than a thousand inhabitants to each physician; twenty-one in which this number is between 1,000 and 1,880; nine between 2,225 and 2,738; nine between 3,134 and 6,370, and one in which there is one physician to 17,722 inhabitants. In one of the forty *quartiers* in the first category there is one physician for each ninety-four inhabitants, and in seven *quartiers* there is one physician for each 200 inhabitants.

Medical Examination of Men on the Army List

The minister of war has ordered physicians in examining men on the army list to pass no more than thirty an hour. It is hoped by this rule, permitting an average of two minutes to each man, to avoid the rejection of men who would be fit for acceptance after proper medical attention, and the provisional acceptance of men who fall short physically and are rejected at the final examination when about to be enrolled in the army. The number finally rejected amounts to several thousand each year. An innovation will be an examination of the normal functioning of the heart and respiratory organs.

The Clean Delivery of Bread

French bakers usually deliver loaves of bread in hampers or baskets which are often set down on the sidewalk or in the entrances to houses. On the ground that this is not a clean practice, the mayor of Lyons has issued a decree that all bread not delivered in closed wagons shall be completely wrapped, and the basket covered with a cloth.

BERLIN LETTER

(From Our Regular Correspondent)

Berlin, Feb. 21, 1913.

Personal

According to newspaper reports which have appeared for the sixth time, von Noorden contemplates leaving Vienna next July and going to Frankfort-on-the-Main.

Newspaper Puffs for Friedmann's Method of Treating Tuberculosis

The following has been published in the *Deutsche medizinische Wochenschrift:* "The stamp 'Made in Germany,' as it relates to medicine, seems to have a great effect in America. To illustrate: While our medical and the better class of lay papers have ceased to discuss the matter, the columns of several American newspapers, according to clippings which have been sent to us, are filled with enthusiastic reports about this alleged new discovery, and all express the belief that at last a remedy has been found which will eliminate tuberculosis. According to the opinion of our regular New York correspondent, most of these puffs are written by the Berlin correspondents of the American newspapers." It is stated further that from New York reports are sent to the German newspapers. Thus the *Berliner Tageblatt* published recently the following cablegram: "Mr. Finlay, president of the Aetna National Bank, of New York, is said to have offered to a Berlin physician one million dollars if he succeeds in curing his son-in-law who suffers from tuberculosis. The proviso is made that the Berlin physician come personally to New York, and treat, besides the son-in-law of Mr. Finlay, ninety-nine other patients, of whom 95 per cent. must be cured. Grimm's fairy tales sometimes end with the words: 'Who believes this must pay a dollar.' Translated into American, this sentence would read: 'Who believes this must pay a million.'"

A few days ago one of the Berlin reporters sent the following notice to the press: "The discoverer of the new remedy for tuberculosis, Dr. Franz Friedmann, will arrive in the next few days in America. It is reported from there that the multimillionaire banker, Charles Finlay, offered the Berlin investigator the sum of one million dollars as soon as the latter arrives in New York and cures his son-in-law, Mr. Paris, of tuberculosis." In order to add humor to this sensation, another report comes from America that an American physician has likewise produced from turtle bacilli a remedy for tuberculosis with which he hopes to earn the million-dollar prize. If the steamer does not go too fast, the son-in-law of Mr. Finlay will probably be cured with this remedy by the time Dr. Friedmann arrives in New York.

VIENNA LETTER

(From Our Regular Correspondent)

Vienna, Feb. 17, 1913.

Medical Students Protest Against the New Curriculum

The medical students of the first two years recently called a meeting to protest against several regulations of the new curriculum imposed on them. The new order requires the student to pass four different preliminary examinations in biology (botany, zoology and chemistry) along with practical examinations in anatomy and physiology, within a period of twelve weeks, while the old curriculum permitted him to spread these examinations over the end of the fourth and the whole of the fifth semester (or half-yearly term). The new regulations entail practically the loss of a semester (or half-year), and also the loss of scholarships which are connected with the line the student takes for his studies. A memorandum was addressed to the dean of the faculty and the Ministry of Education asking for abolishment of the onerous rules. In case these prove useless, energetic measures have been threatened.

Washington's Birthday

As is usual in this city, all Americans in Vienna are invited to the United States embassy, February 22, to celebrate Washington's birthday. As over 80 per cent. of the Americans in Vienna happen to be doctors of medicine pursuing their studies in the clinics and other medical institutes of this city, one may say that this evening is really an evening of physicians. Their patriotism is well illustrated by their attendance.

The Imperial Institute for the Care of Mothers and Infants

Acting on a suggestion of the emperor, part of the large sums collected on the occasion of celebrating the sixtieth anniversary of his succession to the throne, was devoted to the establishment of a permanent institute for the protection of infants and their mothers. The preliminary organization has been completed, and a report by the committee shows what has been achieved. Escherich was the initiator of the idea which Dr. Moll, his pupil, has carried out. The institute is intended to serve as a charitable and a teaching institution as well. Theoretical and practical instruction will be given to mothers and other women in the care and development of infants and children. Furthermore, midwives will be trained to become competent nurses for infants, an object of the utmost importance; also regular nurses will be instructed there. It will also serve as postgraduate school for doctors of medicine, for it is one of the chief endeavers of the institute to induce practitioners to cooperate with it in the care of infants. For this purpose it is intended to train the practitioners, especially in the provinces, that they may establish branch institutes in their districts, with the aid of the central institute. Naturally, the organization of the branches will be a useful addition to the teaching facilities in preventive and social medicine. In order to interest the poor, a special department for the instruction of mothers will be formed. There they will learn how to handle the healthy and the diseased baby, how to treat the milk and other food, and how to take care of their offspring generally. Besides, the charitable department will receive infants deprived of their mothers as well as destitute mothers with their babies. Older children will also be received to a limited number in order to teach the nurses how to manage the diseased child as a skilled help for the physician. There will be a department for the education of children with minor or major defects of education or mental condition. This will enable the nurse to learn an important part of her duties, and will reach children at present badly looked after if their parents happen to be poor. There is hardly any provision for such children in this country, only the barest attempts having been made about two years ago. The whole institute will be part of a general bureau for the protection and care of infants, to be extended over the whole Austrian empire, and to be an office of the ministry of the interior. The plans for the building have been completed and comprise space for eighty infants, twenty older children, thirty pupils, twenty wet-nurses and twenty mothers. The institute will be in working order in two years. Meanwhile its work is being led up to by the spreading of instruction as to its existence and its endeavors among the poorer classes of the population, as well as by the publication of instructive leaflets like the one called "A Vademecum for Mothers."

Marriages

Harry Burton Stevenson, M.D., Sherwood, Md., to Miss Katherine Torpey of Philadelphia, at Buffalo, N. Y., February 25.

Howard Lane Hull, M.D., M. C., U. S. Army, to Miss Sarah Kelsey Buck of Bridgeton, N. J., at Philadelphia, February 17.

Philip Patrick Crimmins, M.D., Brockton, Mass., to Miss Kerby Louise Langdon of Boston, at Brockton, February 26.

Edward A. Stierberger, M.D., of Union, Mo., to Miss Mamie A. Vitt of Franklin County, Mo., at Union, February 27.

Guido J. Gianfranceschi, M.D., Rochester, N. Y., to Miss Marietta Strozzi of Buffalo, N. Y., Dec. 19, 1912.

Arno Klein, M.D., Mount Vernon, Ind., to Miss Emily Virginia Brower of Williamsport, Pa., February 26.

William Julius Mason, M.D., Portsmouth, Va., to Miss Flora Mae Watson of Baltimore, February 26.

Mark Frederick Boyd, M.D., Oskaloosa, Ia., to Miss Bertha Mary Beard of Iowa City, Ia., January 8.

Joseph C. Taylor, M.D., New York City, to Miss Marion R. Hungerford, in New York City, recently.

Alfred Darwin Kibby, M.D., Champaign, Ill., to Mrs. Julia Beatrice Wilson, in Chicago, March 1.

Henry Martin Pahlas, M.D., Elkader, Ia., to Miss Bertha Pings of Denver, Colo., February 28.

Edward Waters Gray, M.D., Ensley, Ala., to Miss Pearl Belser of Sheffield, Ala., February 20.

Will Amick Quimby, M.D., to Miss Helen Dunlevy Sprott, both of Bridgeport, O., January 21.

Edmund LeRoy Dow, M.D., to Mrs. Julia Ely Smylie, both of New York City, February 20.

Thomas B. Allison, M.D., to Miss Marie Sober, both of Tarentum, Pa., February 6.

Thomas J. Coble, M.D., to Miss Mabel Holt, both of Shelbyville, Tenn., February 15.

John Peters, M.D., Maywood, Ill., to Miss Lillian Goldberg of Chicago, February 18.

Deaths

John Shaw Billings, M.D. lieutenant-colonel U. S. Army, retired. Curator of the Army Medical Museum and Library for many years, the Index Catalogue of which will stand as a lasting monument to his industry and genius; died in the New York Hospital, March 11, from pneumonia, aged 73.

He was born in Switzerland County, Ind., and was graduated from the Medical College of Ohio, Cincinnati, in 1860. He also has had conferred on him the honorary degree of LL.D. by many universities, at home and abroad; that of M.D. by the University of Munich in 1889 and by Dublin University in 1892 and the degree of D.C.L. by the University of Oxford in 1889.

After serving for a year as demonstrator in anatomy in his alma mater, he entered the United States Army as assistant surgeon, April 16, 1862; was made captain and assistant surgeon four years later; after ten years was promoted to major and surgeon, and June 6, 1894, was made lieutenant-colonel and deputy surgeon-general and was retired from the Army at his own request, after more than thirty years service, Oct. 1, 1895. In 1869 he was ordered to the Surgeon-General's office, Washington, where he had charge of the organization of the Veteran Reserve Corps; of matters pertaining to contract surgeons and of all property and disbursing accounts until 1885, when he was placed in charge of the Library of the Surgeon-General's office, serving in this capacity until 1893, when he was appointed curator of the Army Medical Museum and Library. He was placed in charge of the division of vital and social statistics of the tenth and eleventh censuses. In 1870 Dr. Billings was engaged in the reorganization of the United States Marine Hospital Service and from 1879 to 1882 served as vice-president of the National Board of Health.

His contributions to the medical literature were numerous and varied, the best known being the Index Catalogue of the Library of the Surgeon-General's Office and the National Medical Dictionary. He was professor of hygiene in the University of Pennsylvania and director of its laboratory of hygiene from 1893 to 1896, when he accepted the directorship of the New York Public Library, Astor, Lenox and Tilden Foundations, holding this position until his death.

Dr. Billings survived his co-worker, Dr. Robert Fletcher, by only four months. His work as an administrative officer and as a bibliographer is unique in the history of American medicine.

Philip Hanson Hiss, Jr., M.D. College of Physicians and Surgeons, New York City, 1895; a member of the American Medical Association; National Pathological and Bacteriological Society; Society of Experimental Biology in Medicine; American Public Health Association, etc.; assistant in bacteriology in his alma mater in 1895; instructor in hygiene and bacteriology from 1899 to 1903; adjunct professor of bacteriology from 1903 to 1906 and thereafter professor of bacteriology; professor of hygiene in the Woman's Medical College from 1898 to 1899; bacteriologist of the Health Department of New York City from 1896 to 1899; co-author with Zinsser of a text-book on bacteriology; died at his home in New York, February 27, aged 44.

Thomas H. Doyle, M.D. New York University, New York City, 1865; a member of the American Medical Association; a pioneer physician and formerly police commissioner and mayor of St. Joseph, Mo.; professor emeritus of the principles and the practice of medicine in the Ensworth Medical College, St. Joseph, and president of its board of trustees; died in St. Joseph's Hospital, February 25, shortly after a surgical operation, aged 72. In 1910 Dr. Doyle was the guest of honor at a testimonial banquet given by the medical, dental and pharmaceutical professions of the city, at which a silver loving cup was presented to him.

Evan G. Shortlidge, M.D. University of Pennsylvania, Philadelphia, 1869; a member of the Delaware State Medical Society; for forty years a member of the Board of Education of Wilmington and for eighteen years its president; mayor of Wilmington from 1893 to 1895; died at his home, February 24, aged 68. Out of respect for Dr. Shortlidge the public schools of the city were closed all day on the day of his funeral and flags on all school buildings were at half-staff for the week following his death.

John Anthony Hobson, M.D. Miami Medical College, Cincinnati, 1872; a member of the American Medical Association; of Flushing, Ohio, proprietor of the Flushing Hospital; died suddenly, February 21, from heart disease, while making a professional call in St. Clairsville, Ohio, aged 63.

John Warren Willis, M.D. Harvard Medical School, 1861; a member of the Massachusetts Medical Society; for twenty years treasurer of the Massachusetts South District Medical Society; for more than half a century a practitioner of Waltham and for several years chairman of the board of selectmen; a member of the town school committee and board of aldermen, and city physician; one of the founders of the Waltham Hospital and Nurses' Training School and trustee of the latter institution; died at his home in Waltham, March 1, from pneumonia, aged 80.

Henry F. Livingston, M.D. College of Physicians and Surgeons, Keokuk, Ia., 1865; a member of the South Dakota State Medical Association; one of the oldest practitioners of South Dakota; for twelve years physician and agent to the Sioux Indians at the Crow Creek Agency; afterward a resident of Yankton; for two years assistant superintendent and for a similar period, superintendent of the State Hospital for the Insane and for a number of terms coroner of Yankton County; died at his home in Yankton, February 27, from heart disease, aged 69.

Henry William Brown, M.D. Geneva (N. Y.) Medical College, 1867; a member of the American Medical Association; one of the founders and a member of the staff of the Presbyterian Hospital, Waterloo, Ia., and a pioneer practitioner of that city; a surgeon of volunteers during the Civil War, and for many years local surgeon of the Illinois Central Railroad; died at his home, February 27, from organic heart disease, aged 68.

Azro Delos Bundy, M.D. Eclectic Medical Institute, Cincinnati, 1878; College of Physicians and Surgeons, Keokuk, Ia., 1880; a member of the American Medical Association; a veteran of the Civil War and during the latter part of his service, assistant surgeon of volunteers; for several years a member and chairman of the library board of Osage, Ia.; died at his home, February 21, from cerebral hemorrhage, aged 71.

Thomas Janes Carswell, M.D. University of the South, Sewanne, Tenn., 1908; of Waycross, Ga.; a member of the American Medical Association and secretary of the Eleventh District Medical Association; died in the King's Daughters Hospital, Waycross, February 9, from the effects of burns and injuries received in an automobile accident a few hours before, aged 35.

John Wesley Leonard, M.D. Medical College of Ohio, Cincinnati, 1886; for many years medical examiner for the Burlington System Voluntary Relief Department; for one year resident physician at the Dixmont Insane Hospital, Pittsburgh, Pa.; a practitioner of St. Joseph, Mo., since 1888; died in the French Sanatorium in that city, February 24, aged about 55.

Frederick Charles H. Eggert, M.D. Northwestern University, Chicago, 1898; instructor in operative surgery in his alma mater; a member of the American Medical Association; and chief surgeon of the German Deaconess Hospital; died at his home in Chicago, March 6, from pneumonia, aged 37.

Jesse T. Dunn, M.D. University of Louisville, Ky., 1890; a member of the American Medical Association and one of the early *x*-ray workers of Louisville; died in the Jewish Hospital, Louisville, February 28, from pneumonia, aged 45. At a special meeting of the Jefferson County Medical Society resolutions of regret and sympathy were adopted.

Isaac Allen Fetherlof, M.D. College of Physicians and Surgeons, Baltimore, 1877; a member of the Medical Society of the State of Pennsylvania; for twenty-five years a practitioner of Mazeppa, Pa., but for the last two years a resident of West Milton; died at his home, February 16, from malignant disease of the liver, aged 62.

Augustus Van Hoff, Gosweiler, M.D. Jefferson Medical College, 1877; for thirty years a practitioner of Baltimore County, Md., and for ten years resident physician at the Eastern Dispensary, Baltimore; a druggist of New York City since 1905; died in Bellevue Hospital, February 22, shortly after a surgical operation, aged 63.

William Arthur Little, M.D. New York University, New York City, 1878; one of the founders of the Bushwick Hospital, Brooklyn; died at his home in that city, February 24, from heart disease, aged 63.

James W. Eichelberger, M.D. University of Maryland, Baltimore, 1870; a life-long resident of Emmitsburg, Md.; died in the Frederick (Md.) City Hospital, February 23, from nephritis, aged 71.

James Everard Massey, M.D. University of Maryland, Baltimore, 1871; died at his home in Rock Hill, S. C., January 20, aged 64.

Ferdinand Koeller, M.D. University of Gratz, Austria, 1854; later assistant professor in the eye clinic of his alma mater; formerly a member of the American Medical Association; a surgeon in the war between Austria and Italy in 1859; died at his home in Mount Oliver, Pittsburgh, March 2, from senile debility, aged 79.

Robert W. Musgrave, M.D. California Eclectic Medical College, Los Angeles, 1884; a member of the American Medical Association; a pioneer physician of Kings County, Cal.; formerly county health officer and city physician of Hanford, Cal.; died suddenly at his home, February 15, from heart disease, aged 54.

John Morse Wakefield, M.D. Dartmouth Medical School, Hanover, N. H., 1875; a member of the American Medical Association; once president of the Knox County (Me.) Medical Society; president of the consulting staff of the Knox County Hospital; died suddenly at his home in Warren, February 27, aged 60.

George Fischer, M.D. University of Würzburg, Germany, 1889; a member of the American Medical Association; dermatologist to the Paterson (N. J.) Hospital and a member of the medical staff of the New York German Hospital; died at his home in Paterson, February 22, from pneumonia, aged 48.

John Edgar Ambler, M.D. New York Homeopathic Medical College, New York City, 1893; assistant surgeon to the New York Ophthalmologic Hospital, and formerly on the staff of the Metropolitan Hospital, Blackwell's Island; died at his home in New York City, February 24, from scarlet fever, aged 41.

John Alexius Joseph Mueller, M.D. State University of Iowa, Iowa City, 1892; president of the Dyersville (Ia.) Commercial Club; formerly mayor of New Vienna, Ia.; while driving across the Illinois Central tracks near Dyersville, March 1, was struck by a train and died a few minutes later, aged 41.

John Lee Lehman, M.D. Indiana Eclectic Medical College, Indianapolis, 1887; a member of the Illinois State Medical Society; formerly a member of the board of health of Carmi; died at his home, January 17, from carcinoma of the stomach, aged 60.

Frank C. Molkup, M.D. Chicago Homeopathic Medical College, 1898; Hahnemann Medical College, Chicago, 1905; a member of the Bohemian Medical Society of Chicago; died suddenly from heart disease at his home in Chicago, March 1, aged 42.

John Thomas Faucett, M.D. Vanderbilt University, Nashville, Tenn., 1881; a member of the Tennessee State Medical Association; and president of the Gibson County Board of Health; died at his home in Trenton, February 2, aged 59.

Francis M. McElwee, M.D. College of Physicians and Surgeons, Keokuk, Ia., 1892; a member of the Nebraska State Medical Association; for twenty years physician of Franklin County, Neb.; died at his home in Macon, March 1.

Edward F. Wagner, M.D. Jefferson Medical College, 1884; medical inspector for the Pennsylvania System Relief Union; who was on duty during the Johnstown flood of 1889; died at his home in Fort Wayne, Ind., February 23, aged 52.

Charles B. Holmes, M.D. New York Homeopathic Medical College, 1874; four times mayor of Rahway, and a member of the Rahway Board of Trade; a member of the Medical Society of New Jersey; died at his home March 4, aged 65.

Lyman R. Woodson, M.D. Ensworth Medical College, St. Joseph, Mo., 1898; a newly appointed member of the staff of State Hospital No. 2, St. Joseph; died at his home in Rushville, Mo., February 25, from pneumonia, aged 35.

Edith Barton, M.D. Woman's Medical College of Pennsylvania, Philadelphia, 1902; a member of the American Medical Association; of Scranton, Pa.; died at her home, February 20, from heart disease, aged 44.

Saul Brock Angle, M.D. University College of Medicine, Richmond, Va., 1901; of Windsor, Va.; a member of the Medical Society of Virginia; died in St. Andrew's Hospital, Suffolk, Va., February 23, aged 32.

Peyton L. Hurt, M.D. Jefferson Medical College, 1867; formerly president of the Cooper County (Mo.) Medical Society; of Boonville; died in that place, February 24, from heart disease, aged 67.

Russell Clark Bowdish, a charter member of the Marion County (Ohio) Medical Society; died at his home in Marion, February 20, from senile debility, aged 89.

E. W. Bradley, M.D. University of Louisville, Ky., 1874; of Newburg, Tex.; died at Mineral Wells, Tex., February 14, aged 63.

Henry J. Trolinger, M.D. Washington University, St. Louis, 1875; for twenty-five years a practitioner of San Antonio, Tex.; died at his home in that city, February 27, from cerebral hemorrhage, aged 62.

Edgar Pearl Ward, M.D. Marion-Sims Medical College, 1894; professor of embryology and obstetrics in the American Medical College, St. Louis; died at his home in that city, February 22, aged 46.

Perry Wright Falls, M.D. Eclectic Medical Institute, Cincinnati, 1892; formerly surgeon to the Signal Corps, N. G., La.; died at his home in New Orleans, February 24, from influenza, aged 53.

John Baxter Richards (license, Wisconsin, 1881); a practitioner since 1854; health officer of Janesville in 1910; died at his home in that city, January 3, from cerebral hemorrhage, aged 80.

William Augustus Megrath, M.D. Dartmouth Medical School, Hanover, N. H., 1886; a member of the New Hampshire Medical Society; died at his home in London, February 13, aged 54.

Norman Brigham Bayley, M.D. Yale University, New Haven, Conn., 1871; a member of the American Medical Association; died at his home in Haverstraw, N. Y., February 27, aged 65.

Hugh Cross, M.D. University of Southern California, Los Angeles, 1894; a member of the American Medical Association; died at his home in Dunsmuir, Cal., February 23.

Archibald McNiel Bevier, M.D. University of Buffalo, N. Y., 1866; for forty-five years a practitioner of Owasco, N. Y.; died at his home, February 19, from arteriosclerosis, aged 71.

Harold B. Blanchard, M.D. McGill University, Montreal, 1907; a member of the American Medical Association; died at his home in Columbus, N. Dak., February 19, aged 29.

Thomas F. Montgomery, M.D. Rush Medical College, 1863; for nearly half a century a practitioner of Gibson County, Ind.; died at his home in Owensville, February 21, aged 73.

Charles M. Barkley, M.D. University of Louisville, Ky., 1883; a member of the Kentucky State Medical Association; died at his home in Leesburg, February 25, from pneumonia.

George Mark Silverberg, M.D. New York University, New York City, 1893; formerly of Chicago; died at his home in Los Angeles, February 22, from heart disease, aged 52.

Hiram Dana Walker, M.D. University of Buffalo, N. Y., 1864; a member of the American Medical Association; died at his home in Buffalo, February 21, aged 73.

James Crozier, M.D. Rush Medical College, 1882; of Glenwood, Minn.; a veteran of the Fenian Raid in Canada in 1866; died in Glenwood, about February 27.

Daniel L. Campbell, M.D. Saginaw Valley Medical College, Saginaw, Mich., 1899; of Tacoma, Wash.; died at his home, January 20, from nephritis, aged 37.

Alexander Mansfield Goodman, M.D. New York University, New York City, 1876; died at his home in Brooklyn, N. Y., February 19, from uremia, aged 59.

George W. V. Hickman, M.D. Georgetown University, Washington, D. C., 1872; of Smithville, Tex.; died in Washington, D. C., about February 8, aged 59.

David Shewman Watson, M.D. Pulte Medical College, Cincinnati, 1905; died at his home in Fredericktown, O., February 13, from pneumonia, aged 36.

Rogers Wright Miller, M.D. Bellevue Hospital Medical College, 1870; died at his home in Castile, N. Y., February 22, from heart disease, aged 68.

Amalia Hesse, M.D. American Medical College, Eclectic, St. Louis, 1892; died at her home in St. Louis, February 26, from heart disease, aged 68.

John G. Calder, M.D. Manitoba Medical College, Winnipeg, 1889; of Medicine Hat, Man.; died in December, 1912, while en route to California.

Robert Hamilton Miller, M.D. Jefferson Medical College, 1896; died suddenly at his home in Santa Fe, N. Mex., February 19, aged 38.

Alpheus B. Woodruff, M.D. University of Pennsylvania, Philadelphia, 1874; died at his home in Elmer, N. J., January 18, aged 62.

Delmo Merton Bigelow, M.D. Detroit (Mich.) Homeopathic Medical College, 1904; died at his home in Detroit, February 24, aged 38.

Thomas Henry McNally, M.D. University of Vermont, Burlington, 1886; died at his home in Central Falls, R. I., January 24.

The Propaganda for Reform

In This Department Appear Reports of the Council on Pharmacy and Chemistry and of the Association Laboratory, Together with Other Matter Tending to Aid Intelligent Prescribing and to Oppose Medical Fraud on the Public and on the Profession

ANOTHER GET-RICH-QUICK SCHEME

In the absence of much-needed "blue-sky" laws in most of the states, the industrious and conscienceless promoter of wonderful get-rich-quick schemes still flourishes. Physicians are sometimes easy victims of such promoters, probably on account of carelessness, good nature or lack of time to investigate. A physician sends us a prospectus of a proposed combination sanatorium and nostrum factory which arouses speculation as to the sort of physicians who would attach their names to it; the scheme is so preposterous in outline that a mere reading should make warning unnecessary.

The Sanitarium Company of Sioux City, Iowa, the directors of which are Dr. S. W. Staads, president, Dr. S. B. Hoskins, vice-president, and Dr. F. A. Seemann, secretary, makes half a dozen secret homeopathic nostrums. It now proposes to combine with a sanatorium in a neighboring city and run the combination as a money-making venture on which they promise at the outset 22.5 per cent. returns, with unlimited possibilities for future profits. The circular is addressed to "Dear Reverend," but it has been largely circulated among physicians.

AN INCLUSIVE SCHEME

It is explained that "the object of our company is to manufacture and sell medicines for humankind and animals, chemicals, pharmaceuticals, infant and invalid foods, health coffees, to build and maintain a sanatorium, etc.," which seems rather inclusive. A building for the sanatorium is to be purchased for about thirty thousand dollars. The sanatorium portion of the scheme is to be capitalized at five hundred thousand dollars, with thirty thousand shares of preferred and twenty thousand shares of common stock. Eight per cent. "cumulative dividends" are to be paid on the preferred stock, and it is asserted that the dividends on the common stock may easily amount to "20, 50 or more per cent." By way of encouraging prospective investors in the stock the promoters cite a number of well-known industrial or public utility stocks that are said to have increased from a value of $100 per share to $4,000, $48,000, $36,000, $50,000, $127,000 and $400,000, and call attention to the money-making qualities of a much-advertised talcum powder, Coca Cola, Post's Battle Creek breakfast foods, etc.

EXPLOITING THE "MADE IN GERMANY" BRAND

As a further inducement it is said that a contract has been entered into with a famous German factory with the "right to use their name and trademarks and to manufacture all of their products such as medicines, chemicals, foods, etc., which have a tremendous sale in Europe." It is also asserted that "when thoroughly established in the United States through wide advertising to the physicians, druggists and the laity, we will gradually have to open branches in Canada, Mexico, Cuba, etc.," to which the promoters claim their concession extends, and then they go on to say: "Have you any conception of the wonderful possibilities of such work? Just think what it means to have thousands of physicians and druggists as shareholders, as we intend to get! All shareholders are entitled to 10 per cent. discount for cash on any direct purchase of our goods not marked net, and on bills incurred at the proposed sanatorium. . . . Further, every shareholder, minister and layman (and we have a good number of them now and add as fast as we can) will gladly recommend such of our medicines to his friends which he has found to be reliable, for which purpose we intend to supply free each one with our preparations according to the holding they have with us. Think what it means to have thousands of friends in all parts of the country! That does not mean that our shareholders must be 'boosters' for us, but they will gladly say a good word for us where opportunity presents itself." The profits of the proposed sanatorium are then figured out on the basis of one patient at least from each of five hundred physician shareholders at so much per week, and the plan of letting the investor in on the ground floor for one hundred shares only (for each member of the family) of the preferred stock at ten dollars a share, with 2.5 per cent. discount and one share of common stock as a bonus, is set forth in glowing terms.

GETTING A STRING OF SUCKERS

The three worthy homeopathic physician promoters of the scheme give their official status and unimpeachable references to banks and trust companies, and wind up by suggesting that if the recipient cannot take up the proposition perhaps he can hand it to some member of his congregation who might be interested, or perhaps he could furnish a list of his parishioners, for which they will send him fifty cents' worth of their medicines for each twenty-five names. This would seem to be a rather lame conclusion to a glowing prospectus which deals in hundreds of thousands of dollars in stocks with tremendous dividends from a vast business extending over a continent. It is to wonder how many physicians or "Dear Reverends" would really invest good money in such a crudely and baldly exploited scheme.

THE PREPARATIONS OF LLOYD BROTHERS

The following inquiry comes from Dr. A. C. Ames, Mountain Grove, Mo.:

> "I receive considerable literature from Lloyd Brothers, Cincinnati, but I do not find any of their preparations in New and Nonofficial Remedies. Are their preparations not recognized? If not, why? Is it because of the way they are advertised or because they do not come up to the claims made for them? I do not want to pass a good thing by or waste my time trying what more competent men have cast aside as useless."

None of the products of the firm has been accepted for inclusion with New and Nonofficial Remedies nor has any been considered by the Council. On the one hand, Lloyd Brothers have not submitted their preparations; on the other hand, the Council has not considered them of sufficient importance to take them up on its own initiative. While some of this firm's products appear to be proprietaries of secret composition, in the main they are the so-called "specific tinctures" or "specific medicines." In general, it is understood that these preparations belong to that class of obsolete pharmaceuticals known as "green tinctures," which at one time were believed to possess great virtues because they were made from the fresh, undried drug. The manufacturers' statements as to the character of their "specific" medicines, however, are most indefinite and vague. Thus an advertising booklet contains the following in reference to the "drug strength" of specific medicines:

> "The drug strength is on every Specific Medicine label. This drug strength refers to the balanced structural parts of the drug that experience has demonstrated are best adapted to produce the fullest and kindliest drug action. In some cases the green drug is employed, in others the dry drug, and again a drug that is partly dried. In a few cases a drug is better if aged than when recent."

The use of so-called "green tinctures" has been a fad and has never been put on a scientific basis. In connection with the firm's claims for the superiority of its products, the following from a review of a paper by Edmunds and Hale[1] on digitalis and its standardization is illuminating:

> "Lloyd's 'Specific Medicine, Digitalis,' gave very interesting results, especially when compared with the claims made by this firm. It was assayed by seven methods—in one table it appears at the bottom of the list; in four it stands last but one, and in the other two it is third from the bottom. Its comparative

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[1] Edmunds, C. W., and Hale, Worth: The Physiologic Standardization of Digitalis, Hyg. Lab. Bull. 48; abstr., Pharmacology Department, The Journal A. M. A., June 12, 1909, p. 1938.

weakness is thus very clearly shown when it is compared with U. S. P. fluidextracts, and yet, according to Lloyd Brothers' advertising literature, 'Specific Medicines' have about double the effect on the system that is possessed by ordinary (nonproprietary?) fluidextracts. The dose recommended is from ⅓ to 1 minim every hour, which the writers point out is certainly not less than that of a pharmacopeial fluidextract."

IOSALINE

Report of the Council on Pharmacy and Chemistry

Iosaline is a rheumatism remedy for external application. In view of the misleading and unwarranted claims which are made for it, the Council voted that Iosaline be refused recognition and recommended publication of the Committee's report which appears below. W. A. Puckner, Secretary.

COMMITTEE'S REPORT

The following sweeping but rather indefinite claims are made for Iosaline.

> "Iosaline is a penetrator and overcomes the objectionable escharotic properties of Iodine; it is readily absorbed and may be used without discomfort or discoloration."
>
> "The strong analgesic properties of Iosaline make it especially useful in controlling pain in cases of Neuralgia, Rheumatism, Gout, and Arthritis Deformans."

As there are few, if any, known iodin compounds which are "readily absorbed" through the skin and which will not at the same time produce discoloration or discomfort, it was thought worth while to take up the examination of Iosaline. The results of this examination are reported by the Chemical Laboratory of the Association as follows:

Laboratory Report:—Iosaline is advertised by the Iosaline Company of New York, as a remedy for the treatment by external application, of rheumatism, gout, neuralgia, pneumonia and numerous other diseases. Concerning its composition the following statements are made:

> "A transparent, non-staining gelatinoid of combined iodine with menthol and methyl salicylate.
>
> "Alcohol 070. per cent.
>
> "Chemical tests demonstrate the preparation to contain 5 per cent. of iodine."

The placing of a cipher before the percentage figure for alcohol, though perhaps accidental and not meant to mislead, might cause a hasty or careless reader to understand 7 per cent. or .07 per cent., instead of 70 per cent., as the proportion of alcohol present.

The preparation examined was a very pale yellowish, translucent solid having a strong odor of methyl salicylate and a fainter odor of menthol. A package sold for 2 ounces contained 51.7 gm. Qualitative tests indicated the presence of alcohol, an iodid, menthol, methyl salicylate, potassium, sodium, combined fatty acids and a trace of glycerin. Thyroid extract was not found. Quantitative examination indicated the following approximate composition for Iosaline:

Alcohol (by weight)	48.05 per cent.
Menthol	2.07 per cent.
Methyl salicylate	10.25 per cent.
Potassium iodid (4.25 per cent. iodin)	5.55 per cent.
Soap	12.68 per cent.
Glycerin	a trace
Water and undetermined matter to make	100.00 per cent.

Iosaline, therefore, appears to be a solidified, watery-alcoholic solution of soap containing potassium iodid, menthol and methyl salicylate. Physiologic tests carried out by rubbing the preparation on the skin and afterward testing the saliva and the urine for an iodid indicated that none of the potassium iodid is absorbed. Since Iosaline is claimed to contain 70 per cent. of alcohol and 5 per cent. of iodin, the alcohol content is but 68.7 per cent. and the iodin content but 85 per cent. of the amounts claimed. The phrase "combined iodin" is evidently meant to mislead, and adds the element of mystery on which preparations of this class rely so largely.

PHYLACOGENS—THE "PERSONAL ANIMOSITY" PLEA

To the Editor:—I was called on recently by one of Parke, Davis & Co.'s agents, in the interest of Phylacogens. He asked if I desired to be supplied with the literature concerning the Phylacogens. I declined, telling him that I preferred to get my information from The Journal of the American Medical Association. He was evidently loaded from headquarters with quite a "spiel" against The Journal. His claim was that the editor had had some personal misunderstanding with P., D. & Co. some years ago, and that the position of The Journal was wholly a matter of spite, on the part of the editor.

I am not aware that this claim has been made in any of the Phylacogen printed matter, but it was quite evident that this particular person has his speech well prepared. I imagine this argument will only be effective, if at all, with physicians who are unfamiliar with The Journal and its splendid work in fighting "patent-medicine" frauds.

J. E. Miller, M.D., Rogersville, Tenn.

To the Editor:—Some time ago a representative of Parke, Davis & Company tried to interest me in Phylacogens. He succeeded in interesting me, but not favorably. He explained the attitude of The Journal of the American Medical Association by saying that you have been unfair to Parke, Davis & Company ever since your treatment of Taka-Diastase several years ago. He claimed that when you find Parke, Davis & Company at fault you make a great to-do about it but that when some of your favorites are caught you do not name them but speak of them as "a prominent drug house."

H. M. Francis, M.D., Woodstock, Ill.

These letters are typical of many we have received from different parts of the country, showing that Parke, Davis & Co.'s detail men have "learned their little piece" and are reciting it with regularity and despatch. What the firm itself has to say on this point may be gathered from two quotations from letters sent out by Parke, Davis & Co. These particular letters were signed by E. G. Swift, general manager:

> ". . . The real motive and animus of the attack are to be sought in the determination of Doctor Simmons to dragoon Parke, Davis & Co. into submission to the Council on Pharmacy and Chemistry of the A. M. A."

And this:

> "The editor of The Journal, looking on the Council as his creature, has resolved to dragoon us into submission—to compel us to bend our neck to the yoke and introduce no specialty to the medical profession without the knowledge and permission of his Council."

The "personal animosity" argument has been used by most of the "patent-medicine" fakers whose frauds we have exposed and by not a few of the "ethical proprietary" manufacturers whose products we have had to criticize. This plea that personal malice actuates the exposures of pharmaceutical frauds has become wofully threadbare. It was only four or five years ago that some other manufacturers of "ethical proprietaries" whose products had come in for severe criticism were accusing the editor of The Journal of being hand in glove with Parke, Davis & Company! "So runs the world away."

Correspondence

A Personal Impression of Dr. Friedmann

To the Editor:—Everything of importance connected with Dr. Friedmann's alleged "cure" for tuberculosis, has been fully set forth in The Journal. But for the fact that the many newspaper reports are confusing to some doctors as well as to the public, I would not write this letter.

I have just returned from Europe where I spent two months. I was alert to learn all I could about Dr. Friedmann and his remedy. I questioned both German and American medical men as to what they had seen or heard from others. I visited the doctor's office; I crossed on the same vessel with him and talked with him, his assistant, Dr. Benjamin and his press-agent, Mr. Hundt; I saw some of his patients at his office and met others and their friends at their hotels.

What evidence is there to support Dr. Friedmann's claims? Dr. Friedmann has publicly declared that no one but himself knows what his remedy is; he has given it to no one, and hence all evidence must come from him. His only published report must be regarded as entirely inadequate. In fact, all his reports are indefinite. He gives varying accounts of the number of cases treated. The statements as to the character of cases and the percentage of cures are equally indefinite. He showed me ten patients at his office, the first a boy claimed to be cured of tuberculosis of the bones of the hand, and the second claimed to be cured of a similar affection of the knee. Instead of showing me a record he had the mothers detail to me the histories, how they had applied to others without relief and finally were cured by Dr. Friedmann. These patients had been well a year and a half, and as the same patients were exhibited to other physicians at different times during the preceding month, I am sure they were "show cases," for there was no necessity for frequent visits to the clinic for cured cases. The other patients gave no evidence of special improvement. Most of them said they were no better, nor were any whom I visited in their hotels. Dr. Friedmann says that whenever the exudate which forms at the site of the injection begins to be absorbed, the patient always improves. I saw five patients in whom this was not the case.

I was struck with the superficial examinations and meager histories kept. I would not have mentioned this had it not been corroborated by a number of physicians, patients and friends who had made many visits to his office. In short, I did not see, nor could I hear of anything to indicate that Dr. Friedmann's patients were doing even so well as those with similar cases under ordinary treatment. He had not instructed any of those with whom I talked how to live, and I found all in unsuitable surroundings and doing the best they could with the knowledge they had received before.

It is hard for me to express in calm language the impressions Dr. Friedmann, his clinic, and his method made on me. Dr. Friedmann has made great claims, but he has failed to submit them to any efficient test. The evidence of his own results, taken even as he gives it, falls far short. His conduct of secrecy as far as the profession is concerned, his appeal to the public press, his spectacular gift of his discovery to men of prominence, his trip to America with a press-agent, in short, his whole attitude have been such as to excite distrust.

Edwin Walker, M.D., Evansville, Ind.

Queries and Minor Notes

Anonymous Communications will not be noticed. Every letter must contain the writer's name and address, but these will be omitted, on request.

DENATURED ALCOHOL

To the Editor:—Please give the following information concerning denatured alcohol:

1. What substance is added to the alcohol and in what quantity?
2. Is this substance poisonous? If so, what quantity might be expected to produce poisoning? What would be the symptoms and treatment of such poisoning?
3. Does the addition of this substance alter the dissolving power of the alcohol?
4. What are the incompatibilities of this substance?
5. Is denatured alcohol suitable for internal administration or for making alcoholic preparations to be taken internally?

L. W. Johnson, P. A. Surg., U. S. Navy, Baltimore.

Answer.—1. Denatured alcohol or tax-free alcohol is alcohol rendered unfit for use as a beverage or as a medicine by the introduction of some denaturing substance. Among the formulas approved by the government for this purpose the following are the most generally used: A. To every 100 gallons ethyl alcohol (of not less than 180 degrees proof) there shall be added 10 gallons of approved methyl alcohol and one-half gallon approved benzin. B. To every 100 gallons of ethyl alcohol (of not less than 180 degrees proof) there shall be added 2 gallons of approved methyl alcohol and one-half gallon of approved pyridin bases.

2. The methyl alcohol that is used in both of the general formulas is decidedly poisonous. The other substances are also poisonous, although not so likely to produce serious symptoms as the methyl alcohol. The amounts of methyl alcohol causing poisoning are naturally often not known and seldom reported exactly. "A wineglassful," "half a pint," "about four ounces" are amounts reported as having caused death or blindness. In cases of poisoning by inhalation or absorption through the skin the amounts of course cannot be known. Idiosyncrasy seems to play a large part in methyl-alcohol poisoning, some persons being largely immune from permanent effects. When commercial methyl alcohol is used to denature alcohol, its unpleasant odor serves as a deterrent to poisoning. (See Wood, C. A.: Death and Blindness from Methyl- or Wood-Alcohol Poisoning, with Means of Prevention, The Journal, Nov. 30, 1912, p. 1962). The principal symptoms in case of methyl-alcohol poisoning have been the condition of intoxication similar to that produced by ethyl alcohol, accompanied by severe headache, nausea and vomiting, sweating, dilatation of the pupils, delirium and coma. Partial or total blindness has occurred in a large percentage of severe cases. The treatment of methyl-alcohol poisoning consists chiefly in the use of the stomach-pump and rectal injections for getting rid of the poison; heat applied to the body, especially the extremities, and internal stimulants, such as strychnin and coffee. An instance of poisoning from alcohol denatured with formaldehyd, due to an idiosyncrasy to the latter substance, is reported by Morgan (The Journal, Feb. 22, 1913, p. 590).

3. As the substance used for denaturing alcohol varies in different cases, it would be impracticable to consider the possible effects on the solvent power of the alcohol. As a rule, the substances added are solvents of the same general nature as ethyl alcohol itself.

4. As denatured alcohol is not used for medicinal purposes, there is little need to discuss this question.

5. No.

PHOSPHORUS MATCHES UNDER THE HUGHES-ESCH BILL

To the Editor:—I have been somewhat interested in phosphorus poisoning and in the proposal to tax ordinary phosphorus matches out of existence, and I would like to learn something about the new phosphorus matches that are to take the place of the old, common phosphorus matches. How much, if any, of yellow phosphorus will they contain?

D. H. P.

Answer.—The Hughes-Esch bill, by excessive taxation, will legislate the poisonous white phosphorus match out of existence in this country. The effect of this federal measure will be that no white phosphorus matches will be manufactured in the United States after June 30, 1913. A substitute, sesquisulphid of phosphorus, which is compounded from the nonpoisonous red amorphous phosphorus, will take the place of the poisonous white or yellow phosphorus as a prime combustible in the manufacture of matches.

RATTLESNAKE VENOM IN EPILEPSY

To the Editor:—The *Literary Digest*, Jan. 18, 1913, p. 128, cites an article in the *Technical World Magazine* (Chicago) concerning the treatment of epilepsy by injections of rattlesnake venom as carried on by Dr. Ralph H. Spangler. Can you tell me anything about this matter? Dr. Spangler's address is not given in the *Digest*, and I do not find his name listed in the directory under Chicago.

James V. Freeman, M.D., Jacksonville, Fla.

Answer.—The letter given above is one of a large number received regarding this treatment. These inquiries, many of which are from laymen, afford an illustration of the influence of sensational exaggeration of scientific work by the lay press, the effect of which must be to arouse the expectations (in most cases fruitlessly) of patients afflicted with a practically hopeless disease.

A few years ago rattlesnake venom was being used in the treatment of respiratory diseases and had a very enthusiastic advocate in Dr. Thomas J. Mays of Philadelphia. Dr. Mays used the preparation in the treatment of tuberculosis. He had for an assistant Dr. R. H. Spangler who, later, began using the same material in the treatment of epilepsy. Newspaper articles followed the reading of some of Dr. Spangler's papers. According to our understanding, Dr. Spangler does not assert that rattlesnake venom will cure epilepsy; he emphasizes the fact that its utility in epilepsy is practically confined to the idiopathic form in which no serious brain changes have occurred; that is to say, the initial stages of the disease. In properly selected cases, however, he asserts that it does alleviate the symptoms and that, in some cases, there is a cessation in the attacks for periods which encourage further investigation.

The remittent or intermittent course that epilepsy frequently pursues makes it necessary in judging any form of treatment to allow a sufficient time to elapse before arriving at any conclusion as to its value. The venom treatment of epilepsy has not been used for a sufficient length of time to determine its true value. The dried venom can be obtained from A. M. Nicholson, Orlando, Fla., and the solution prepared so that a dose of 1/200 grain (not gram) will be contained in 5 or 10 drops. The venom is dissolved in sterilized water, and 0.4 per cent. trikresol is added for preservative purposes. Under the circumstances, however, we advise physicians to wait for further information before resorting to this treatment.

HOOKWORM ERADICATION

To the Editor:—Will you give me information in regard to the plan and methods of the Rockefeller Sanitary Commission for the Eradication of Hookworm? How does the commission cooperate with the state boards of health? Are certain physicians appointed by the governors of the states to make investigations for hookworm in the schools, etc., and does the Rockefeller commission pay the expenses? Where may I obtain literature in regard to hookworm and the methods adopted for its eradication?

C. D. S., Oklahoma.

ANSWER.—The Rockefeller Sanitary Commission for the Eradication of Hookworm Disease was organized in October, 1909. Wickliffe Rose, 725 Southern Building, Washington, D. C., is administrative secretary, and Dr. C. W. Stiles, Twenty-Fifth and E Streets, N. W., Washington, D. C., is scientific secretary. The objects of the commission were to determine the area and the degree of infection with hookworm, to treat the sufferers and to remove the source of infection by putting a stop to soil pollution. The state was adopted as the unit in the organization, and cooperation with the existing health organizations was established. The commission and the state boards of health jointly appoint a state director of sanitation, who organizes and directs the work in the state. A field force of sanitary inspectors and a laboratory force is also provided, and these in cooperation with local health boards and individual physicians and citizens constitute the organization. In addition to making the sanitary survey and treating patients, one of the chief objects of the hookworm fight is to educate the people in prevention; this is accomplished by enlisting physicians in the work, by articles in the newspapers, by distributing bulletins and letters, by lectures, by personal visits and by demonstrations. One effective means of reaching a large number of people, both for treatment and for their education in sanitation, is through the establishment of local temporary dispensaries. The newspapers, of course, are enlisted in distributing information about the disease and in urging the people to take treatment and observe sanitary regulations. The expense is borne jointly by the Rockefeller commission, the states and the counties. The second annual report of the commission shows that nine states expended during the year 1911 a total of $30,000 and the commission about $130,000 for salaries, equipment and expenses; in addition, the latter spent about $18,000 for administrative expenses. The second annual report of the commission contains a complete list of publications of the United States Public Health Service and of the commission on the subject of hookworm, all of which may be had on application. A number of states also publish valuable pamphlets on the disease in the form of reports of the state boards of health. Among these states are Florida, North and South Carolina and Kentucky.

LITERATURE ON ELECTRIC SHOCK

To the Editor:—Please tell me where I can obtain literature pertaining to electric shock or death caused by electric shock.

C. A. HAINES, M.D., Sayre, Pa.

ANSWER.—The following are some articles on this subject:

Jellinek, S.: Pathology and Therapy of Electric Accidents, *Wien. klin. Wchnschr.*, Dec. 10, 1909; abstr. in THE JOURNAL, Jan. 23, 1909, p. 338.
Jellinek, S.: Electric Accidents, *Wien. klin. Wchnschr.*, Dec. 15, 1910.
Jellinek, S.: Treatment of Electric Accidents, *Wien. klin. Wchnschr.*, Feb. 21, 1909, abstr. in THE JOURNAL, April 3, 1909, p. 1150.
Jellinek, S.: First Aid in Electric Accidents, *Wien. klin. Wchnschr.*, Feb. 10, 1910, abstr. in THE JOURNAL, March 19, 1910, p. 1017.
Spitzka, E. A.: Resuscitation of Persons Shocked by Electricity, *Jour. Med. Soc. New Jersey*, April, 1909.
Stanton and Krida: Cause of Death by Commercial Electric Currents and the Treatment, *New York State Jour. Med.*, September, 1910.
Moorhead, J. J.: Injury by Electricity, THE JOURNAL, April 2, 1910, p. 1127.
Robinovitch, L. G.: Electric Analgesia and Electric Resuscitation, After Heart Failure Under Chloroform or Electrocution, THE JOURNAL, Feb. 18, 1911, p. 478.
Oliver, T.: Pathology and Treatment of Injuries Caused by Electricity, *Lancet*, London, Feb. 11, 1911.
Preliminary Work of the Resuscitation Commission, *Electrical World*, March 2, 1912.
Martin, T. C.: Resuscitation from Electric Shock, *Scient. Am.*, July 20, 1912.
First Aid for One Shocked by Electricity, *Texas State Bd. of Health Bull.*, October, 1912.

INSANITY AND SYPHILIS

To the Editor:—1. Can you refer me to a work that treats of insanity from a criminal and legal point of view, and the legal points necessary to prove a person insane? Also some authoritative work that treats of the mental symptoms of congenital syphilis and their relation to insanity?

2. Have you any statistics that show the percentage of Indians that have either congenital or acquired syphilis?

3. Could a Wassermann reaction show positive in a young man free from acquired syphilis, provided either of his parents had syphilis before their marriage?

H. A. SHARPE, M.D., L'Anse, Mich.

ANSWER.—1. The following will give the information required:

Witthaus and Becker: Medical Jurisprudence and Toxicology, William Wood & Co., 51 Fifth Avenue, New York, four volumes, price for each volume, $6. The third volume treats of this subject.
Peterson and Haines, Legal Medicine and Toxicology, W. B. Saunders Co., West Washington Square, Philadelphia, two volumes, price per volume, net, $5.
Hutchinson's Syphilis, chapter on Nervous and Mental Symptoms of Internal Syphilis, Funk & Wagnalls Co., 44-60 East Twenty-Third Street, New York, price $3.
Church and Peterson: Nervous and Mental Diseases, W. B. Saunders Co., West Washington Square, Philadelphia, price $5.

2. We do not find any such statistics.

3. The question is vague. The Wassermann reaction may be positive in case of congenital syphilis, but is not necessarily so.

SECOND EDITION OF NOSTRUMS AND QUACKERY

To the Editor:—1. What is Gallol? I do not find it in "Nostrums and Quackery." 2. Is it not time for Volume II of that work?

C. HEDGER, M.D., Chicago.

ANSWER.—1. Gallol belongs to the prescription fake type of nostrum. We do not know its composition, and the expense of analyzing it would hardly be justified in view of the fact that frauds of this kind have but a meteoric existence. Prescription fake nostrums in general were discussed in THE JOURNAL, Dec. 11, 1909, p. 2019, and in "Nostrums and Quackery," Edition 2, page 628.

2. The second edition of "Nostrums and Quackery" has recently been issued. It contains practically all of the matter in the first edition—brought up to date—and a large amount of additional matter, making it a volume of over 700 pages with over 300 illustrations. The new edition is bound in green cloth, stamped in gold, and sells for $1.50.

METHOD OF COMPOUNDING ACNE PRESCRIPTION

To the Editor:—Page 585, issue of Feb. 22, 1913. Prescription for acne. Gave to patient. Say, you should *see* the mixture.

W. L. MILNER, M.D., Cincinnati.

ANSWER.—With proper manipulations a very satisfactory mixture may be prepared. The sulphurated potash should be dissolved in a portion of the water and this solution added to the zinc sulphate also dissolved in water. This will produce zinc sulphid in a finely divided condition. To the sulphur contained in a mortar, this suspension of zinc sulphid may then be added gradually and with constant trituration. Thus a mixture will be obtained which readily becomes homogeneous when shaken. We have sent our correspondent a specimen of the mixture made in our chemical laboratory.

TUBERCULIN BY MOUTH IS OF DOUBTFUL VALUE

To the Editor:—Can as favorable results be obtained by the administration of tuberculin by the mouth as by the subcutaneous method?

M. L. STEVENSON, M.D., Covington, La.

ANSWER.—The administration of tuberculin by the mouth gives too uncertain results to make it advisable. According to New and Nonofficial Remedies, 1912, p. 217, "Tuberculin pills or capsules for stomach ingestion and suppositories per rectum are too uncertain of absorption to warrant any recommendation."

THE BUSINESS SIDE OF MEDICINE

To the Editor:—Please give references to articles appearing in The Journal within the past three years on the business side of medicine, fees and contract practice. V. D. L.

Answer.—The following will prove of interest in connection with these subjects:

The Cheerful Reception Room, Medical Economics Department, The Journal, Feb. 26, 1910, p. 725.
Club Practice and State Insurance in Great Britain, Germany, Austria and France, Medical Economics Department, The Journal, Feb. 26, 1910, p. 725.
Langworthy, H. G.: A Practical Business Bureau for County Societies, Medical Economics Department, The Journal, Oct. 15, 1910, p. 1406.
Division of Fees, Queries and Minor Notes Department, The Journal, Dec. 18, 1909, p. 2117.
The Evils of the Contract System: Report of the Committee Appointed by the Erie County Medical Society to Investigate Unethical Contract Practice, Medical Economics Department, The Journal, Aug. 19, 1911, p. 674.
Nutt, G. D.: Medical Profession To-Day and Business End of It, *Penn. Med. Jour.*, August, 1911; abstr. The Journal, Sept. 16, 1911, p. 1009.
Substitutes for Physicians Absent on Vacations, Berlin Letter, The Journal, Nov. 16, 1912, p. 1608.
Haughey, W. H.: Proposed Solution for Certain Phases of Contract Practice, *Jour. Mich. State Med. Soc.*, January, 1911; abstr. The Journal, Jan. 21, 1911, p. 225.
Lord, J. P.: The Secret Commission Evil, The Journal, March 11, 1911, p. 725.
The Secret Commission Evil, editorial, The Journal, March 11, 1911, p. 748.
The Secret Commission Evil, editorial, *Colorado Med.*, February, 1911; reproduced in The Journal, March 11, 1911, p. 770.
The Secret Commission Evil, Correspondence, The Journal, March 25, 1911, p. 916, April 1, 1911, p. 987.
Haase, Charles: Financial Problems, The Journal, April 8, 1911, p. 1053.
Discreditable Remuneration in Contract Practice, Berlin Letter, The Journal, Dec. 14, 1912, p. 2169.
Conference on Contract Practice, Berlin Letter, The Journal, Dec. 28, 1912, p. 2324.
Skeel, R. E.: Ethics of Contract Medical Practice and Its Economic Advantage to the Community, *Cleveland Med. Jour.*, November, 1911; abstr., The Journal, Jan. 6, 1912, p. 65.
Tuckerman, J. E.: Economic Effect of Contract Medical Practice on Medical Profession, *Cleveland Med. Jour.*, November, 1911; abstr., The Journal, Jan. 6, 1912, p. 65.
Hamann, C. A.: Condition and Control of Contract Medical Practice in Other Cities of the Country, *Cleveland Med. Jour.*, November, 1911; abstr., The Journal, Jan. 6, 1912, p. 66.

"DISTURBANCES OF THE HEART" TO BE BOUND IN BOOK FORM

To the Editor:—I have read the articles you are publishing on "Disturbances of the Heart" with much interest and, I think, profit. If these were combined in cheaply bound form, I believe that they would find ready sale and be a valuable addition to one's library.

H. W. Waterous, M.D., Galva, Ill.

To the Editor:—Please let me know if the articles published in The Journal under the head of Therapeutics, on "Disturbances of the Heart," are to be put out in pamphlet form. If they are not, I shall have to save my copies of The Journal, as I think the articles well worth keeping.

George E. Lyon, M.D., St. Louis, Mo.

Answer.—These represent the sentiment of many letters received. The series of articles will be issued in book form as a companion book to the "Handbook of Therapy."

SANITATION IN THE CANAL ZONE

Dr. F. W. Thomas, Claremont, Cal.: Articles by Colonel Gorgas, chief sanitary officer of the Canal Zone, have appeared in The Journal as follows:

Sanitation of the Tropics with Special Reference to Malaria and Yellow Fever, The Journal, April 3, 1909, p. 1075.
Sanitation at Panama, The Journal, March 30, 1912, p. 907.
Part Sanitation is Playing in the Construction of Panama Canal, The Journal, Aug. 31, 1909, p. 597.
Conquest of the Tropics for the White Race, The Journal, June 19, 1909, p. 1967.

HOW MANY PHYSICIANS GRADUATE, QUALIFY AND DIE ANNUALLY?

To the Editor:—Please tell me:

1. The average number of graduates the medical colleges of the United States turn out annually.
2. The percentage of those who do not secure licenses after graduating.
3. The number of practitioners that die annually.
4. The average income of physicians in the United States.

E. T. C.

Answer.—1. About 4,900 each year on the average for the last ten years. This question is answered at length with detailed discussion and elaborate tabulation of the facts in the annual Educational Number of The Journal, the last having been issued Aug. 24, 1912. A copy of this issue will be sent on receipt of 15 cents in stamps.

2. Data are not available to give more than an approximate answer. Information collected indicates that of the graduates of 1908, about 7 per cent. have not yet passed a state board; of the graduates of 1909, 8 per cent.; of the graduates of 1910, 9.5 per cent. and of the graduates of 1911, about 15 per cent. The actual number would probably not exceed 5 per cent. These data are given in detail in the annual State Board Number of The Journal; the last one was issued May 25, 1912. A copy of this will be sent on receipt of 15c in stamps.

3. About 2,100, taking the average of the past ten years. There is an editorial on this subject, giving additional details, in the first issue of The Journal each year.

4. Various estimates are from $1,000 to $1,400, but we place no dependence on these estimates. There are no sufficient data available on which to do anything more than to guess. We discussed this point in The Journal, Nov. 2, 1912, p. 1641.

TECHNIC OF THE LUETIN TEST

Dr. A. A. Herold, Shreveport, La.: The luetin test is made like any other vaccination test on the skin. Details are given in the article by Dr. H. Noguchi, The Journal, Oct. 5, 1912, p. 1262.

NOTEWORTHY FECUNDITY

To the Editor:—On February 20, at 1 a. m., I delivered Mrs. Y. of a child at term and fully developed. She is 30 years old. This was her eighth confinement. Her previous confinement was May 1, 1912, at 2 p. m. Period between is nine months, eighteen days and eleven hours. This appears to be a case of noteworthy fecundity. F. F. Mendenhall, M.D., Elmwood, Ind.

Medical Economics

This Department Embodies the Subjects of Postgraduate Work, Contract Practice, Legislation, Medical Defense, and Other Medicolegal and Economic Questions of Interest to Physicians

LEGISLATIVE DEVELOPMENTS

The number of bills on public health subjects introduced this year is greater than ever before. It is possible to mention only a few of the most important developments of the last two weeks.

ARIZONA

H. B. 18 regulates the practice of medicine, providing for a board of two "regulars," one homeopath, one eclectic and one osteopath, which board shall have power to issue three forms of certificates, one authorizing the practice of medicine and surgery, one authorizing the practice of osteopathy and one authorizing any other system of treating the sick. In addition to the presentation of diplomas, all applicants must pass an examination in anatomy, histology, gynecology, pathology, bacteriology, chemistry, physiology, obstetrics, diagnosis and hygiene. This bill resembles the Wisconsin bill in some particulars.

ARKANSAS

The bill creating a state board of health has passed both houses and has been signed by the governor. This bill was summarized in The Journal, February 1, p. 391.

CALIFORNIA

Probably no state legislature has before it more bills on public health subjects than the California legislature, more than one hundred bills having been introduced so far. The California *State Journal of Medicine*, in discussing the various bills introduced, comments on twenty-three bills, all of which make some change in the existing law regarding the practice of medicine. About thirty-five bills are now before the legislature on the single question of the state regulation of the practice of medicine. Eighty bills relate to women and children, and their employment.

COLORADO

A similar condition exists in Colorado, in which a large number of bills have been introduced, attempting to regulate every possible phase of public health. H. B. 720 creates a state department of public health in place of the present state board. There are six bills amending the medical practice act and several amending the state board of health law. There are also a sterilization bill; a bill providing for the sanitation of places where foods are manufactured or stored, and bills providing for factory inspection and for the reporting of occupational diseases.

IDAHO

H. B. 246 amends the medical practice act by requiring only a high-school education and a diploma as a condition for a license.

INDIANA

The anticocain bill has passed the house. The optometry bill has been killed in the house. The chiropractic bill has been killed in the senate.

IOWA

S. F. 253 requires all food packages to be marked as to their contents and quantity. House bills provide for a state commissioner of health in place of the present board and for medical school inspection.

MASSACHUSETTS

H. 482 is an antivaccination measure which prohibits the use, distribution or sale of vaccine virus; H. 981 reorganizes the state board of health, providing five members; a chairman at $8,000 per year, a secretary and engineer at $5,000 each, and two other members at $3,500.

MICHIGAN

S. B. 146 provides for the appointment and qualifications of municipal health officers, and authorizes the governor to remove health officers or members of a municipal health board; Senator Amberson has introduced a bill drafted by Dr. Victor C. Vaughan, providing for the reorganization of the state department of health, by which the state is divided into health districts, composed of one county each, except that each city of more than 18,000 shall form a separate district. Any two counties having a population of less than 20,000 may organize into a joint health district. Each district is to have a health commissioner appointed for four years who is to act as county physician, and is to receive a salary of from $1,500 to $3,000, according to the population of the district.

MINNESOTA

Minnesota seems particularly interested in tuberculosis, bills making tuberculosis reportable, creating a state tuberculosis commission and providing for county tuberculosis sanatoriums being under consideration.

MISSOURI

H. B. 650 amends the medical practice act by exempting any person practicing mind-cure or any other method of healing, where no poisons or dangerous drugs are employed or surgical operations performed.

NEBRASKA

About fifty bills on public health topics have been introduced, of which the committee on public policy and legislation of the state medical association has acted on about thirty. The state committee has approved of bills on occupational diseases; issuing of marriage license to those who are physically unfit; the sanitation of factories, mills and workshops; the division of fees; prohibiting common drinking-cups; the inspection of public institutions and schools by county boards, and for sterilization of criminals.

NEW HAMPSHIRE

A bill has been introduced, making it a criminal offense for practicing physicians to refuse to enter into consultation with other physicians.

NEW YORK

The state factory commission has presented thirty-two bills regulating the hours and conditions of employment of men, women and children employed in various factories; also providing for ventilation, toilet facilities, heating, lighting, etc. An important series of bills deals with measures for the prevention of accidents. At the request of Governor Sulzer, a bill has been introduced creating a sanitary milk department and prohibiting the use of any poisonous coloring matter in food products. Health Commissioner Lederle of New York has protested against the bill prohibiting tuberculosis hospitals within the city limits. Bills have been introduced regulating registered nurses, appropriating $10,000 for an antitoxin farm, defining unprofessional conduct on the part of physicians, creating a commission for the purpose of investigating animal experimentation, restricting the sale of cocain, and providing for the inspection of oyster-beds. A senate bill providing for health certificates as a requirement for marriage licenses has been killed in committee. An antivivisection bill has been defeated in the senate committee by a vote of 69.

NORTH CAROLINA

The state legislature has passed a bill raising the standard requirements for admission to medical schools, as well as the requirements for graduation and license. These increased conditions go into effect in 1917. The bill providing for the registration of vital statistics will also probably pass.

OREGON

S. B. 300 forbids the advertising of cures for sexual diseases. It has passed both houses, and will, undoubtedly, be signed by the governor. It is probably the most satisfactory law on this subject that has been enacted. It forbids the publication of any advertisement of cures of sexual diseases, and provides for the punishment both of the advertiser and of the owner or manager of any newspaper in which advertisement shall appear. Another bill provides for a state board of control over the eleven state institutions now having separate boards. A bill has passed both houses permitting persons failing to secure a license to practice medicine, to be reexamined only in those subjects in which they have failed. Another bill, which has passed both houses, appropriates $10,000 for public education in sex hygiene. This fund is to be expended through the treasury of the Oregon Social Hygiene Society which is required to file a report accounting for the expenditure of the amount. Another bill requires the reporting of all cases of tuberculosis.

PENNSYLVANIA

Several bills have been introduced, amending the laws regulating the preparation and marketing of meat, also enlarging the powers of the State Board of Health for the inspection of all animals intended for food. Bills have also been introduced providing for the payment of 20 cents to a physician for each report of a communicable disease and requiring all mills where 500 persons are employed to have a physician in attendance for the protection of the employees.

SOUTH CAROLINA

A bill has been introduced, enlarging the power of the state board of health, giving it authority to enforce rules and regulations for the sanitation of passenger cars, steamboats, penitentiaries, hotels, schools and all other public places, to provide for the care of isolated persons having communicable diseases, to regulate the disposal of sewage and waste in any incorporated city or village, to provide for the investigation of the causes of disease, etc. The bill, although a short one, is one of the broadest on this subject that has been presented.

TENNESSEE

The chiropractic bill, which applied only to Knox County, has been vetoed by the governor. Four bills of special interest to the medical profession are now before the legislature. These are a vital statistics bill, a medical inspection bill, a bill amending the medical practice act, and a bill changing the method of appointment of the State Board of Health.

UTAH

S. B. 173 making tuberculosis reportable, has passed the senate.

Medical Education and State Boards of Registration

COMING EXAMINATIONS

Arizona: Phoenix, April 7-8. Sec., Dr. John Wix Thomas.

California: San Francisco, April 1. Sec., Dr. Charles B. Pinkham, 929 Butler Building.

Colorado: 612 Empire Building, Denver, April 1. Sec., Dr. David A. Strickler.

Idaho: Boise, April 1. Sec., Dr. O. J. Allen, Bellevue.

Minnesota: State University, Minneapolis, April 1-4. Sec., Dr. Thomas S. McDavitt, Lowry Building, St. Paul.

Montana: The Capitol, Helena, April 1. Sec., Dr. W. C. Riddell.

Oklahoma: Oklahoma City, April 8. Sec., Dr. John W. Duke, Guthrie.

Rhode Island: State House, Providence, April 3. Sec., Dr. Gardner T. Swarts.

West Virginia: Huntington, April 14. Sec., Dr. H. A. Barbee, Point Pleasant.

Strengthening the Medical Course

The Association of Medical Colleges wants to add one more year to the course in medicine, making it five instead of four. Even at that rate, no one need fear that the output will fall short of the demand. Thorough preparation in the science of treating human disease is more important than granting diplomas and flooding the country with half-baked M.D.'s. . . . The Association likewise insists on raising the standard of entrance requirements, which unquestionably has been much too low, making it too easy to get in and out of medical colleges. Young men and women with but a smattering of elementary education have been racing through the professional schools. No one can safely deny that the tendency is demoralizing to the profession; that ethics gives way to commercialism and that the overweening spirit "to get" too often supplants the exalted purpose of service to humanity. If lengthening the term of preparation helps to correct these abuses, so much the better for the well and the sick.—*Omaha Bee*, March 2, 1913.

Virginia December Report

Dr. Herbert Old, secretary of the State Board of Medical Examiners of Virginia, reports the written examination held at Richmond, Dec. 17-20, 1912. The number of subjects examined in was 17; total number of questions asked, 101; percentage required to pass, 75. The total number of candidates examined was 31, of whom 19 passed and 12 failed including 1 osteopath. Twenty-three candidates were licensed through reciprocity. The following colleges were represented:

PASSED

College	Year Grad.	Per Cent.
Howard University, Washington, D. C.	(*) 76; (1912) 77,	78
Tulane University of Louisiana	(1912)	75
University of Maryland	(1912)	76
Maryland Medical College	(1909)	75
Leonard Medical School	(1912) 75, 80,	80
Memphis Hospital Medical College	(1902)	83
Meharry Medical College	(1912)	79
University of the South	(1909)	75
Medical College of Virginia	(1911) 75; (1912) 77, 78, 80,	86, (†) 75.
University College of Medicine, Richmond	(1912)	75.2

FAILED

College	Year Grad.	Per Cent.
College of Physicians and Surgeons, Chicago	(1912)	68
Maryland Medical College	(1909)	69.8
Leonard Medical School	(1910) 73; (1912)	71.5
Meharry Medical College	(1911)	55
University of West Tennessee	(1911)	58
Chattanooga Medical College	(1908)	52
University of Tennessee	(1912)	53
Medical College of Virginia	(1910) 70; (1912) 62,	72.6

LICENSED THROUGH RECIPROCITY

College	Year Grad.	Reciprocity with
George Washington University	(1908)	Illinois
Georgetown University	(1905)	Dist. Colum.
College of Physicians and Surgeons, Chicago	(1905)	Iowa
Drake University	(1909)	Iowa
University of Louisville	(1910)	Maryland
Louisville and Hospital Medical College	(1908)	Tennessee
College of Physicians and Surgeons, Baltimore (1903) (1907) West Virginia	(1904)	Maryland
University of Maryland (1905) (1911) Maryland; (1910) West Virginia	(1910)	N. Carolina
Harvard Medical School..(1884) Pennsylvania;	(1890)	New York
Columbia University, College of Phys. and Surg.	(1894)	N Carolina
North Carolina Medical College	(1910)	W. Virginia
University of Pennsylvania	(1889)	Washington
University of Nashville	(1905)	Tennessee
Tennessee Medical College	(1900)	Tennessee
University of Virginia	(1895)	N. Carolina
Medical College of Virginia	(1908)	W. Virginia
University College of Medicine, Richmond	(1911)	N. Carolina

* Work completed, but for special reason has not yet secured diploma.

† Work completed; will receive diploma in June, 1913.

Oklahoma January Report

Dr. John W. Duke, secretary of the Oklahoma State Board of Medical Examiners, reports the written examination held at Oklahoma City, Jan. 14-15, 1913. The number of subjects examined in was 10; total number of questions asked, 100; percentage required to pass, 70. The total number of candidates examined was 12, of whom 8 passed including 1 osteopath and four failed. Four candidates were licensed through reciprocity. The following colleges were represented:

PASSED

College	Year Grad.	Per Cent.
University of Arkansas	(1912)	70, 71
Rush Medical College	(1896)	76
College of Physicians and Surgeons, Chicago	(1911)	85
Kansas City Hahnemann Medical College	(1910)	71
Jefferson Medical College	(1912)	82
Memphis Hospital Medical College	(1912)	74

FAILED

College	Year Grad.	Per Cent.
College of Med. and Surg., Physiomedical, Chicago	(1903)	54
Barnes Medical College	(1905)	*76
Memphis Hospital Medical College	(1911)	66
Meharry Medical College	(1909)	69

LICENSED THROUGH RECIPROCITY

College	Year Grad.	Reciprocity with
Hospital College of Medicine, Louisville	(1904)	Tennessee
Louisville Medical College	(1906)	Kentucky
Kentucky School of Medicine	(1876)	Texas
Tulane University of Louisiana	(1898)	Texas

* Fell below 50 per cent. in one branch.

The questions asked were as follows:

ANATOMY AND HISTOLOGY

1. Draw a diagram showing the arrangement of tarsal bones. 2. Describe the ankle-joint. 3. Give the insertion and the nerve-supply of the pectoralis major muscle. 4. Name the principal fossae at the base of the skull. 5. Locate the hypophysis cerebri, or pituitary body. 6. Give a method for locating the fourth lumbar interspace. 7. Name the principal branches of the internal carotid artery. 8. What is the difference between striated and non-striated muscular fiber? 9. Name the layers of the skin, with subdivisions of each. 10. Briefly describe a uriniferous tube.

MATERIA MEDICA AND THERAPEUTICS

Give indications for the use of the following: 1. Aconite. 2. Chloral hydrate. 3. Nux vomica. 4. Magnesium sulphate. 5. Veratrum viride. 6. Cantharides. Treat the following diseases, giving doses of drugs used, their therapeutic effect, diet and prognosis: 7. Tuberculosis. 8. Tabes dorsalis. 9. Malaria. 10. Rheumatism.

TOXICOLOGY AND MEDICAL JURISPRUDENCE

1. Give ten visceral changes leading to sudden death. 2. Give the post-mortem appearances of death from starvation. 3. Give some of the important symptoms of insanity. 4. What are the legal rights of physicians in regard to their relations with their patients? 5. What is understood by manic depressive insanity? 6. How does quinin produce death? What is a fatal dose? 7. How does turpentine produce death? What is a fatal dose? 8. What are the symptoms of chronic poisoning by lead? 9. What are the symptoms of nicotin poisoning? 10. What would be your attitude in regard to professional secrets?

BACTERIOLOGY AND PATHOLOGY

1. Name five glands most frequently affected by amyloid degeneration, and locate each gland. 2. Name three changes that take place in extravasated blood. 3. What is infarction? describe same, and tell where most frequently found. 4. What is a metastatic abscess? Give cause for same. 5. Describe the changes that take place in the structure of a tuberculous hip-joint. 6. Define sarcomatous tumor, melanosarcoma, fibroma, neuroma, endothelioma. 7. What microscopic differences do you find in the throat lesions of diphtheria and follicular tonsillitis? 8. Define bacteria; leukocytes; coccus; spirillum; phagocytes; asepsis; antiseptic; sterile. 9. Define mycelium; flagellum; ptomains. 10. What is tuberculin? How obtained? How used? Do you always have a reaction from its use? If so, name the most common symptoms.

SURGERY

1. Describe active congestion; passive congestion. State their points of difference. 2. Give the treatment for rattlesnake bite. 3. What are the most approved operative procedures in the treatment of varicose veins of the lower extremities? 4. Give treatment of acute suppurative osteomyelitis. 5. What symptoms follow division of the facial nerve outside of the skull? 6. What are the complications of dislocation of the hip? 7. What is the treatment of depressed fracture of the skull? 8. What are the possible mechanical obstructions in the reduction of fractures? 9. Give the indica-

tions for operating in a compound fracture of the thigh, and describe the operation in detail. 10. Mention the symptoms and signs of acute appendicitis.

PHYSICAL DIAGNOSIS

1. What is a stethoscope? Name its uses. 2. Name the advantages of the stetoscope. 3. Give technic of auscultation. 4. Describe and give causes for amphoric breathing. 5. How would you determine the areas of cardiac dulness? 6. What is the clinical value of the superficial area of cardiac dulness? 7. What are the causes of heart sounds? 8. Describe first sound of a healthy heart. 9. Diagnose aortic aneurysm. 10. Give physical signs of pulmonary tuberculosis in third stage.

GYNECOLOGY

1. Give etiology and treatment of pelvic abscess. 2. Describe the blood-supply of the uterus and ovaries. 3. Why does retrodisplacement of the uterus cause leukorrhea? 4. Give early symptoms of cancer of the uterus. Give treatment. 5. Diagnose carcinoma of the breast. 6. What are the most common causes of sterility? 7. Give causes of menorrhagia. 8. Give causes and treatment of ulcer of the cervix. 9. Give indications for curettage. 10. Diagnose uterine fibroid.

PHYSIOLOGY

1. What secreting glands are found in the walls of the intestines? 2. What are the functions of the eustachian tube? 3. Draw a diagram of a hemisphere of the brain showing the fissure of Rolando; also locate motor centers on diagram. 4. What is the function of the semilunar valves guarding the aorta? Does this valve contribute to the sounds of the heart? If so, which one? 5. What would be the result of the removal of the adrenal bodies? 6. Why do the veins of the brain not have valves? 7. What is the function of the cerebellum? 8. Where do the white blood-corpuscles originate? 9. Give deep origin of third cranial nerve, and tell its function. 10. Name four ductless glands.

CHEMISTRY

1. Give three examples, by symbols, showing that there is one element common in all acids. 2. Give physical, chemical and physiologic properties of ptomains. 3. What is an amalgam? An alloy? 4. Give antidotes for carbolic, nitric and hydrochloric acids. 5. In case where specific gravity of urine is 1.030 or 1.032 and there is considerable sediment in urine, if examination shows no albumin, what would the sediment likely be composed of? 6. What are the halogens? 7. (a) What is collodion, and for what used? (b) Give symbols of hydrogen peroxid. 8. Give Fehling's test. 9. What is a base, a salt and an acid? 10. How are formaldehyd and potassium permanganate used together?

OBSTETRICS AND HYGIENE

1. What do you carry in your obstetric bag? 2. In vertex presentation, state how you would differentiate the anterior from the posterior fontanel. 3. Define, give etiology and treatment of milk-leg. 4. Give indications for producing an abortion. How would you proceed? 5. Give indications for the induction of premature labor. Give, in detail, your procedure. 6. Give instructions for the care of the mother for the first two days after delivery. 7. Give instructions for the care of the child for the first two days after birth. 8. Describe a fetus delivered during the sixth month. 9. How would you treat convulsions coming on after delivery? 10. When pneumonia is prevalent, how would you instruct one to prevent his contracting pneumonia?

Book Notices

Lead-Poisoning and Lead Absorption. The Symptoms, Pathology and Prevention, with Special Reference to Their Industrial Origin and an Account of the Principal Processes Involving Risk. By Thomas M. Legge, M.D., D.P.H., H.M. Medical Inspector of Factories, and Kenneth W. Goadby, M.R.C.S., D.P.H., Pathologist and Lecturer on Bacteriology, National Dental Hospital, London. International Medical Monographs. General Editors: Leonard Hill, M.B., F.R.S., and William Bulloch, M.D. Cloth. Price, $3.50. Pp. 308, with illustrations. New York: Longmans, Green & Co., 1912.

This is one of the series of International Medical Monographs, written by two men whose experience entitles them to speak with authority on industrial plumbism. T. M. Legge is medical inspector of factories for Great Britain, and Kenneth Goadby is "appointed surgeon to certain smelting and white-lead factories in East London." This term does not mean, as it would in America, that Dr. Goadby has charge of the surgical work only of these factories. His function is to examine all employees weekly or fortnightly for signs of lead-poisoning.

The book is written in a style to be understood by laymen as well as by medical men. It is not a critical review of the subject so much as a clear statement of the authors' conclusions from their own experience. Their principal thesis is that lead-poisoning is mainly dust-poisoning, that in the vast majority of cases of industrial plumbism the portal of entry of lead and its compounds is through the respiratory tract. This statement is supported by statistics of poisoning in the different trades, the greatest incidence and the most rapidly developing cases occurring in the very dusty trades (white lead, red lead, storage batteries, pottery glazing) and especially in those operations attended with the greatest amount of dust. Experiments on cats are also cited to prove that poisoning occurs with greater rapidity and certainty when the animals inhale the dust than when they consume it with their food. The German view that the greater part of the inspired lead-dust is swallowed with the saliva and eventually reaches the intestines is refuted by the observation that the animals made to inhale lead-dust succumbed to an amount which was less than one-tenth of that administered in food to other animals which showed no symptoms. The ultimate fate of the inhaled dust was not ascertained. There are interesting chapters on plumbism of the central nervous system, in which Edinger's *Aufbrauchtheorie* is fully discussed. Perhaps the most valuable part of the book is that dealing with preventive measures in workshops and factories. These are not all applicable to American methods of industry, but in the main they are, and in all that regards dust prevention and the personal care of the workman they can be recommended to the increasing body of physicians who are attached in advisory capacity to large industrial establishments in the United States.

Les Origines de la Trépanation Décompressive. Trépanation Néolithique, Trépanation Pré-Colombienne, Trépanation des Kabyles, Trépanation Traditionelle. Par le Dr. Lucas-Championnière, Chirurgien Honoraire de l'Hôtel-Dieu. Paper. Price, 5 francs. Pp. 131, with 32 illustrations. Paris: G. Steinheil, 1912.

In this book the author gives his opinion as to the technic employed and the indications for trephining among the peoples of long ago and among those of our time who have not been considered as possessed of our surgical and anatomic knowledge. In arriving at this opinion he has studied the trephined skulls of prehistoric peoples, those of the pre-Columbian Peruvians, and those found in the old cemeteries of the Christian age. Trephining is still practiced as a custom surviving from long ago among the Berbers of Algiers, the Montenegrins and the miners of Cornwall. Some evidence was gained from the first and last of these sources. The author concludes that trephining was performed largely by means of a boring instrument; the holes surrounding the piece of skull to be removed touching or nearly touching each other. Severe pain in the head following on or independent of trauma is considered as the chief indication for the operation. Illustrations show trephined skulls from prehistoric caves in France and from pre-Columbian Peru.

Serum Diagnosis of Syphilis and Luetin Reaction. Together with the Butyric Acid Test for Syphilis. By Hideyo Noguchi, M.D., M.Sc. Cloth. Price, $3. Pp. 306, with 23 illustrations. Philadelphia. J. B. Lippincott Company, 1912.

The third edition of Noguchi's work differs little from the previous one in the account of the technic of the Wassermann test and its modifications. By the use of extracts of pure cultures of the *Spirochaeta pallida* the author has been able to show that in early cases of syphilis it is not a true specific antibody that gives the positive result to the Wassermann reaction, although such an antibody is found in immunized animals and in some of the late cases of human syphilis. These findings suggest new problems in diagnosis and prognosis of the disease. A chapter is added on the luetin reaction, illustrated by several colored plates. The book thus brings the serodiagnosis of syphilis fully up to date.

The Course of Operative Surgery. A Handbook for Practitioners and Students. By Prof. Dr. Victor Schmieden, Privatdocent of Surgery in the University of Berlin, with a Foreword by Prof. Dr. A. Bier. Translated and Edited by Arthur Turnbull, M.B., M.A., B.Sc., Demonstrator of Anatomy in the University of Glasgow. Second Edition. Cloth. Price, $4 net. Pp. 345, with 435 illustrations. New York: William Wood & Co., 1912.

This is a well-written and well-illustrated discourse on operative surgery. Thirty pages are devoted to the ligation of vessels, thirty to excision of the various joints, and thirty-six to amputations and disarticulations, the remainder of the book being given over to operations on the extremities, head and neck, breast and trunk, and abdominal and urogenital operations. Each subject is discussed clearly and concisely, and the illustrations elucidate the text admirably.

A Practical Text-Book of the Diseases of Women. By Arthur H. N. Lewers, M.D., F.R.C.P., Senior Obstetric Physician to the London Hospital. Seventh Edition. Cloth. Price, $4 net. Pp. 540, with 258 illustrations. New York: Paul B. Hoeber, 1912.

In preparing a new edition of this work, well known to the specialist in America, the author adheres to his original purpose of offering to the practitioner and student a text essentially practical. Hence the clinical and practical characters of the book have been retained, as having proved in previous editions useful toward securing the object aimed at. Thus the various divisions of the subject have been arranged in a natural order, from a clinical point of view, first dealing with the history, then with the physical examination, then with diseases of the external genitalia, diseases of the vagina, of the uterus, etc. Numerous cases are detailed to illustrate points when emphasis is desired.

Many of the chapters have been rewritten in part, much new matter being added, and the entire work has undergone revision. A full description of Wertheim's radical hysterectomy for carcinoma of the uterus has been added to the chapter on cancer. The section devoted to fibroid tumors has been largely amplified. The illustrations are profuse and serve the purpose of illuminating the text. The plates in black and white and those in three colors are particularly helpful, but the microphotographs, though abundant, disclose the fault usually found in such pictures, a loss of definition in the reproduction. Dudley's operation for intraperitoneal shortening of the round ligaments, and a modified Tait "flap-splitting" procedure for perineal laceration are described. While some points would be open to adverse criticism from our American point of view, on the whole the book fulfils the author's design, that of a practical text.

Surgery of the Rectum for Practitioners. By Sir Frederick Wallis, M.B., B.C., F.R.C.S., Surgeon to Charing Cross Hospital, London. Cloth. Price, $5.50. Pp. 355, with 129 illustrations. New York: Oxford University Press, 1912.

This is an enlarged edition of the work published by the same author in 1906. The old matter has been changed, and several new chapters have been added. Among these may be mentioned two chapters on the affections of the colon and sigmoid, in which no mention is made of diverticulitis of the colon or of the sigmoid, a condition which is by no means rare. Under treatment of prolapse of the rectum the bad effects of the injection of paraffin are shown and two cases reported, one of which resulted fatally two years after the first injection. The use of paraffin in this way is properly condemned. More useful and practical points are mentioned in connection with the minor affections of the anus and lower rectum than in the more serious troubles higher up, which are discussed less satisfactorily by the author.

Studien über Darmtragheit (Stuhlverstopfung) ihre Folgen und ihre Behandlung. Von Dr. Franz X. Mayr. Paper. Pp. 276. Price, 6 marks. Berlin: S. Karger, 1912.

Probably no section of the diseases of the digestive tract is of more importance than the disorders that go under the common designation of constipation, and there seems to be no field of medicine in which superficial views and practices are more common. The author has endeavored to base his advice on the considerations of etiology and a thorough study of the functions involved. The work gives many valuable hints and will repay careful reading.

Gynäkologisches Vademekum für Studierende und Aerzte. Von Prof. D. A. Dührssen. Tenth Edition. Cloth. Price, 6.80 marks Pp. 306, with 149 illustrations. Berlin: S. Karger, 1913

This small volume serves admirably the purpose for which it is so frankly published, that of a pocket text-book for the student who wants his information in a nutshell. While thus boiled down to a statement of facts, it is surprising how much argument is introduced. An example of this is seen in the few pages devoted to the pessary in the treatment of retroflexio uteri. The volume is a text on gynecology in miniature, and as a result is neither complete nor discursive.

Food in Health and Disease. By Nathan S. Davis, Jr., A.M., M.D., Professor of the Principles and Practice of Medicine in Northwestern University Medical School. Second Edition. Cloth. Price, $3.50 net. Pp. 449. Philadelphia: P. Blakiston's Son & Co., 1912.

This book is a well-balanced and sensible discussion of the value of food in health and disease. While not unduly brief, it is as concise as is compatible with thoroughness. It is divided into two main parts; in Part I, general principles of diet and diet in health (thirteen chapters) are considered, and in Part II, diet in disease (twelve chapters).

The views expressed are sound and based on the most modern conceptions of chemistry and physiology. In Part I, for instance, the author's familiarity with the most recent scientific investigations is shown by his use of the thorough and revolutionary work of Mattill and Hawk on water-drinking and metabolism, and by his discussion of beef extracts and bouillons, the real value of which, as he points out, may be lost by improper manufacture. His sound, common-sense judgment is shown in his treatment of such subjects as mineral waters, alcohol and milk preparations. The benefits ascribed to mineral waters the author regards as due chiefly to change of diet, outdoor exercise and freedom from home cares. Although he regards alcohol as of value in some cases, he points out that usually its benefits are outweighed by the damage it does to the system. The author's unbiased discussion of milk modified as kefir or koumiss is refreshing after the exaggerated and glowing claims of the manufacturers of various proprietary lactic acid preparations.

Part II, dealing with diet in disease, shows the same sane and scientific attitude as the first. The author calls attention to the causes of diseases, especially in relation to diet and metabolism, and gives the proper diet for each disease discussed. The text is amply supplemented by tables and recent statistics on dietetics and metabolism.

A Manual of Immunity. For Students and Practitioners. By Elizabeth T. Fraser, M.D. Cloth. Price, 5 shillings net. Pp. 199. Glasgow: James MacLehose & Sons, 1912.

This little work gives a plain account of the facts and theories of immunity that will be welcome to the reader who comes to its perusal without any previous knowledge of the subject. A brief historical review is given and then the parts played by the body fluids, by the cells, and by the invading microorganism in the production of immunity are described and discussed. The rest of the book is divided into chapters dealing with the therapeutic uses and diagnostic applications of immunity reactions. Other chapters deal with anaphylaxis, the side-chain theory and chemotherapy, the latter including Wassermann's experiments in the destruction of malignant tumors. The explanations given are clear and the directions are practical. We have no doubt that this little manual will prove useful to many who have had difficulty in grasping what must be recognized as a somewhat difficult subject.

Practical Physiologic Chemistry. Designed for Use in Schools of Medicine and of Science. By Philip B. Hawk, M.S., Ph.D., Professor of Physiologic Chemistry and Toxicology in the Jefferson Medical College of Philadelphia. Fourth Edition. Cloth. Price, $2.50 net. Pp. 475, with 139 illustrations. Philadelphia: P. Blakiston's Son & Co., 1913.

The fourth edition of this work follows the same lines as the previous editions, and the arrangement is practically the same. It begins with a consideration of the action of enzymes, which is somewhat unusual. Throughout the work experimental laboratory exercises are interspersed. The number of methods given will be somewhat confusing to the practitioner who undertakes to use this book as a guide without advice from a practical teacher. In other respects the book is excellent.

A Laboratory Hand-Book for Dietetics. By Mary Swartz Rose, Ph.D., Assistant Professor, Department of Nutrition, Teachers College, Columbia University. Cloth. Price, $1.10 net. Pp. 127 New York: The Macmillan Co., 1912.

This little work presents in clear form materials for a laboratory course in dietities. The general principles for the calculation of the calorie value of foods and the food requirements of various classes of people are laid down. The figures given for the energy requirement of children will be useful for reference, as they are not usually included in such works. The data by which the student is expected to solve dietetic problems are furnished in a large number of tables. The method of solving these problems is given, together with some examples for practice. The book seems well suited for its purpose as a laboratory guide, and might easily be made useful to the practitioner in solving such problems as he may meet in practice.

OUTLINES OF EARLY DEVELOPMENT FOR OBSTETRIC STUDENTS. By R. W. Johnstone, M.A., M.D., F.R.C.S.E., Assistant to the Professor of Midwifery, University of Edinburgh. With a Preface by Sir J. Halliday Croom, Professor of Midwifery, University of Edinburgh. Cloth. Price, 1 shilling, 6 pence. Pp. 23, with Illustrations. Edinburgh: John Currie, 1911.

This is a thorough and comprehensive sketch of the life-history of the human ovum. Fertilization, formation of the germinal layers, syncytium and embedding of the ovum, formation of the decidua and development of the placenta are clearly explained in accord with the most modern conceptions, and illustrated by excellent diagrams. The whole is a satisfactory exposition of the subject for medical students.

Medicolegal

No Liability for Error in Judgment—Failure to Discover Infantile Paralysis

(Brydges vs. Cunningham (Wash.), 124 Pac. R. 131)

The Supreme Court of Washington affirms a judgment rendered for the defendant over a verdict for the plaintiff. The latter was about 7 years of age when she fell from a porch one Thursday evening and complained of pain in her hip and leg, which her mother sought to alleviate by applying liniment, which seemed to relieve the pain. Friday and Saturday the child played around as usual, making no complaint, and was apparently fully recovered from the fall. Sunday morning she was still apparently well and went to Sunday school, from which she returned complaining of pain. When asked to locate the pain, she replied: "I have hurts all around me." She was put to bed, and her mother treated her all day with hot cloths wrung out in turpentine. In the evening the defendant was called in, and at first diagnosed the case as appendicitis and advised an operation. This was objected to by the family, and Monday afternoon another physician was called in consultation, when it was decided that no operation was necessary, but that the trouble was typhoid fever, for which the child was treated for about twenty-one days. During the defendant's visits, when his attention was called to the cold and swollen condition of the hip and leg, he gave it as his opinion that the condition would pass away with the fever, and that Nature should be left to take her course. The plaintiff's contention was that she was suffering from an injury to the sciatic nerve, resulting in permanent paralysis of her right hip and leg, and that the defendant improperly and negligently failed to apply the proper treatment, while he contended that the child was, and from the beginning had been, afflicted with infantile paralysis, for which there is no known cure.

It needs no argument, the court says, to show that there could be no recovery of damages against the defendant, unless, as a medical man of ordinary skill, he should have correctly diagnosed the case as an injury to the sciatic nerve, and was negligent in his treatment. If, then, there was no evidence that there was such an injury, when all the facts on which the diagnosis must be predicated were included, but rather the evidence, without exception, excluded such an injury, there was nothing to submit to the jury. If the defendant could be held liable because he did not make a proper diagnosis of the case on his now theory that the child was suffering from infantile paralysis, then the court was in error. But in an action for malpractice a physician cannot be held for an error in judgment as to the disease his patient is suffering from, since all that any physician can give to any case is his best judgment; and, if he exercise that judgment as a man of ordinary skill would exercise it, there can be no recovery of damages. The testimony of the physicians called by the plaintiff was to the effect that the symptoms present in this case from Thursday night to Sunday morning might be diagnosed by men of ordinary skill in the medical profession as typhoid fever, multiple neuritis or infantile paralysis, and that the treatment given by the defendant in no way contributed to the present condition of the child. There was, therefore, no evidence in the case that the treatment by the defendant was negligent or unskilful. The most that could be said was that he did not discover the infantile paralysis. From the evidence he could not have cured it if he had. It could not, therefore, be said that his failure to discover its presence, or his subsequent treatment, was responsible for the child's present condition.

Construction and Constitutionality of Law—Holding Out as Physician or Surgeon an Offense Without Actual Practice

(State vs. Lindsay (Vt.), 84 Atl. R. 612)

The Supreme Court of Vermont affirms a conviction of the defendant of representing himself to be a physician. The court says that prior to the passage of No. 133, Acts of 1904, it was provided by statute that a person who "practices medicine, surgery or midwifery, . . . and is not duly authorized by a certificate issued and recorded as provided," should, on conviction, pay a specified fine. But by Section 10 of the act referred to this provision was repealed, and it was therein provided that a person who, "not being licensed as aforesaid, shall advertise or hold himself out to the public as a physician or surgeon in this state," should be fined as therein specified; and this is the provision of the statute as it now stands.

It is thus seen that the offense expressly covered by the statute is complete when an unlicensed person advertises or holds himself out to the public as a physician or surgeon. Actual practice is not required to bring one within the penalized class. No attempt is made in the statute to further define or explain the offense. What one must do to amount to advertising or holding himself out as a physician or surgeon is not specified. But, whatever the other essential elements of the offense may be, it is clear that, without something which amounts to a representation on the part of the person charged that he is in fact a physician or surgeon, no offense is committed. So practicing medicine without a license is now criminal only when it involves a representation that the person acting is a physician or surgeon.

The defendant relied on Section 5 of No. 151, Acts of 1908, which amends P. S. 5371, insisting that unlawful discrimination is therein provided, which vitiates the whole statute, and expressly admitted in his brief that without this amendment no constitutional objection to the statute could have been raised. But the fault thus found by the defendant exists, if it exists at all, in the section which defines a physician or practitioner of medicine within the meaning of the chapter. It obviously relates to actual practice, and leaves untouched the offense created by P. S. 5370. It describes those who are required to obtain a license, but only those included in Section 5370 are made criminals. If the statute had remained as it was before the amendment of 1904, the constitutional questions raised by the defendant would merit consideration; but, in the existing circumstances, they are of no present consequence. The defendant did not question the power of the legislature to make criminal the mere act of an unlicensed person in representing himself to be a physician, and so, of course, the court does not consider it.

The court also holds that the defendant could be required to answer the information in this case notwithstanding the pendency of a previous complaint against him. The rule in this regard is different in criminal cases from that in civil cases and where a part of the penalty goes to the complainant. However, it is sometimes said that the proceedings must be pending in the same court, or the one will abate the other. But this is to engraft on the rule a feature unknown to the common law. There is, of course, no jeopardy in the mere pendency of a previously instituted prosecution.

Society Proceedings

COMING MEETINGS

Alabama State Medical Association, Mobile, April 15-18.
American Urological Association, Boston, April 15-17.
California State Medical Society, Oakland, April 15-17.
Georgia State Medical Association, Savannah, April 16-18.
Maryland Medical and Chirurgical Faculty, Baltimore, April 22-24.
Mississippi State Medical Association, Vicksburg, April 8-10.
Missouri Valley Medical Society, Kansas City, March 20-21.
New York State Medical Society, Rochester, April 29-May 1.
South Carolina State Medical Association, Rock Hill, April 15-17.
Tennessee State Medical Association, Nashville, April 8-10.

THE COLLEGE OF PHYSICIANS OF PHILADELPHIA

Meeting held Jan. 27, 1913

The President, Dr. H. R. M. Landis, in the Chair

Certain Types of Arthritis Deformans and Their Management

Dr. Robert B. Osgood: The views I express will be from an orthopedic point of view, and I shall leave unsettled the question whether we are dealing with one or more than one distinct disease. I shall adopt a temporary nomenclature which I realize is imperfect, but which defines what seem to me distinct clinical types. The four types to be discussed are infectious, toxemic, atrophic and hypertrophic. I find it difficult to connect acute articular rheumatism in any way with the chronic manifestations of arthritis deformans, and I believe it has brought about no causal relation. I have been equally unsuccessful in associating true gout with the types to be discussed. By chronic infectious polyarthritis I mean an arthritis usually of more or less sudden onset. If unaffected by treatment, the disease is commonly progressive. We may include in this type those cases of gonorrheal arthritis in which the cocci may be recovered from the joints and those cases in which other bacteria have been found either in the joint effusions or in the tissues, especially the villi removed at operation. In the second type, chronic toxemic polyarthritis, we may include the cases of chronic polyarthritis following influenza, associated with chronic infections of the nasopharynx and sinuses, ulcerative processes in the intestines, the so-called auto-intoxications often in association with enteroptosis, and that form of arthritis deformans known as Still's disease. Careful search has failed to find the actual presence of bacteria in many of these joint conditions in which the early picture is in all respects consistent with the existence of an infection.

The third or chronic atrophic polyarthritis is clinically to my mind almost, if not quite, an entity. The clinical histories of this type less strongly suggest the direct result of an infection or its toxic products. The picture is like some trophic disturbance of central nervous origin. I believe these are the cases that have so strongly suggested the neural theory of the etiology of the so-called rheumatoid arthritis. In the chronic hypertrophic polyarthritis type, I am inclined to the belief that we are dealing with an arthritis deformans so essentially different from the other types that it may be considered from the point of view of symptomatology and treatment as an entity.

If the first two of these four divisions are grouped together, three types of arthritis deformans seem to be clinically distinguishable, the infective, the atrophic and the hypertrophic. Pathologic examination and the skiagraphic findings seem to suggest a certain purity in these types. In regard to etiology, I have arbitrarily made the first division on an infective basis. The second type I also believe strongly to be the result of either some undiscovered direct invasion of the joint tissue by bacteria or more probably to result from the development of one or more than one toxic substance by various forms of bacterial growth in the nasopharynx, the intestine or some other focus. As to whether in the third or trophic type, the toxic type is exerted, primarily, on the central nervous system and, secondarily, on the joint tissues, I have no certain proof. The evidence seems to point to the correctness of this theory of Painter, Jones and others. The fourth type, hypertrophic arthritis, seems to be much more likely the result of faulty metabolism than of an infection or an infectious toxemia. In the first three types no effort should be spared to obtain the most perfect hygienic conditions of living with as much life in the open air as possible.

The first step in the management of the infectious and toxemic joints should be a most careful search for a focus of infection. I have come to believe strongly that the constantly found enteroptoses may be one of the factors in faulty alimentation. Much may be expected from conservative surgery. Our attitude toward vaccine therapy should be one of receptive skepticism as far as the cure of arthritis deformans is concerned. The search for an infectious focus in the atrophic type has been attended with less success than in the two preceding. We must conserve the strength and improve the nutrition of these patients by every means at our disposal, especially by attention to the habitual splanchnoptosis. In the hypertrophic type the search for a focus of infection has not been rewarded with success. As to the use of drugs in arthritis deformans, I am convinced that empiricism rather than scientific evidence of their value has encouraged their use. Until we find the cause of arthritis deformans we must seek out all possible sources of infection. We must attempt to make the processes of alimentation and all other physiologic processes as normal as may be. But whether successful or not, we must never lose sight of the fact that this form of chronic disease is one which calls for the greatest friendliness, encouragement and effort on the part of the physician.

ASSOCIATION OF AMERICAN MEDICAL COLLEGES

Twenty-Third Annual Meeting, held in Chicago, Feb. 26, 1913

The President, Dr. Egbert Le Fevre, New York City, in the Chair

Officers Elected

The following officers were elected: president, E. P. Lyon, Ph.D., St. Louis University; vice-president, F. F. Wesbrook, M.D., University of Minnesota; secretary-treasurer, Fred C. Zapffe, M.D., 3431 Lexington Street, Chicago; members executive council, C. M. Jackson, M.D., University of Missouri, and F. C. Waite, Ph.D., Western Reserve University.

Dr. William J. Means was appointed delegate to the Conference on Medical Education of the American Medical Association, and Dr. Fred C. Zapffe was appointed delegate to the Federation of State Medical Boards.

The committees on medical education and pedagogics were combined, the membership consisting of Drs. Isador Dyer, Tulane University, chairman; W. P. Harlow, University of Colorado; J. R. Guthrie, University of Iowa; W. C. Borden, George Washington University, and K. C. Babcock, U. S. Bureau of Education, Washington, D. C.

Committee on Equipment: Drs. R. Peterson, chairman, University of Michigan; P. G. Woolley, University of Cincinnati, and H. von W. Schulte, Columbia University.

Committee on Research: Drs. Eugene L. Opie, chairman, Washington University; William L. Pepper, University of Pennsylvania, and J. S. Ferguson, Cornell University.

Report of Secretary

The secretary reported that fifty-one colleges were in membership, but that this number will be reduced to forty-seven by one withdrawal and three colleges becoming extinct by merger. Twenty-one colleges are in Class A plus of the A. M. A. classification; twenty-four in Class A, and six in Class B. Of the latter, one resigned and one was later dropped from membership. The others were ordered inspected.

Report of Executive Council

On the recommendations of the executive council, the association acted favorably on the applications for membership of the medical departments of the University of Texas, Galveston; College of Physicians and Surgeons, Columbia University, New York City; University of Pittsburgh; University of Utah, Salt Lake City (two years only); University of Alabama, Mobile; University of Georgia, Augusta; University of the Philippines, Manila; Hahnemann Medical College and Hospital, Philadelphia; Medico-Chirurgical College, Philadelphia; and Rush Medical College, Chicago.

The resignation of the medical department of Washburne College, Topeka, Kan., was accepted, to become effective June 30, 1913. The college will discontinue the department at the close of the present session.

The University Medical College of Kansas City, Mo., was dropped from membership for not complying with the rules and regulations of the Association.

Recommended, that on and after Jan. 1, 1914, the association will raise its present entrance requirement to one year of college work in physics, chemistry, biology and one modern language, of college grade, in consonance with the action taken by the House of Delegates of the A. M. A. at its meeting in Atlantic City, June, 1912. Carried.

Recommended, that students from Class B schools of the A. M. A. classification be given not more than two years of advanced standing and that students from Class C schools be given not more than one year of advanced standing, and then only on examination.

Report of Committee on Equipment

This committee presented the following proposed minimum standard for clinical equipment:

A. General: 1. General hospital (owned or controlled by school for clinical teaching) must be provided with minimum daily average of 100 available bed-patients, representing the various phases of medicine and surgery, and with adequate rooms and equipment for clinical teaching. For classes of fifty or more, the minimum is two patients daily per senior student.

2. Dispensary or outpatient department must be provided, managed by school, with minimum daily average of forty patient-visits, and for the school year not less than 120 patients per junior and senior student. The dispensary must have adequate rooms, equipment and patients for clinical instruction in medicine and surgery, including their principal subdivisions.

3. The organization and equipment must provide for thorough individual clinical instruction, both in hospital wards and dispensary, with at least one competent instructor to every six students. Complete clinical records must be kept, in both hospital and dispensary. Above all, equipment and facilities must be intelligently used in the training of students.

B. Special: 1. In the clinical laboratory adequate rooms, equipment and facilities must be provided especially for microscopic, chemical and bacteriologic examinations of clinical materials. These facilities must be accessible to every student during at least the entire senior year.

2. Adequate rooms and equipment must be provided for Roentgen-ray work and for electrotherapeutics.

3. In surgery, equipment and materials must be provided for thorough courses in operative surgery on the cadaver and on animals. In addition, facilities must be provided to allow each student to assist in at least six major operations and to administer a general anesthetic at least six times under competent supervision.

4. In addition to obstetric charts, models, specimens and equipment for manikin drills, etc., clinical facilities must be provided which will allow each senior student, under proper supervision, to witness at least twelve confinement cases, at least three of which he shall have entire charge of, also under proper supervision, before, during and after labor.

5. Equipment and facilities must be provided so that each student shall observe and take part in at least twelve complete autopsies.

Library: The college should have a working medical library. It should include the more modern text and reference books, the *Index Medicus* and thirty or more leading medical periodicals representing all the various departments. The library should be catalogued and accessible to students at all times.

Report of Committee on Medical Education

With reference to the concentration plan of teaching, which the committee investigated, a careful research was made and the result was that the committee concluded that this method of teaching is still on trial. In the schools in which it has been given the longest trial and the best opportunity, it seems to have worked well and to the satisfaction of both student and teacher. In the majority of schools, however, it is still a debatable subject. It certainly is inapplicable to the clinical years, except in those schools in which a fifth clinical year is added to the course. As to the fifth or hospital year, it was apparent that such a year could be adopted easily by every medical school in the country, but in order to place it on a sound basis it is necessary that the hospitals in which such teaching is to be done be investigated thoroughly and standardized or classified.

As to the entrance requirements, the committee suggested to amend Article III, Section 1, as follows:

(b) A diploma and transcript of record from a fully accredited high school, normal school or academy requiring for admission evidence of the completion of a standard course in primary and intermediate grades, and for graduation, the completion of a standard four-year high-school course, embracing two years (2 units) of mathematics, two years (2 units) of English, two years (2 units) of one foreign language, one year (1 unit) of American history and civics, and seven years (7 units) of further credit in language, literature, history or science, making the total of units at least fourteen; and in addition, one year each of physics, chemistry and biology of college grade of each not less than six semester hours.

(c) An examination in the following branches totaling 14 units:

(A) Required, 7 units.

	Units.
Mathematics (minimum 2 years, maximum 3 years), algebra and plane geometry	2
English (minimum 2 years, maximum 4 years)	2
One foreign language (minimum 2 years, maximum 4 years)	2
History (U. S.) and civics	1
Total number of required units	7

(B) Elective, 7 units.

To be selected from the following:

	Units.
English language and literature (in addition to the required work)	1 to 2
Foreign languages, additional, Latin, German, Italian, French, Spanish or Greek (not less than 1 year in any one)	1 to 4
Advanced mathematics, advanced algebra, solid geometry and trigonometry (½ year each)	1
Natural science, chemistry 1 year, physics 1 year, and biology, botany, physiology and zoology (½ to 1 year each)	½ to 2
Earth science, physical geography, geology and agriculture (½ year to 1 year each)	½ to
Astronomy (½ year)	½
Drawing (½ to 1 year)	½ to 1
History, ancient, medieval and modern, and English (1 year each)	1 to 3
Economics (½ year)	½
Manual training (1 year)	1
Book-keeping (½ to 1 year)	½ to 1

And in addition one year each of physics, chemistry and biology of college grade, of each not less than 6 semester hours.

One unit in any subject is the equivalent of work in that subject for four or five periods per week for a year of at least thirty-six weeks, periods to be not less than forty-five minutes in length. One unit is equivalent to 2 semester credits or 2 points.

The evaluation of the additional requirement beyond the high school work was referred to a special committee to confer with a similar committee of the Council on Medical Education of the American Medical Association. This special committee consists of Drs. J. R. Guthrie, University of Iowa; R. D. Coale, University of Maryland and Isador Dyer, Tulane University. Mr. Kendric C. Babcock, U. S. Bureau of Education, is an advisory member of the committee.

(To be continued)

Current Medical Literature

AMERICAN

Titles marked with an asterisk (*) are abstracted below.

American Journal of Orthopedic Surgery, Philadelphia

February, X, No. 3, pp. 309-497

1 Anatomic Explanation of Many Cases of Weak or Painful Backs and Leg Paralyses. J. E. Goldthwait, Boston.
2 *Mechanical Treatment of Hip Disease. G. B. Packard, Denver.
3 *Results in Hip Tuberculosis After Mechanical Treatment (Without Traction), and Hygiene. H. L. Taylor, New York.
4 Fixation in Treatment of Hip Disease. E. H. Bradford, Boston.
5 Vertebral Osteoarthropathy. (Charcot's Disease of Spine.) S. F. Jones, Denver.
6 *Spontaneous Gangrene and Allied Conditions in Orthopedic Surgery. W. G. Stern, Cleveland.
7 Congenital Lateral Curvature of Spine. K. Kaneko, Tokio.
8 Two Cases of Congenital Absence of Fibula. P. Le Breton, Buffalo
9 *Congenital Anterior Subluxation of Knee. L. Mayer, New York
10 Open Reduction of Congenital Hip Dislocation by Anterior Incision K. Ludloff, Breslau.

2, 3 and 6. Abstracted in THE JOURNAL, Aug. 3, 1912, pp. 391 and 392.

9. **Congenital Anterior Subluxation of Knee.**—Analysis by Mayer of the twenty-one published specimens of congenital hyperextension shows the pathologic lesion to consist in a subluxation of the tibia forward and upward on the femur. As

a consequence of this position the extensors of the knee and the anterior portion of the capsule are shortened, the flexors are frequently dislocated forward so as to be converted into extensors, the gastrocnemius may be displaced downward, the patella usually displaced upward, the anterior portion of the femoral condyles is usually flattened and forms an articular surface which running from below upward and forward, encroaches on the facies patellaris or entirely replaces it, and in some cases there is anteversion of the femoral epiphysis. The deformity is due to an extension of the legs *in utero*, which, owing to normal intrauterine pressure, is converted into hyperextension. The ultimate cause of the extended position is unknown.

Treatment should be begun at birth and consists at first in manipulation, with narcosis and apparatus if necessary, to reduce the subluxation. In case repeated attempts to reduce are unsuccessful, open operation is indicated. The type of operation depends first on the obstacles to reduction—usually the contraction of the quadriceps and the anterior capsule; second, the factors, ligamentous, bony or muscular, tending to cause a recurrence of the subluxation. Special care must be taken to restore the normal mechanical relationships of the gastrocnemius, since it exercises an important function, hitherto not generally recognized, in preventing hyperextension. The poor therapeutic record in patients over 2½ months old (only 33 per cent. cures) indicates the necessity for the most careful study of the pathologic lesions present, so that, if bloodless reduction fails and operation be attempted, the normal relations, muscular and ligamentous as well as bony, can be restored.

Boston Medical and Surgical Journal

February 20, CLXVIII, No. 8, pp. 261-296

11 Medical Education and Harvard Medical School. E. H. Bradford, Boston.
12 Problem of Graduate Medical Instruction. H. D. Arnold, Boston.
13 Transfusion in Treatment of Ruptured Tubal Pregnancy. R. M. Green, Boston.
14 *Mental Symptoms Associated With Renal Insufficiency. M. L. Neff, Brooklyn.
15 Ophthalmia Neonatorum: Administrative Standards. H. C. Greene, Boston.

February 27, CLXVIII, No. 9, pp. 297-332

16 An Argument for Large State Insane Hospital. T. Clouston, Edinburgh.
17 *Early Recognition of Tumors of Bladder. A. L. Chute, Boston.
18 Recent Cases of Bladder Tumors at Massachusetts General Hospital with Special Reference to Operative Technic. R. F. O'Neil, Boston.
19 Value of High Frequency Cauterization in Treatment of Vesical Papillomata. H. Binney, Boston.
20 Symptomatology of Kidney Tumors: Study of Seventy-Four Cases from Massachusetts General Hospital. J. D. Barney, Boston.

14 **Renal Insufficiency.**—Of 139 cases investigated by Neff showing excitement, elation or irritability 117 showed degeneration of the kidney, and in 99 of these degeneration of the liver was also present. Of the remaining 22 cases, twelve showed degenerative changes in the liver, and in six the kidney was tubercular.

A second series of 100 cases, in which depression was the most marked symptom, showed 43 cases of chronic interstitial nephritis and 33 of chronic parenchymatous nephritis. Degenerative conditions of the kidney of a chronic type were present in eight other cases, and four showed acute nephritis. Of the remaining twelve cases four had tuberculous kidney, and seven showed degenerative changes in the liver. Of eight cases of paranoia six showed degeneration of the kidneys. Of eleven cases of manic-depressive insanity ten showed degeneration of the kidney. For the four series taken together, the percentage of degenerative conditions of the kidney was 90; while of the total 258 cases there were eight only which showed no degeneration of either kidney or liver.

17. **Tumors of Bladder.**—It is Barney's belief that to get better results in the treatment of bladder tumors, we must see these cases earlier; that in order to see them earlier we must impress on the medical public two points: First, that any hematuria may be a sign of very serious bladder disease; each should be looked on with suspicion until its source and cause are clearly demonstrated. Second, we should combat the idea of the benign nature of bladder tumors. A very large proportion are malignant from the start in that they infiltrate the bladder wall and lead to metastases. Some that are apparently benign in the beginning tend later to infiltrate. Some that do not show any tendency to infiltrate tend to multiply and destroy life by hemorrhage, sepsis and interference with the renal function. Until our knowledge of these tumors is greater we are taking too great a risk in assuming that any given bladder tumor is clinically benign, though we have reason to believe that a few probably are.

In Barney's opinion, the only proper treatment for tumors of the bladder is their early and complete removal. In most instances he believes this should be by excision.

Bulletin of Johns Hopkins Hospital, Baltimore

March, XXIV, No. 265, pp. 69-102

21 *Historic Evolution of Variolation. A. C. Klebs, Lausanne, Switzerland.
22 Trypanosomiasis. G. H. F. Nuttall, Baltimore.
23 Children's Hospital, the Medical School and the Public. L. E. Holt, New York.

21. **Historic Evolution of Variolation.**—Variolation, Klebs says, called forth a unique and extensive trial of a specific preventive method, the logical consequence of which was vaccination. It is difficult to ascertain any one locality where variolation was first practiced. From its wide distribution it would seem that it arose spontaneously in various places where the need for it occurred. The earliest alleged reference to variolation in the chronicles of the sixth century by Marius, Bishop of Avenches, Klebs has been unable to verify. He found only the well known report of a deadly epidemic (570 and 571 A. D.) in Italy and Gaul of a disease which for the first time is called "variola."

The first authentic reports of this practice are found in the Ephemerides of the Academia Cesarea Leopoldino-Carolina published at Leipzig between 1670 and 1705. Here Dr. Vollgnad of Breslau in 1671 and Dr. Schultz of Thorn in 1677 clearly report instances of the custom of "buying the small-pox." There is, however, no reference made to the actual inoculation with the pock scabs purchased in the plague house, but that such was done is very likely, since Schultz speaks of the rather serious illness which his own brother acquired in this manner. Further reports of the ancient practice all date from the time of the medical introduction of variolation to Europe and America. The earliest traces of variolation are found in Asia and in Africa. In Africa the practice continues to this day among certain tribes, chiefly negroes, in the eastern, central and western regions. In India a similar method seems to have been carried out on a systematic plan by special delegates of the Brahmin caste in conjunction with a religious cult of the small-pox deity.

In 1717, the wife of the British Ambassador to Constantinople caused the inoculation of her 3-year-old son and influenced that of the three children of the Secretary to the French Embassy. Other medical men in England at this time had some personal knowledge of the method which they had seen practiced in Constantinople. Actual inoculations very probably were practiced in Paris at about this time by a Greek physician Garazza. Eller successfully inoculated a child in or before 1720. From the time of its introduction to the Occident in 1713 to the advent of vaccination in 1708 and its general acceptance in 1840, variolation does not follow a course of steady progress. It enjoys a few years of the success of novelty (until 1727), followed by twenty years (1746) of indifference, after which it slowly gives rise to a remarkable period of serious scientific investigation.

The technic meanwhile had seen considerable deviations from its primitive Greek prototype. In Constantinople, Maitland had already replaced the dirty needle of the woman operator by the lancet. Nettleton, who probably had the largest experience in these early years, thought it important to make rather deep incisions and to keep them open so that the wound would drain freely and allow the morbid humors to escape. The arms or thighs were the favorite regions chosen. The virus was taken directly from a small-pox patient and transferred, or it was collected on threads and dried for later use. It seems that the inoculations were not often performed by the physicians themselves; they usually had a surgeon do it and watched the case before and after. Thus a type of inoculation specialist was evolved and all sorts of people took it up as a lucrative profession. Klebs continues to trace the course of this procedure through to the present day, giving many valuable data collected from over 600 bibliographic references. Concluding he says:

> Plentiful suggestions are to be found everywhere which lead one to infer that variolation, without the advent of vaccination, might have furnished the world with an equally safe and perhaps more efficient method of preventive immunization. We have every reason, however, to be satisfied with the results of vaccination. Thanks to it, small-pox has been practically stricken off the list of the great medical problems. None the less it is time that the epoch which preceded vaccination should receive its proper place in the history of medicine and that the names of Kirkpatrick, Gatti, Watson, Mudge and Dimsdale should be recalled with that of Edward Jenner.

Georgia Medical Association Journal, Augusta

February, II, No. 10, pp. 313-344

24 Importance of Ophthalmoscope in Pregnancy. D. Roy, Atlanta.
25 Currettage of Pharynx in Adults. M. M. Stapler, Macon.
26 Extirpation of Lacrimyal Sac in Chronic Dacryocystitis. F. P. Calhoun, Atlanta.
27 Follicular Conjunctivitis: Its Relation to Adenoids. T. E. Oertel, Augusta.
28 Nose and Throat Reflexes Causing Cough. R. R. Daly, Atlanta.
29 Importance of Preserving Integrity of Contiguous Structures When Operating on Tonsils. C. M. Harris, Johnstown, Pa.
30 Eight Years of Chloroform Anesthesia in Nose and Throat Surgery. C. P. Grayson, Philadelphia.

Journal of Nervous and Mental Disease, Lancaster, Pa.

February, XL, No. 2, pp. 73-142

31 *Examination of Ductless Glands in Eight Cases of Dementia Præcox. F. X. Dercum and A. G. Ellis, Philadelphia.
32 *Segmental Distribution of Spinal Root Nucleus of Trigeminal Nerve. A. H. Woods, Philadelphia.
33 Theoretic Considerations of Function of Node of Ranvier. W. Timme, New York.
34 A New Esthesiometer. S. Auerbach, Frankfort-on-Main, Germany.

31. **Ductless Glands in Dementia Praecox.**—A large number of cases were studied clinically by Dercum in the department of insane of the Philadelphia General Hospital. Of these eight subsequently came to autopsy. All eight dementia praecox patients had tuberculosis, seven of them advanced ulceration of the lungs, one extensive tuberculous peritonitis and multiple fistulas of the hip and abdominal wall. One of the most notable points in the ductless gland findings is the underweight of the thyroid in seven of the eight cases. In addition three of them showed abnormalities in the colloid, quantitative or qualitative, and four decided regressive changes in the acinar epithelial cells. The parathyroid findings are not of significance. This applies also to the carotid and thymus. The most constant adrenal picture is the small amount of fat in the cells of the cortex, especially those of the fasciculata. If this is to be regarded as indicative of functional change, it indicates lessened activity. In the hypophyses there is less colloid than is usually found in a series of these glands, but so little is known regarding the morphologic attributes of function in this body that this, as well as the number of eosinophil cells, can hardly be regarded as pathologic. The condition of other organs, as the presence of chronic nephritis in most of the cases, can probably be safely attributed to the tuberculosis.

The authors point out that it is rather a remarkable fact that the almost universal cause of death in dementia praecox is tuberculosis and if the feebleness of resistance to the tubercle bacillus is due to a fault of the adrenal system, there is reason to infer that this fault preexisted and that it is one of the factors in the makeup—the morphology—of dementia praecox. The conclusion is, of course, not justified that an abnormality of the adrenal system is the cause of the mental symptoms of dementia praecox, but our findings are at least in keeping with the inference that anomalies of the ductless glands exist in dementia praecox. The relation between such anomalies and the mental symptoms must remain an open question, but that the facts are most suggestive must be admitted, and for this reason the authors present their material in the form of a preliminary communication.

32. **Segmental Distribution of Trigeminal Nerve.**—It is believed by Woods as probable that touch and pressure sensations are conducted to the Gasserian ganglion, pass to new axones, enter the sensory root and go directly into the chief trigeminal nucleus. Thence new axones conduct them to higher levels, across the raphe and into the lemniscus. And that pain and temperature sensation pass from the ganglion, also along secondary axones, go through the sensory root down within the "spinal root" to the nucleus of that root. Thence new axones pass cephalad within the formatio reticularis, decussate and finally reach the lemniscus. Two cases are cited.

Journal of Pharmacology and Experimental Therapeutics, Baltimore

January, IV, No. 3, pp. 167-250

35 *Anaphylactic Reaction of Plain Muscle in Guinea-Pig. H. H. Dale, Herne Hill, London.
36 *Congenital Tolerance of Rat to Strophanthus. J. A. Gunn, London.
37 Mode of Union Between Amanita-Hemolysin and Its Anti-hemolysin. W. W. Ford and E. M. Rockwood, Baltimore.
38 Amanita-Toxin. W. W. Ford and E. Bronson, Baltimore.
39 Action of Histamin on Surviving Arteries. H. G. Barbour, Baltimore.

35. **Anaphylactic Reaction of Plain Muscle.**—Dale summarizes his findings as follows: Plain muscle from an anaphylactic guinea-pig, freed from all traces of blood and serum, has a very high degree of sensitiveness to the specific sensitizing protein. The plain muscle of the virgin uterus is especially suited to the demonstration of the condition, and exhibits a definite rise of tonus in response to extreme dilutions of the antigen. The effect is practically immediate, i. e., the delay is not obviously more than can be attributed to the method of application of the antigen. The response is not a mere exaggeration of the reaction which normal plain muscle gives to fresh serums in general.

Preparations of purified protein can be obtained (e. g., serum globulin precipitated by Gibson's method, or egg-albumin crystallized by Hopkin's method), which have no effect on the normal plain muscle, but are as toxic for the anaphylactic plain muscle as the native proteins. One dose of the specific antigen, in sufficient concentration to produce "maximal" response of the anaphylactic plain muscle, completely desensitizes the latter to further doses of any dimensions, provided that the experiment is not complicated by the use of an antigen preparation of normal toxicity. Either normal or anaphylactic plain muscle gives repeated responses to successive large doses of a normally toxic serum or other native protein, but this phenomenon is not anaphylactic response. When sensitizing doses of several antigens are given, a multisensitization of the plain muscle can be demonstrated. Desensitization of the muscle to one antigen is not without effect on its sensitiveness to the others. The washed plain muscle from guinea-pigs immunized to an antigen, by a series of injections, is sensitive to the antigen, like that from anaphylactic pigs. But the sensitiveness is, in this case, less rigidly specific, e. g., plain muscle from a guinea-pig immunized to horse-serum showed a subsidiary sensitiveness to sheep-serum.

The sensitiveness of the washed plain muscle is seen in passive as in active anaphylaxis, whether the serum producing passive sensitization is obtained from sensitive or from immune guinea-pigs. The actively or passively sensitized plain muscle, after being desensitized *in vitro*, can be resensitized *in vitro* by mere contact for some hours with a not too great dilution of sensitive serum. It has not yet been found possible to sensitize normal plain muscle in exactly the same way; but perfusion of a normal uterus for five hours, with diluted serum from sensitive guinea-pigs, produced a decided passive sensitization. The response to the specific antigen of the bronchioles of the anaphylactic guinea-pig is not impaired by excluding the abdominal viscera and the brain from circulation, and is produced with apparently undiminished vigor in the isolated lungs perfused with Ringer's solution.

36. **Tolerance of Rat to Strophanthus.**—The minimum lethal dose by subcutaneous injection of an extract of strophanthus, Gunn found to be thirty times greater for the rat than for the rabbit. A solution of this extract, twenty to forty times stronger, is required to arrest the isolated rat's heart than suffices to arrest the isolated rabbit's heart in the same time. The congenital tolerance of the rat to strophanthus can therefore be explained by the fact that the rat's heart itself is insusceptible to the action of strophanthus. The tolerance of the toad's heart to digitalis-like poisons may be unconnected with the fact that the toad secretes a poison which has a similar cardiac action.

Medical Record, New York

February 22, LXXXIII, No. 8, pp. 323-368

40 *Treatment of Diseases of Vegetable Parasitic Origin by Deep Injections of Mercury. B. L. Wright, U. S. Navy.
41 Suspension Laryngoscopy. W. Freudenthal, New York.
42 *Effects of Beerless Exchange on Morals and Health of Our Soldiers. L. M. Maus, U. S. Army.
43 Paralysis of Recurrent Nerve Due to Circulatory Lesions; Recent Therapeutic Measures. J. W. Gleitsmann, New York.
44 Care of Speech Defectives. E. W. Scripture, New York.
45 *Large Doses of Antitoxin Given Early; Means of Preventing Laryngeal Stenosis. L. Fischer, New York.
46 Etiology of Iritis. G. W. Vandegrift, New York.
47 Plea for Greater Consideration for Opium Addict. C. B. Pearson, Baltimore.

March 1, LXXXIII, No. 9, pp. 369-414

48 Cardiospasm and Idiopathic Dilatation of Esophagus. M. Einhorn, New York.
49 *Tibial Bone Transplantation in Postoperative Mastoid Wound. M. J. Ballin, New York.
50 Jung's Modification of Freudian Theory of Neuroses. S. P. Goodhart, New York.
51 Postoperative Gastroenteric Paralysis. J. T. Pilcher, Brooklyn.
52 Warming Anesthetic Vapors Neither Useless nor Fallacious. R. C. Coburn, New York.
53 Luetin Skin Test in Diagnosis of Syphilis. A. G. Rytina, Baltimore.
54 Occupation as Therapeutic Measure. W. R. Dunton, Towson, Md.
55 Teeth Growing in Nasal Fossa. E. H. Griffin, New York.

40. **Treatment of Diseases of Vegetable Parasitic Origin.**—Cases of typhoid, lymphangitis, bronchopneumonia, furunculosis, gonorrheal cystitis and arthritis, and over forty acute colon bacillus infections were treated by Wright with mercury, which he believes to be the chemical affinity for every vegetable organism. In nearly all these forty cases the disease began suddenly, being ushered in by a mild chill, followed by temperature of an intermittent type, with a daily range from subnormal to 102-103 F. and several times reaching 105 F. The pulse from 85 to 104, being slow in relation to temperature. Headache and painful joints were common. The mentality bright. The white count was low, ranging from 3,000 to 6,000

Three types presented: *Pulmonary*, in which there was severe paroxysmal cough, profuse purulent expectoration, which at times was purulo-sanguineous, associated with severe pains in the involved lung, and at times with inflammation and ulceration of tonsils and pharynx. These cases gave rise to higher temperatures. *Abdominal*, in which there was somewhat obstinate constipation associated with colicky abdominal pain, usually in the gall-bladder region. *Genito-urinary*, in which some part of this tract was involved, giving rise to the usual symptoms produced by an acute inflammatory process of the organ infected.

The organism, an actively motile bacillus, Gram-negative, was found in the urine of every patient, in the blood of sixteen patients examined, in the sputum of pulmonary patients, in tonsillar secretions and exudates, and in the pus from the one subcutaneous abscess noted. Out of five cultures made from the blood specimens of five patients, four were positive for this organism. Numerous cultures from the urines and other fluids and exudates were positive. Mercuric succinimid in doses of 1 to 1½ grains was given in every case.

42. **Effects of Beerless Exchange on Morals and Health of Soldiers.**—Maus says he has watched the effects of alcohol on the mental and physical condition of our officers and men for more than a generation and has never seen one that it has benefited. On the other hand, he has observed its injurious influences on thousands of soldiers, and has known hundreds of officers who were cut down in the prime of life, dismissed or rendered useless and retired on account of drinking. The army of to-day, he says, is abstemious as compared with the drinking army of the canteen days, and anyone who states the contrary is ignorant of its previous history.

The use of any mild form of alcoholic drink leads to the habits of strong drink. Besides, the social environment of the beer club would eventually force the young abstaining recruit to drink. Very few of these men would be able to withstand the influences of the drinking non-commissioned officers and older soldiers. Those who drink use the argument that drinking at the canteen adds to the dividends of the club. With a bar, the post exchange becomes a loafing and drinking place and many of the young soldiers would be forced to drink to escape the taunts and jeers of the drinking element.

In considering the final results, Maus continues, there is little to choose from between beer-drinking Germany, wine-drinking France, ale-drinking England, whisky-drinking Scotland and Ireland, or mixed-drinking America. It is the poisonous agent, alcohol, which is concealed in varying degrees, and not the other constituents of the beverage. The underlying argument of the saloon men is that by governmental sanction of the canteen the government places its stamp of approval on drinking, which would prove of inestimable value to the liquor interests and correspondingly damaging to the temperance movement.

In view of our knowledge of the effects of drinking, he questions whether the government has the right to prohibit the use of alcohol among its public servants, especially among the pensionable class. Admitting that it is the private affair of the ordinary individual who elects to drink, does it not become a governmental affair when a pensionable official not only injures his health thereby, but reduces his efficiency and usefulness? We are living in a progressive and sane age and there is no place in this busy world for the tippler or barroom habitué. If the War Department really desires to improve the condition of the soldier, it should place a premium on temperance through official recognition of the abstaining class. Men are paid for superiority in markmanship. and why not pay for total abstinence, which is the greatest factor of them all in promoting the efficiency of the army and raising its standards? Those who cherish the hope that alcoholism and diseases of vice will vanish some day from the army, should never expect this ideal condition among beer-drinking soldiers.

45. **Preventing Laryngeal Stenosis.**—Four cases are cited by Fischer, a study of which makes it evident that effectual treatment consists in giving a large injection of antitoxin at the beginning of the treatment. In a severe case 10,000 to 20,000 units should be injected at the beginning; whether or no more antitoxin should be injected must depend on the result of the first injection. In all of the cases reported the first injection seemed insufficient, and it does seem that the additional doses help to modify the toxemia. Fischer's rule in intubation and extubation has been: 1. Avoid force; thereby avoid injury. This rule has been his greatest aid in preventing retained tubes. 2. Do not hurry. While in a severe laryngeal stenosis a given amount of haste is necessary in selecting the proper-sized tube and making preparations, but when it comes to the introduction of the tube the inflammatory process and subnormal condition must be remembered; hence, one should go slow. The nervous and frightened child must be quieted, especially when considering extubation. Fischer's rule is to give an antispasmodic for twelve hours preceding the removal of the tube. Codein, one-eighth to one-fourth of a grain, to a child two years old or over, repeated in three hours for four doses, or 10 grain doses of sodium bromid with 2 grains of chloral hydrate, repeated in six hours (two doses only), will allay nervous excitability and have a quieting effect. The antispasmodic should be continued for twenty-four hours after the removal of the tube. The spasm due to fear of the operating table when repeated intubation and extubation are practiced may in rare cases require an inhalation of a few drops of ethyl chlorid prior to extubation. Dover's powder is a valuable drug as an antispasmodic prior to extubation.

Intralaryngeal medication consists in applying a coating of medicated gelatin to each tube. Such medication as orthoform, 10 per cent. in gelatin or ichthyol gelatin, served well in a case of persistent tube, reported seven years ago. Owing to the thickness of the coating of gelatin a tube one size smaller than usual is required. In severe cases of diphtheria it is better to give 10,000 units by hypodermic means. As a rule some benefit should be noted within twelve hours after such treatment. If septic manifestations are evident, especially if the patient has been untreated for many days, the most rapid method of destroying the diphtheritic poison is by injecting into the median basilic vein at least 10,000 to 20,000 units of diphtheria antitoxin.

49. **Tibial Bone Transplantation.**—In three cases Ballin has resorted to bone transplantation in the mastoid wound. The piece of bone used for the transplant is taken from the crest of the patient's tibia. The operation is performed under general anesthesia. The bone, with its periosteum carefully detached, is immersed into warm saline solution, and then is placed into the mastoid wound as quickly as possible in such a manner that its raw surfaces come in contact with the clean granulating surfaces of the mastoid bone itself. The skin is then carefully sutured with the exception of a small orifice in the lower angle, in which is placed a small piece of gutta-percha drain for a few days. The transplanted bone acts as a bridge and on this rests the skin of the mastoid region. The air space below the transplant fills up with a blood-clot, which becomes organized and eventually replaced by new bone from the transplant, so that after a time the cavity becomes obliterated. Ballin does not advocate this procedure as a routine measure, but believes it is of value in cases in which there is a clean granulating wound.

New Mexico Medical Journal, Las Cruces

February, IX, No. 5, pp. 107-134

56 Pernicious Anemia. N. H. Morrison, Los Angeles.
57 Poliomyelitis. M. K. Wylder, Albuquerque.
58 Climate vs. Sanitation. C. T. Sands, Las Cruces.
59 Diagnostic Symptoms Manifested in Eye. W. T. Salmon, Albuquerque.

New York Medical Journal

February 22, XCVII, No. 8, pp. 373-424

60 Diagnostic Significance of Pain in Tabes. A. M. Hamilton.
61 Mortality in Four Thousand Feeble-Minded and Idiots. L. P. Clark and W. L. Stowell, New York.
62 *Contradictory Findings In Wassermann Test. A. L. Wolbarst, New York.
63 Day Camp for Tuberculosis. A. P. Francine, Philadelphia.
64 Maimonides the Physician. M. Kahn, New York.
65 Functional Nervous Conditions. W. V. P. Garretson, New York.
66 Sewage Pollution of Great Lakes. A. J. McLaughlin, Washington, D. C.
67 Colorado Method for Examination and Care of Public School Children. M. E. Bates, Denver.

March 1, XCVII, No. 9, pp. 425-476

68 Essential Features of Symptomatology and Prognosis in Dementia Præcox. F. X. Dercum, Philadelphia.
69 *The Diagnostician. A. Bassler, New York.
70 History of Bloodletting. F. H. Garrison, Washington, D. C.
71 Newer Teachings of Diseases of Gastro-Intestinal Canal. M. I. Knapp, New York.
72 *Family Incidence of Malignant Tumors. G. L. Rohdenburg, New York.
73 Otology from Medical Point of View. H. N. Spencer, St. Louis.
74 Intramural Abscess of Puerperal Uterus. A. H. Harrigan, New York.
75 Strangulated Hernia. H. Goldstein, New York.
76 Chorea. P. H. Markley, Camden, N. J.

62. **Contractions in Wassermann Test.**—Wolbarst emphasized the fact that the Wassermann reaction is dependent for its results on the skill and knowledge of the serologist. The results of the test depend in great measure on the absolutely perfect standardization of the reagents used; these are subject to variation in the hands of different serologists. As a result of these differences, diversity in results is not infrequent, but insufficient attention has hitherto been given to this particular feature of the reaction. He further believes that it is a gross error to accept the findings of one serologist as conclusive, particularly if his result is positive and the diagnosis dependent on his report; his work should be checked up by one or more equally competent workers. If two or more competent serologists report on a given serum, the majority opinion may be accepted as fairly conclusive; frequent reexaminations are always of advantage to the patient. Of thirty-seven cases thus studied by Wolbarst for discrepancies, agreement of findings took place in twenty-six cases (70 per cent.); absolute contradiction of findings took place in five cases (14 per cent.); slight disagreements took place in six cases (16 per cent.). He would have all mention of results of the Wassermann test, in the literature or elsewhere, accompanied by the name of the serologist who made the test, in order that the measure of accuracy and skill employed may be estimated.

69. **The Diagnostician.**—Bassler concludes his paper as follows:

> It is plain that advance in medicine in America has reached the point where the gaps should be filled. This, as has been suggested, can be done by bringing all of the various kinds of men to a focus or by improving the knowledge of each of them so that there will be a broader scope—both of which under the conditions that exist in medicine to-day are seemingly impractical. Thus, one of two things is necessary, either that a combination of men interested in the various sides of medicine club together primarily to arrive at diagnoses so that any one of them can cover any scope in the therapy demanded in a case, or that we develop a new department, that, namely, of the diagnostician and consider the specialists as skilled workers in therapy. For this type of man (diagnostician), on whom the future will inevitably shower places, there is now beginning a crying demand. While one cannot be a Jack of all trades, it is possible for any young man who starts out with the ambition to become a diagnostician to arrive somewhere near the goal. This man must start young, be well grounded in learning, preferably with an academic education, and then a graduate from a good medical school and a hospital with a large and general service. After this he must engage in the work that any large city with its various clinics and constant demand for clinical assistants offers. During this time he must become familiar with all that pertains to diagnosis work in the diseases of skin, eye, ear, nose and throat, neurology, internal medicine, surgery, orthopedics, pediatrics, etc. If he is not over keen about learning all there is to therapeutics, he can in the course of a few years learn his diagnostics well. While engaged in the various clinics in different subjects and under different men, he should be attached to some hospital where he can observe cases under bed observation. If necessary, he can engage in general practice to support himself and help to give him material to examine with all of the various means of doing so he has learned. He would be an excellent general practitioner on the way, who in the course of time will have succeeded well in family practice and will then be ripe for taking up a specialty for definite application. In the selection of this, I would suggest that some such men of to-day take up the specialty of diagnosis, so that when the time comes, as it inevitably will, such men will exist. The people have established the specialists, and the ambition of medical men has followed. In the omissions and commissions seen on the part of different men in the various branches, medicine is now calling for diagnosticians. In the future this want will become greater rather than less, and it will not be many years when the people will demand them. Let us in this instance be progressive enough to see this emergency coming, and have men capable to meet it when it arrives.

72. **Family Incidence of Malignant Tumors.**—The three series of cases cited, Rohdenburg believes, are typical examples of the types described by Behla and others. *Cancer à deux*, so-called house infections, and family transmission are all represented. Where the clinical history as to previous sources of irritation has been carefully inquired for, it has been found. Three families have been observed during the last six years. Mrs. A., aged 50 years, lived in New York in the winter, and at a little town of 500 inhabitants in the southern portion of the state in the summer. Five years before her present trouble her husband had purchased their country home from an estate. The previous owner of the property had died of carcinoma of the stomach, six months after the death of his wife; and she had died of a cancer of the uterus. Five years after Mr. A. had purchased this house as his summer home, his wife, while in a runaway accident, was struck on the left breast. Four months after this accident a carcinoma developed at the site of this bruise. This was followed in three months by another carcinoma of the same type in the opposite breast. Both breasts were amputated. The patient died of a general carcinomatosis three years after the accident.

During the last six months of Mrs. A.'s illness, an epithelioma of the cervix uteri developed in her mother, Mrs. Z., aged 80 years. From this she died in six months, the immediate cause of death being a profuse hemorrhage. Mrs. Z. had had a severe bilateral laceration of the cervix for over forty years. Shortly after Mrs. A. was operated on for carcinoma of the breast, two of her sons married two sisters of the family H. The H.'s lived seven miles from the A.'s. Four months after the death of Mrs. A., in the father of the H. sisters, developed a sarcoma of the large intestine, in the region of the splenic flexure. Mr. H. had suffered for over fifteen years with obstinate constipation, due in all probability to adhesions following general peritonitis, the peritonitis, in turn, being caused by a perforated appendix. Mrs. Z. lived with Mrs. A., and Mr. H. had frequently been to see both while Mrs. A. was sick. All the patients were at the onset of the illness exceptionally well nourished.

The family W. furnishes the second series of cases. In Mr. W., aged 52, developed a carcinoma of the large intestine. Previous to this time he had suffered for years from what was termed a "nervous diarrhea." He died one year after a palliative operation. Four months after his death, Mrs. W. had an epithelioma of the breast. For fifteen years she had at the site of the malignant tumor formation a small wart. As soon as she heard the diagnosis in the case of her husband, on the advice of a nurse, she applied sodium ethylate to the wart. Instead of disappearing the wart commenced to grow, at first slowly, and then more rapidly. The affected area was excised and the diagnosis confirmed microscopically.

The third series of cases occurred in family P. Mr. P., aged 45 years, furnished the following history: He married at the age of 20 years. Two years after marriage his wife showed cancer of the breast, from which she subsequently died. He then married his wife's sister, and she, five years after her marriage, also had a cancer of the breast. After the death of his second wife he remained single for seven years and two years ago married for the third time a widow, aged 42. The present Mrs. P. presented what was clinically a carcinoma of the breast. This diagnosis was later confirmed by operation and microscopic examination. On very close questioning Mr. P. admitted sexual abnormalities. He stated that he could obtain sexual gratification only by biting his partner and that the site of election was the breast. He seldom bit so as to draw blood, but often caused subcutaneous hemorrhages, slight in amount. In brief he repeatedly contused the breast tissues.

Ohio State Medical Journal, Columbus

February 15, IX, No. 2, pp. 53-104

77 Value of Cystoscopy in Diagnosis of Renal Tuberculosis. F. C. Herrick, Cleveland.
78 *Influence of Nose on Pulmonary Râles. L. C. Grosh, Toledo.
79 Operative Management of Compound Fractures. B. F. Barnes, Newark.
80 Some Advantages in Using Two Ends of a Suture. M. D. Stevenson, Akron.
81 Intravenous Administrations of Sublimate. Hyrgolum, Oxycyanid and Sublamin in Salvarsan Relapses. M. L. Heidingsfeld, Cincinnati.
82 Municipal Control of Milk Supply of Ohio. C. F. Tenney, Toledo.
83 Value of Roentgen Ray in Diagnosis of Gastro-Intestinal Lesions. H. J. Means, Columbus.

78. Abstracted in The Journal, May 18, 1912, p. 1534.

Pennsylvania Medical Journal, Athens

February, XVI, No. 5, pp. 337-420

84 Dietetics and Policing of Camps. H. A. Arnold, Ardmore.
85 Functional Psychoses of Senile Period. A. C. Buckley, Philadelphia.
86 Desiccation Process of Tissue Destruction as Applied to Certain Pathologic Conditions. W. L. Clark, Philadelphia.
87 Early Paralysis. A. Gordon, Philadelphia.
88 *Treatment of Inguinal Hernia in Children. E. W. Meredith, Pittsburgh.
89 Operative Technic of Strangulated Hernia. J. D. Singley, Pittsburgh.
90 Department of Health's Activity in Handling Tuberculosis in Pennsylvania. B. F. Royer, Harrisburg.
91 Scintillating Scotomata Associated with Migraine. L. C. Peter, Philadelphia.
92 Observations on 103 Consecutive Operations on Thyroid. W. D. Hamilton, Columbus, O.

88. Abstracted in The Journal, Nov. 2, 1912, p. 1647.

FOREIGN

Titles marked with an asterisk (*) are abstracted below. Single case reports and trials of new drugs are usually omitted.

British Journal of Children's Diseases, London

February, X, No. 110, pp. 49-96

1 *Treatment of Acute Abdominal Cases in Children. P. L. Mummery.
2 Flagellate Dysentery in Children. Mello-Leitao.
3 *Fatal Hemorrhage from Throat. J. D. Rolleston.

1. **Treatment of Acute Abdominal Cases.**—Mummery discusses intussusception, acute appendicitis and acute obstruction, reviewing the clinical history and differential diagnosis of each. He insists on the importance of regarding all acute abdominal symptoms in children as requiring the most serious consideration; and, where a serious intra-abdominal lesion is diagnosed or suspected, on the necessity for operating as soon as possible.

3. **Fatal Hemorrhage from Throat.**—A girl, aged 6 years, was admitted to hospital, certified to be suffering from diphtheria. Beyond an attack of whooping-cough at the age of 3 years she had until recently been a healthy child and there was no family history of bleeding. Five weeks before admission she had had measles, since when her voice had been husky. She complained of sore throat, and had a croupy cough and the neck glands became swollen. At 9 a. m. the fifth day, she suddenly gave a cough and a huge gush of blood poured out of the mouth. Death preceded by marked cyanosis occurred within five minutes. No diphtheria bacilli but only cocci were found in three successive cultures from the throat and one from the nose. Necropsy: Abscess cavities in both tonsils, ulceration of the uvula, soft palate, epiglottis, frenum epiglottidis, vallecula and ary-epiglottidean folds. Deep ulceration of laryngeal portion of pharynx exposing muscular tissue. Three small superficial ulcers above right vocal cord. The exact site of the bleeding vessel was not determined, but there was no evidence of erosion of external carotid, internal carotid or internal jugular, nor of any glandular abscess.

British Medical Journal, London

February 15, I, No. 2720, pp. 321-372

4 Appendicitis: Plea for Immediate Operation. E. Owen.
5 Function of Appendix and Origin of Appendicitis. E. M. Corner.
6 Carcinoma of Colon. J. Cunning.
7 *Results of Excision of Hip-Joint in Thirty-Four Cases of Suppurating Tuberculous Disease. C. A. Morton.
8 Fifty-Five Cases of Suprapubic Prostatectomy, with Four Deaths. A. Fullerton.
9 Rheumatoid Arthritis. F. G. Thomson.
10 *Acute Pneumonia During Treatment with Arsenic. F. P. Weber.
11 Three Cases in Midwifery Practice. J. Reid.

7. **Excision of Hip-Joint for Tuberculous Disease.**—All of Morton's operations have been performed by the anterior incision, which starts just below the anterior superior spine and runs downward, passing between the sartorius and the tensor fasciae femoris, and then between the rectus and gluteus minimus. All cases were drained, but within two months in most cases all discharge ceased and the wounds healed. This is more than one can expect if only the abscess sac is dealt with, and is, he thinks, the great advantage of excision as compared with methods in which the abscess alone is dealt with. In nearly all cases flexion to a right angle was possible, but lateral movement was not usually as good as flexion, and in some cases was quite limited, but in one of the cases movement was almost perfect in all directions. Shortening was usually present to the extent of 2 to 2½ in. in cases seen some years after the operation, but may not be more than 1 in. for some time after the operation. In one case it was 4 in. nine years after the operation, the position of the trochanter indicating how the stump of the neck had become forced up on the dorsum ilii.

In some cases the limp was slight, but in others, some years after the operation, it was marked, even when the shortening had been compensated for by extra thickness of the sole of the boot. There seemed to be a marked want of stability about the joint. But even in these cases the patient could walk a considerable distance. In some of the cases with more stable joints they could walk many miles, and one boy was said to be able to climb trees just like other boys. Morton cannot say whether the range of movement is as good after recovery when simply the abscess is dealt with and the head of the bone is not removed, because in the only two cases in which he did not remove the head (the two cases of arthrectomy) he did not see the patients years after; but he would not expect as good a range of movement. In one of the cases deformity recurred eight years after operation and was removed by weight extension. There was no recurrence of the disease. Recurrent deformity was rarely present in his series.

10. **Acute Pneumonia During Treatment with Arsenic.**—In a few cases Weber observed the sudden occurrence of pneumonia in children while they were undergoing arsenical therapy on account of lymphadenoma or some other disease. He believes that the association was no chance one, but that the pneumonia was in some way dependent on the taking of arsenic, as is arsenical herpes zoster. Two of the patients likewise had attacks of arsenical herpes zoster. The rapid recovery from the lung disease was another striking feature. The patients were young, and the recovery from the pneumonia was excellent, even when the general condition was extremely bad. There was little in the way of distressing cough or pain. Weber believes that arsenic may possibly predispose some persons to an attack of (? pneumococcal) pneumonia, just as it is acknowledged to predispose some individuals to an attack of herpes zoster, which is, perhaps, like pneumonia, a disease of infectious (microbic) origin.

Clinical Journal, London

January 29, XLI, No. 17, pp. 257-272

12 Lister's Work and Teaching. W. W. Cheyne.
13 *Treatment of Fractures of Lower End of Humerus. G. Simpson.

February 5, XLI, No. 18, pp. 273-288

14 Case of Anemia of Pernicious Type with Acholuric Jaundice. F. J. Poynton and H. C. D. Pedler.
15 Treatment of Club-Foot in Early Childhood. A. S. B. Bankart.

February 12, XLI, No. 19, pp. 289-304

16 Chronic Intestinal Stasis. W. A. Lane.

13. **Treatment of Fractures of Lower End of Humerus.**—The plan Simpson adopts is to have a skiagram taken, then give an anesthetic and reduce the fracture; bandage the arm up in acute flexion and then have another skiagram taken to see that the reduction is satisfactory. After ten days he takes off the bandage and lets the arm come down to a right angle and fixes it in that position. He looks at the elbow every other day and puts it up each time at a different angle. Finally, on the twentieth day, he leaves off the bandage and lets the patient do what he likes with the arm. All that is needed is a piece of lint, some chloroform (or, better still, some ether), a mouth-gag and tongue-forceps, some cotton-wool, a bandage and some common sense. Giving an anesthetic is, he thinks, the essential point in the treatment. As a matter of fact, even with complete relaxation of the muscles and with plenty of time, considerable difficulty may be met in effecting reduction. Passive movements in these cases he regards as being not only useless, but they delay recovery of movement. Massage is harmful in the early stages, and should only be used after movement has returned. Interference with the circulation is always liable to occur if a swollen arm is flexed.

Journal of Laryngology, Rhinology and Otology, London

February, XXVIII, No. 2, pp. 57-112

17 *Nerve-Supply of Inferior Turbinal as Shown by Vital Staining. T. W. E. Ross.
18 Report for Year 1912 from the Ear and Throat Department of the Royal Infirmary, Edinburgh. Part I. Analyses of Seventy-Six Consecutive Operations on Frontal, Maxillary, Ethmoidal and Sphenoidal Sinuses. J. S. Fraser and R. Verel.
19 Diffuse Osteomyelitis from Nasal Sinus Suppuration. D. McKenzie.

17. **Nerve Supply of Inferior Turbinal.**—From the facts stated by Ross, it is obvious that the inferior turbinals have an abundant and complex nerve supply. The complexity is greatest in the subepithelial layer. Here several varieties of nerve ending are found, the most striking of which is the plexus formed by leashes of nerve-fibrils, best seen toward the anterior portion of the turbinal. The medullated fibers seem principally destined to end in the epithelium, but those which do generally give off fibrils to capillaries and other structures in the subepithelial layer. Some medullated fibers end in the subepithelial layer, their ultimate fibrils going to form the wide-meshed plexus already described. The nerve supply of the subepithelial capillaries is very rich. Fibrils pass to them from both varieties of fiber, and also from the terminal plexuses of fibrils.

Lancet, London

February 15, I, No. 4668, pp. 435-506

20 *Paths of Infection in Genito-Urinary Tuberculosis. K. M. Walker.
21 Appendicitis; Plea for Immediate Operation. E. Owen.
22 *Remote Results of Tonsillotomy and Tonsillectomy. H. Whale.
23 Operation for Hypospadias. A. Edmunds.
24 *Case of Addison's Disease in Boy Aged 10 Years. F. Langmead.
25 *Polycystic Disease of Kidneys. H. Rischbieth and C. P. C. De Crespigny.
26 Chronic Internal Hydrocephalus. J. Rae.
27 Action of Scharlach R on Roentgenized Skin. J. O. W. Barratt.

20. **Paths of Infection in Genito-Urinary Tuberculosis.**—Speaking of tuberculosis of the testicle, Walker says that infection takes place, as in gonorrhea, by means of the cord and not by the blood-stream. That cases of hematogenous infection occur cannot be denied, but they are few in number. The evidence in favor of the frequent occurrence of a descending genital tuberculosis is tabulated as follows: Clinical evidence: 1. It is extremely rare to find tubercle of the epididymis without discovering some indication of disease of the prostate or the vesicles. 2. Prostatic tubercle is not infrequently found without any lesion of the testicle. 3. The appearance of a tuberculous epididymitis is often preceded by symptoms of prostatitis or vesiculitis—the so-called prodromata of tuberculous epididymitis. 4. The earliest signs of tuberculous disease are found at the lower pole of the epididymis. This is the first position which opposes the line of march of the invading organisms. 5. Tuberculous disease of the testicle is analogous to acute infections which are known to have been produced by extension from the urethra. The ordinary type of tuberculous epididymitis has no analogy to the hematogenous orchitis of mumps. Pathologic evidence: 1. Lesions of the testicle without disease of the prostate are rare, whereas tuberculous lesions of the prostate are not infrequently found unaccompanied by disease of the testicle. 2. When tubercle of the testicle is found in association with tubercle of the prostate, the lesions in the prostate generally have the appearance of being older than the lesions in the epididymis. 3. Tuberculous nodules in the lower pole of the epididymis usually appear older than those in the upper pole. They are the first to soften and break down. Experimental evidence: 1. Microorganisms and inanimate granules are rapidly absorbed from the urethra and carried to the testicle. 2. A tuberculous epididymitis may be experimentally obtained by inoculating the urethra after having damaged one of the testicles.

22. **Results of Tonsillotomy and Tonsillectomy.**—The disadvantages of tonsillotomy, according to Whale, are: 1. The initiation of an infection, whether manifesting itself as tonsillitis, lymphadenitis, or both. Such sequelae are more likely if a very free and deep removal has been performed than if only a moderate amount of the tonsil has been removed. 2. Recurrence of the trouble for which the operation was performed, except in the case of voice troubles, when recurrence is no more probable than after tonsillectomy. The disadvantages of tonsillectomy are: 1. A risk of serious or even dangerous hemorrhage at operation. 2. A risk of harmful deformity supervening later; the deformities most likely to cause harm are adhesion of the posterior faucial pillar to the posterior pharyngeal wall, and overgrowth of the plica triangularis. 3. A risk of voice troubles supervening later, even without any causative deformity. To any patient who requires operation for some other reason, who has never had any voice trouble, and whose livelihood or occupation depends on the use of the voice, tonsillectomy should be urged with caution. Thus it would appear that tonsillectomy is the more dangerous operation. But with the single exception of voice troubles, it is more likely permanently to cure the complaint for which advice

is sought; notably so in the case of tonsillitis or lymphadenitis; moreover these two infections are never initiated by tonsillectomy. It is important to eradicate the lower pole.

24. **Addison's Disease in Boy.**—An especially interesting feature of this case was the small size of the heart, which weighed only 3 ounces.

25. **Polycystic Disease of Kidneys.**—The points of interest in the first case were: In Case 1: (a) The age, 26 years, at which the condition first became manifest. If this condition was congenital in origin, as is to some extent suggested by the fact that this patient showed what appeared to be a congenital abnormality of the heart as well, it is perhaps remarkable that kidneys of this size and degree of cystic degeneration should not have caused symptoms, renal or other, earlier in life. (b) That the first symptom produced was intestinal obstruction; this, however, is not very surprising, considering the size to which these tumors had attained. (c) That one kidney of the type here shown should be capable of maintaining the renal functions and warding off symptoms of renal insufficiency for some six years and maintaining perfect health. This individual was passed for life insurance having only one kidney, and that polycystic, and appeared to be in good health up to the time that one of the complications of otitis media carried him off. (d) Again, the age is peculiar when statistics of published cases are considered, for patients affected are usually very old or very young.

The points of interest in the second case are summarized as follows: (a) The age, 62 years, to which this individual attained with kidneys such as those shown without suffering symptoms suggestive of renal disease. This, however, is not uncommon in this connection. (b) The problem, was the acute colitis from which this man died a terminal infection in a chronic uremic state, or an independent condition? For the evidence of uremia was very slight. (c) The possible part played by gout in the causation of the polycystic degeneration of the kidneys in this case. That is to say, Are we dealing with a congenital condition in a man, aged 62 years, the result, let us say, of embryonic failure of union between secreting and conducting parts of the kidney (which has, however, given rise to no symptoms for so many years)? Or is the condition acquired, the effect of, let us say, fibrous proliferation around the tubules, exudation into them, or cicatrization after nephritis, causing obstruction of the urinary passage (as Morris suggests), and possibly in this case the effect of gout? Any of these causes might cause a polycystic condition such as these kidneys show. (d) If the acute colitis from which this man died was a terminal infection in a uremic state, are we to regard the latter as that of the last stage of polycystic disease or degeneration of the kidney? Or is it to be considered as that of chronic interstitial nephritis, of possibly gouty origin, affecting a kidney already polycystic? (e) Or is the condition, *in toto*, one of polycystic degeneration of a granular kidney? There is no note of the condition of the urine. But since the urine may have much the same characters in all the above conditions, its diagnostic value here would not be great. These kidneys show little indication of chronic interstitial nephritis in fibrotic changes, and do not resemble any specimens of cystic glandular kidney that one has seen. Further, the arteries are rather small, very little thickened, and not atheromatous. The hypertrophy of the left ventricle was very slight, arterial tension not very markedly increased, and the degree of atheroma and arterial degeneration that was present not more than would be fairly often seen without symptoms in an individual of this age who, like this man, had been a manual laborer all his life. Therefore the hypothesis that chronic interstitial changes. the effect of gout, may have played a leading part in the causation of the polycystic disease of these kidneys must be abandoned. They would seem to be examples of "polycystic degeneration," whether they be congenital or not.

Medical Press and Circular, London

January 29, XCV, No. 3847, pp. 109-136

28 Surgical Methods of Dealing with Eclampsia. J. H. Croom.
29 Present Position of Dermatology. D. Walsh.
30 Transverse Incision in Laparotomy. A. J. Wallace.
31 Neurology of Visual System. (To be continued.) H. Campbell.

February 5, XCV, No. 3848, pp. 137-164

32 Diagnosis of Early Pulmonary Tuberculosis. A. J. Whiting.
33 Neurology of Visual System. H. Campbell.
34 Diagnosis of Causes of Chronic Recurrent Abdominal Pain. J. O. Symes.
35 Pituitary Extract in Obstetrics. W. J. Gousew.

February 12, XCV, No. 3849, pp. 165-188

36 Scientific Basis of Organotherapeutics. A. Münzer.
37 Sanatorium Benefit in Ireland. R. J. Rowlette.
38 Ultramicroscopic Organisms in Disease. E. A. Cockayne.

Annales de l'Institut Pasteur, Paris

December, XXVI, No. 12, pp. 937-1044

39 Contagious Agalactia in Sheep and Goats. Epizootic Causing Severe Lesions in Udders, Eyes and Joints. (L'agalaxie contagieuse de la brébis et de la chèvre.) H. Carré.
40 Negri Bodies in Rabies. (Etude des corpuscles de Négri et des formations spéciales à la rage à virus fixe.) Y. Manouelian.
41 Inhibiting Action of Carbon Dioxid on Hemolysis and Bacteriolysis. Sawtschenko.
42 Potassium and Sodium in Living Tissues. (Etude de potassium et du sodium chez les animaux.) P. J. Gérard.
43 *The Manganese Normally in the Blood. G. Bertrand and F. Medigreceanu.
44 Technic for Preservation of Soluble Toxins: No Impairment of Properties After Seven Years and Four Years. Nicolle and C. Truche.

43. **Manganese in the Blood.**—Reviewed editorially in The Journal, March 1, p. 674.

Archives Générales de Chirurgie, Paris

January, VII, No. 1, pp. 1-128

45 Congenital Malformations of the Neck; Five Cases. (Les formations branchiogènes du cou.) L. Delrez.
46 *Operative Treatment of Meningeal Hemorrhage in the Newly Born. (Etiologie, symptomes et traitement chirurgical des hémorrhagies meningées du nouveau-né.) J. Doazan.
47 Felon from Infection with Hog Cholera. (Panaris superficiel par le bacille du rouget du porc.) P. Mauclaire.

46. **Meningeal Hemorrhage in the Newly Born.**—Doazan advocates lumbar puncture at once on suspicion of meningeal hemorrhage in a new-born babe. If this fails to relieve, the anterior fontanel should be punctured if it is bulging. After this it would be better to wait for the brain to develop more resisting power before attempting an actual operation to relieve pressure on the brain. Gilles of Toulouse prefers to puncture the fontanel at once, before doing even lumbar puncture, introducing the Pravaz needle, as far from the longitudinal sinus as possible, to a depth of 5 mm. or even 8. This draws the blood at once before it has had time to clot or be absorbed. Puncture of the fontanel is naturally merely an exploratory intervention, but it may have actual curative value as in a case reported by Gilles last July.

In prophylaxis all causes liable to increase the blood-pressure in the infant's brain should be carefully guarded against. Doazan gives the details of six cases from the literature not including Cushing's experiences. Four of the children developed apparently normal thereafter. In Gilles' case lumbar puncture was negative and he then punctured the bulging fontanel, withdrawing 2 c.c. of blood and about an equal amount on repetition of the puncture at two other points in the fontanel. The child's condition was satisfactory until the age of 9 months when it died after having had several convulsions. Simmons' little patient has developed quite normally since the extensive decompressive operation which released a large amount of black blood. Lumbar puncture had been negative and the fontanels were not distended. Another child relieved by the operation died from enteritis at 9 months. Doazan does not seem to have any personal experiences of the kind to relate.

Archives Générales de Médecine, Paris

January, XCII, No. 1, pp. 1-96

48 The New Bacteriology of Tuberculosis in Relation to Its Diagnosis, Treatment and Immunization Against the Disease. J. Ferran.

Archives des Maladies de l'App. Digestif, Paris

December, VI, No. 12, pp. 661-719

49 *Case of Renal Diabetes. G. Roque and J. Chalier.
50 Case of Recurring Catarrhal Jaundice with Positive Tests for Typhoid. (Pneumotyphus hépatique éberthien à repetition.) G. Etienne.

51 Jejunocolic Fistula from Peptic Ulcer in Jejunum After Gastro-Enterostomy. Urrutia.

January, VII, No. 1, pp. 1-64

52 *Influence of Different Diets in Diabetes. M. Labbé and H. Bith.
53 Coprologic Localization of Source of Diarrhea. R. Goiffon.
54 Multiple Ulcerations and Perforations of the Small Intestine and Cecum from Postoperative Intestinal Toxi-Infection. G. de Rouville and H. Roger.

49. **Renal Diabetes.**—The patient in the case described is a man of 45 who has had polyuria constantly for fourteen years. Under the influence of alcoholic excesses, transient albuminuria develops, and during the last six years there has been also transient glycosuria with hyperglycemia. After a few weeks of rest and dieting both sugar and albumin disappear from the urine. With care the man may escape serious trouble, but if he persists in his drinking habits, the kidney lesions responsible for the albuminuria and glycosuria will probably become chronic and may entail uremia. But he will not have the usual complications of true diabetes, as his blood is free from sugar.

52. **Diet in Diabetes.** Labbé and Bith report careful research on two well nourished diabetics and on eight losing flesh and with more or less acidosis, four of whom have died since in coma. In diabetics with denutrition and acidosis the indications are to combat (1) the hyperglycemia, (2) the loss of nitrogen, and (3) the acid intoxication. For the first the intake of carbohydrates should be restricted; for the second, the diet should be rich in nitrogen, and for the third indication the diet should be poor in meat and rich in carbohydrates. Labbé and Bith believe that these antagonistic indications are best met by varying the diet to fit the predominating symptoms at the time. As a rule, the aim is to keep the hyperglycemia in tolerable limits, but when acidosis menaces a vegetable diet should be promptly instituted. They have found it a good plan to allow a week of mixed diet; then three days' restriction to milk; then a week of mixed diet; then three days of oatmeal; then a week of mixed diet; then three days of soft mashed vegetables, etc. The best way is not to be too absolute but be guided by conditions as they develop and by the urine findings. Their experience has been that dry vegetables are as effectual if not more so than the oatmeal cure.

Archives Mens. d'Obstétrique et de Gynécologie, Paris

January, II, No. 1, pp. 1-112

55 Radium Therapy for Uterine Fibromas; Technic and Results in 193 Cases. H. Chéron.
56 Passage of Carbon Dioxid from Mother to Fetus. (Mécanisme du passage de l'oxyde de carbone de la mère au foetus et des respirations placentaire et tissulaire.) M. Nicloux.
57 Therapeutic Abortion from Forensic Standpoint. (L'avortement thérapeutique et la loi.) L. Tissier.
58 Maternity Benefit Laws. (La loi sur le repos des femmes en couches au Sénat.) L. Devraigne. (Le "Maternity Benefit" d'Angleterre. Ses conséquences sur l'enseignement et la pratique de l'obstétrique en Ecosse.) M. Vandescal.

Bulletin de l'Académie de Médecine, Paris

January 28, LXXVII, No. 4, pp. 43-77

59 Mineral Elements in Cancer of the Liver. (Recherches sur la composition chimique du cancer du foie.) A. Robin.
60 Research on Variola Vaccine. R. Wurtz and Others.

Bulletins de la Société de Pédiatrie, Paris

January, XV, No. 1, pp. 1-38

61 *Prophylaxis of Contagious Diseases in Infant Wards. (La défense contre les maladies contagieuses à l'asile de débiles de Médan.) H. Méry and Malhéné.
62 Familial Recurring Dislocation of the Patella. (Un cas de luxation récidivante de la rotule.) M. Wilbouchewitch.
63 Desiccated Milk. (Essai sur la valeur alibile du lait desséché.) G. Variot and Others.
64 Inefficiency of Rectal Serotherapy. (Inefficacité de la sérothérapie par voie rectale.) E. Lesné and L. Dreyfus.

61. **Necessity for Better Prophylaxis of Contagious Diseases.** Measles seems to be the gravest danger in foundlings' homes and similar institutions. Among the 200 children less than 2 years old at the Médan asylum for convalescent infants, measles caused 11.5 of the total mortality in the last three years. Without this the mortality would have been only 5 per cent.

Journal de Médecine de Bordeaux

February 9, XLIII, No. 6, pp. 83-96

65 *Ischemic Paralysis. (Paralysies du membre supérieur après emploi de la bande d'Esmarch.) P. Abadie and Desqueyroux.
66 Anatomy of Sinus Cavernosus. (Note sur la constitution des parois du sinus caverneux et les rapports des nerfs oculomoteurs et trijumeau avec ses parois externe et supérieure.) M. Ferron.

65. **Ischemic Paralysis.** A robust young woman free from nervous troubles or infectious disease cut her finger and required a minor operation; the blood was expelled with the hemostatic bandage on the lower third of her arm. Flaccid paralysis followed, involving all the muscles of the forearm and hand with slight atrophy of the muscles. Under electricity and massage the paralysis began to improve after five weeks and complete recovery is anticipated now by the approaching end of the fifth month.

Lyon Chirurgical, Lyons

February, IX, No. 2, pp. 97-232

67 Present Status of Resection of Spinal Roots. (Indications et résultats de la résection des racines postérieures.) O. Foerster.
68 Resection of Joints Without Drainage. E. Villard and L. Tavernier.
69 Serodiagnosis of Cancer. (Séro-diagnostic des tumeurs malignes—Réaction de von Dungern.) P. A. Petridis.
70 Cancer of the Rectum. (Résultats immédiats et éloignés de l'opération combinée dans le cancer du rectum.) A. Chalier and E. Ferrin. To be continued.
71 Experimental Research on Operative Treatment of Acute Nephritis from Mercurial Poisoning. P. Mazel and J. Murard. Commenced in No. 1.

Presse Médicale, Paris

February 1, XXI, No. 10, pp. 89-100

72 Elementary Lesions in the Lungs. (Introduction à l'étude histo-pathologique du poumon.) G. Roussy and P. Ameuille.
73 Plastic Operation Providing New Outer Covering for Scrotum and Penis. (Technique opératoire de la génitoplastie masculine externe.) Bonamy and Dartigues.
74 Dwarf Growth from Bone-Muscle Dystrophy. L. Tixier and C. Roederer.
75 *Congenital Dilatation of the Bile Passages. (Cholangiectasies congénitales.) M. Letulle.

February 5, No. 11, pp. 101-108

76 Gaping of the Sutures of the Skull from Brain Tumor. (Disjonction des sutures craniennes par tumeur encéphalique.) A. Broca.
77 Action of Colloidal Copper on the Blood. H. Chabanier and L. Rollin.

February 8, No. 12, pp. 109-120

78 *The Bradycardia of Lead Colic. C. Lian and E. Marcorel.
79 *Treatment of Lymphorrhea. P. Sikora.

75. **Congenital Dilatation of the Bile Ducts.** In the case reported a young woman had always been healthy until at the age of 25 symptoms of catarrhal jaundice developed keeping up for three months with progressive debility and loss of weight. The epigastrium protruded on the median line but more on the right side, and an echinococcus cyst was diagnosed. Puncture released four liters of a fluid containing large quantities of bile pigments. The gall-bladder could not be discovered and the cyst was merely sutured to the lips of the wound. The fever kept up and the patient succumbed to a hemorrhage in the interior of the cyst pocket, the eighth day. Necropsy revealed that the trouble was a general congenital dilatation of all the large bile ducts. The gall-bladder was unusually small and crowded to one side. Conditions thus rendered extremely serious even a mild acute infection of the bile passages.

78. **The Bradycardia of Lead Colic.** Four cases are reported of true bradycardia in the course of lead-poisoning colic. It was tested by both the graphic tracings and the atropin test. Each systole of the ventricle was preceded by a single contraction of the auricle; the heart action was thus normal although so retarded. The bradycardia was not due to unduly high arterial pressure; both were evidently symptoms of the lead-poisoning. The atropin test indicated that the acute intoxication from the lead acted on the trunk of the pneumogastric nerve and also on its terminals in the Keith and Flack node.

79. **Lymphorrhea.** Sikora discusses the loss of lymph from injury of the thoracic duct or other lymph vessel, concluding

with the statement that when it is of traumatic origin it can generally be arrested by simple procedures, compression, cauterization of the fistula or tamponing. In exceptional cases it may be necessary to ligate the trunk vessel. When due to an inflammatory or cancerous process, treatment should be addressed to the cause.

Revue Mens. de Gynécologie, d'Obstétrique et de Pédiatrie, Paris

January, VIII, No. 1, pp. 1-72

80 *Early Rising in the Puerperium. (A propos du lever hatif des accouchées.) B. de Saint-Blaise. (Est-on autorisé à penser que la pratique du lever précoce des accouchées retarde l'involution utérine et favorise la production des thromboses et der embolies?) L. Bouchacourt.
81 *Sudden Death of Syphilitic New-Born Infants. (Pathogénie de la mort "immédiate" des nouveau-nés syphilitiques.) A. B. Laborderie.

80. **Early Rising in the Puerperium.**—Saint-Blaise gives the exact findings in 291 parturients the tenth day. They were all free from constitutional disease, history of old uterine trouble or instrumental delivery, or necessity for obstetric interventions, and also free from pathologic conditions in the puerperium and from abnormal conditions in the genital organs. He excludes from his review 204 other women in his service who presented some of the above morbid conditions. In the 291 clinically normal women at the tenth day the fundus of the uterus was still 9 cm. above the pubis in 80; 7 cm. in 53; 5 cm. in 73, and 4 cm. in 44. Thus 260 of the 291 had not completed the involution of the uterus. Only in 31 was the involution complete; 12 of these women were primiparae and 25 had normal lactation, but 4 of these had considerable retroversion and although 12 appeared entirely restored, yet they still had considerable losses of blood. Of the total 291 women, 112 still had considerable losses of blood; 43 dark-colored lochia, 10 fetid; only 83 had very little or no trace of hemorrhage.

Bouchacourt is convinced that keeping the women in bed with the consequent atony of the muscles and congestion in the back and pelvis is a contributing factor to the development of thrombosis and embolism later. He reports two cases in which after an absolutely normal delivery and puerperium the women died suddenly when they first got out of bed, one the eighteenth and the other the thirtieth day after the childbirth. The first patient was a woman of 26 who had had a heart murmur during this and a previous pregnancy and on this account had been kept very quiet on her back for more than a week and was not allowed even to sit up until the tenth day. The heart had been carefully supervised and showed no signs of weakness at any time. In the second case the patient was a woman of 35 with considerable varicose enlargement of the veins in the thighs and vulva at a preceding pregnancy and pulmonary embolism developed the twelfth day while the patient was still in bed, but it subsided under wet cups. At the third pregnancy there were no varices but brief transient pulmonary embolism the eighteenth day with some fever. The thirtieth day she died suddenly as she was allowed to get up. Possibly this accident might have been avoided if the blood had been rendered more fluid by prophylactic organotherapy or citric acid lemonade. He mentions a number of historical instances of similar sudden death during the puerperium, when there was no question of early rising, and remarks that two sisters of the king of Spain died suddenly under similar circumstances, one in 1904 and the other last September. He cites further statistics totaling 3,034 cases of early rising without a single instance of embolism. Klein has had no thrombosis among 2.500 women allowed to get up from the first to the third day after childbirth, and Kümmel of Hamburg reported fatal embolism in 1 per cent. of his 1.210 laparotomies 1906-07, while in the two following years, when the patients were allowed to get up early, the mortality from this cause dropped to 0.19 per cent.

Revue Pratique d'Obstétrique et de Gynécologie, Paris

January, XXI, No. 1, pp. 1-28

82 *Mechanism of the "Sudden" Death of Syphilitic Newly Born Infants. A. B. Laborderie.
83 Technic for Examination of the Hymen. A. de Dominicis.

81-82. **Sudden Death of New-Born Syphilitic Infants.**—Laborderie refers to the cases in which the child has been safely delivered and all seems to be going well. Then the child is seen to be becoming cyanotic and although it can be kept alive for a time by artificial respiration yet it gradually suffocates, and nothing can be found at necropsy to explain unquestionably the fatality. Fournier ascribes it to an inaptitude for living, but Laborderie has noticed that the children in such cases always have a very much distended abdomen. He observed this in a pronounced form in eight such cases recently, and Sfameni of Cagliari has reported the same and has drawn the practical conclusion that the children might be saved by an emergency paracentesis, releasing the gas or effusion in the abdomen and thus permitting the diaphragm to make its normal excursions. All the symptoms in such cases testify to the mechanical nature of the asphyxia and indicate the serious outlook when a syphilitic child is born with an unusually large and distended abdomen.

Archiv. für Gynaekologie, Berlin

XCIX, No. 1, pp. 1-224. Last indexed February 8, p. 482

84 *Intracranial Hemorrhages in the Newly Born. (Zur Genese und Symptomatologie intrakranieller Blutungen beim Neugeborenen.) H. Abels.
85 Rupture of Amniotic Sac at Seventh Month of Pregnancy Continuing to Term. (Zur Lehre von der Hydrorrhoea uteri gravidi amnialis.) S. Gottschalk.
86 *The Blood-Changes in Eclampsia and Pregnancy Kidney and Their Importance for Treatment. (Blutveränderungen bei der Eklampsie und Schwangerschaftsniere im Gegensatz zur normalen Schwangerschaft und Massregeln die sich daraus für die Therapie ergeben.) A. Dienst.
87 Serodiagnosis of Pregnancy. (Zur biologischen Diagnose der Schwangerschaft.) M. Henkel.
88 Premature Puberty. (Vorzeitige Menstruation, Geschlechtsreife und Entwicklung.) J. Lenz.
89 Metabolism in Osteomalacia. (Stoffwechselversuche bei Osteomalacie.) L. Zuntz.
90 Toxicity of Hemorrhage After Tubal Abortion. (Giftigkeit und Gerinnungsverzögerung des intraperitonealen Blutergusses nach Tubenruptur.) H. Els.
91 Uterine Cancer After the Menopause. (Postklimacterisches Myosarkom des Uterus.) M. Ogorek.

84. **Intracranial Hemorrhage During Delivery.**—Abels reports two cases and comments on the resemblance of the symptoms to traumatic tetanus. Both infants had tonic convulsions, symmetrical and elicited by external influences, while there were no other appreciable symptoms of cerebral hemorrhage. The fontanels bulged a little and the fluid on lumbar puncture was blood-stained, but the most important differential feature was the way in which the spasm spread, and the absence of rigidity of the back of the neck and opisthotonos. The trismus was noticed almost immediately after birth, earlier than is the rule with tetanus, and it was intense. In the second infant, left abducent paralysis was a special feature of the clinical picture. Both infants refused to nurse and the nervous symptoms developed the second day.

86. **The Blood-Changes in Eclampsia.**—Dienst found on examination of the blood of forty-two women with eclampsia, six with pregnancy nephritis and thirty-five normal pregnant women, that the proportion of albumin in the blood-plasma was much below normal, the deficiency extreme in the pathologic cases. The serum globulin is lacking while the fibrinogen is found in excess. The result is a deficiency in antithrombin; this allows the blood to become overladen with thrombin, and the excess of thrombin in the blood he regards as the cause of eclampsia and pregnancy kidney. The emunctories become insufficient owing to disturbances in their circulation. This leads to the flooding of the organism with fibrin ferment and fibrinogen with consequent further damage. Prophylaxis and treatment should aim to regulate the circulation by relieving the cramp of the vessels induced by the excess of fibrin ferment. For this narcotics are needed, and this explains the benefit from Stroganoff's continuous sedative treatment of eclampsia. Venesection is also useful, relieving the stasis of blood by the sudden reduction of the blood-pressure and drawing off some of the disturbing elements in the blood. The placenta produces fibrin ferment and hence it is best to deliver the woman, without waiting too long, when it can be safely done. The longer we wait the more the kidneys are being

injured. The kidney changes in eclampsia are by no means so harmless as generally assumed. Acid drinks promote production of antithrombin and hence are useful in prophylaxis of eclampsia and pregnancy kidney and also of postoperative thrombosis, especially after hysterectomy for myoma. The uterus mucosa seems to produce antithrombin and its removal leaves the patient unprotected against thrombosis. This view is sustained by the old experience that myoma patients are peculiarly liable to embolism.

Beiträge zur klinischen Chirurgie, Tübingen

December, LXXXII, No. 2, pp. 291-474

92 *Cystic Disease of the Adrenals. (Zur Kenntnis und Operation der Struma suprarenalis cystica haemorrhagica.) H. Küttner.
93 *Severe Roentgen-Ray Burns. (Zur Klinik und Histologie schwerer Röntgenverbrennungen.) E. Pagenstecher.
94 Resection of the Liver. (Leberresektion.) H. Lindner.
95 *Bone Tumors of Thyroid Origin. (Knochentumoren thyreogener Natur.) K. Kolb.
96 *Thrombosis and Embolism After Appendicitis Operations. P. Bull.
97 Influence of Gastric Juices on Other Living Tissues. (Einfluss der Magensäfte auf lebende Organgewebe bei gesundem oder gestörtem Peritonealüberzug.) C. Licini.
98 Access to Spine Through the Peritoneum. (Erfahrungen über den transperitonealen Weg bei Operationen an der Wirbelsäule.) S. Jourdan.
99 The Thymus with Exophthalmic Goiter. (Zur Histologie des Basedowthymus.) R. Bayer.
100 Sarcoma of Tunica Vaginalis. (Sarkom der Scheidenhaut des Hodens und des Samenstranges.) R. Bayer.
101 Echinococcus Disease and Serodiagnosis. A. Welter and E. Sonntag.
102 *Medical Study Tour to America in 1912. H. Gebele.

92. **Cystic Adrenal Successfully Removed.**—Küttner reports a case of an extremely large blood-cyst filling the entire upper abdomen in a woman of 43 with seven children. Tests of kidney functioning revealed two ureters on each side and that all were functioning normally. The large tumor was back of the peritoneum and its removal was facilitated by tapping, releasing a quart of brownish fluid. The patient convalesced rapidly although the operation had been long and tedious on account of adhesion of the cystic adrenal to adjacent organs. He has found records of eleven similar cases in the literature, three of which were necropsy findings; the others were given operative treatment, with recovery of five of the patients.

93. **Roentgen-Ray Burns.**—Pagenstecher describes two cases and gives illustrations of one. The burn was on the abdomen and extremely painful, still 10x6 cm. in size, by the end of the fifth month. The burn was then excised down to the fascia, far into sound tissue, and the fascia freshened. The defect was covered with Thiersch flaps but healing was not complete until three months later. The pains ceased with the operation and he advises early extensive excision far into sound tissue.

95. **Bone Tumors of Thyroid Origin.**—Kalb remarks that all sarcoma-like tumors in the bones, especially in the skull, should suggest the possibility of metastasis of thyroid tissue. He recently encountered a case of the kind in an unmarried woman of 75 who had had a goiter removed seven years before. Three months ago she noticed a small tumor on the left side of her skull. As it grew in size it was assumed to be a sarcoma and was removed. It projected inward as far as outward and a patch of the dura had to be removed with it. The woman died the next day and histologic examination of the tumor revealed it to be of thyroid structure. Several small similar nodules were found in the lungs.

There had been no signs of pressure on the brain notwithstanding the deep depression in the brain substance caused by the protrusion inward of the tumor. An exploratory excision would have revealed the true nature of the tumor, and it should never be omitted in dubious cases. If it had been done in this case, an operation would not have been considered as the tumor was causing no disturbance. In the fifty-nine cases compiled by Regensburger in 1911, the site was in the skull in twenty-five; in the parietal bone in nine. There was a history of local trauma in nine cases. In one in this group a girl of 13 had a cystic tumor in the frontal bone removed; at 18 a goiter required operative treatment, and at 20 a tumor developed at the site of the operation in the frontal bone. It proved after its removal to be of thyroid structure. Cancer is spread by the lymph but this thyroid metastasis seems to occur by way of the blood. An accessible simple thyreogenic tumor should be removed as soon as possible when it can be conveniently done. If left unmolested the ultimate outcome is always fatal but the tumor grows so slowly that long survivals are possible. Thirteen patients lived a year or two, seven for two to four years and seven for from five to seventeen years. The thyroid is not invariably enlarged in these cases but it generally is. After the skull, the spine is most frequently the seat of the tumor and next the long bones.

96. **Thrombosis After Appendicectomy.** Bull found evidences of thrombosis in 11.7 per cent. of 188 private patients after appendicectomy, and pulmonary embolism developed in fifteen of these twenty-two patients, two of whom succumbed. His analysis of the facts observed seems to demonstrate that the thrombosis is the result of mechanical factors affecting veins that are below par from varicose changes. After the age of 20 very few people are entirely free from thickening of the walls or varicose changes in some of the veins in the legs or pelvis. These veins manage to get along without trouble under ordinary conditions, but the sudden and great changes in the circulation inevitable with a laparotomy upset the precarious balance, especially when there are superposed factors such as local pressure, infection, hemorrhages, injury from the anesthetic and absorption of devitalized scraps of tissue. Postoperative thrombosis develops at the same points where thrombosis occurs without an operation and without infection. The thrombi are formed primarily of platelets, which confirms again their mechanical origin. Thrombosis from phlebitis can be followed back to the field of operation, but thrombosis of mechanical origin may develop at remote points. Bull urges careful search for thrombosis at all necropsies soon after laparotomy.

102. **Medical Impressions of America.** Gebele compares the medical schools of America with those of Germany, saying that the students unquestionably have better opportunity here to perfect themselves in operative surgery, and the opportunities for experimental surgery are unsurpassed. He agrees with F. v. Müller that animal experimentation scientifically carried on is not brutalizing but rather deepens one's respect for the mystery of life. He regards it as a great defect in American hospitals that the medical chief of the hospital changes often, several physicians holding the office in turn. Gebele says that American surgeons can get better results than surgeons elsewhere as American patients consent more readily to an operation and thus the surgeon gets them at an earlier stage of the affection.

Berliner klinische Wochenschrift

February 10, L, No. 6, pp. 241-288

103 Surgery of the Heart. (Chirurgie des Herzens und des Herzbeutels.) L. Rehn.
104 Case of Narcolepsy. O. Klieneberger.
105 Isolated Traumatic Paralysis of Suprascapular Nerve. M. M. Behrend.
106 Paratyphoid Bacilli Not Producing Gas. W. Loewenthal and E. Seligmann.
107 Lepra Bacillus in Blood. (Leprabacillen im kreisenden Blute der Leprakranken und im Herzblute eines Leprafötus.) M. Rabinowitsch.
108 Toxic Action of Extracts of Normal Organs and Muscles. H. Aronson.
109 Biochemical Differential Diagnosis of Intoxication from Methyl Alcohol and Peptids. M. Segale.
110 Tuberculous Processes in Joints. (Gelenktuberkulose.) L. W. Ely (Denver).
111 Causes of Declining Birth-Rate. (Ursachen des Geburtenrückganges in Deutschland.) T. Pilf. (Erwiderung.) F. Goldstein.

Deutsche medizinische Wochenschrift, Berlin

February 6, XXXIX, No. 6, pp. 249-296

112 Causes and Treatment of Leukorrhea. (Ursachen und Behandlung des Ausflusses aus dem weiblichen Genitale.) S. Gottschalk.
113 Typical Fracture of the Bones in Face. (Typische Fraktur des Gesichtsschädels.) W. Körte.
114 *Prophylaxis and Early Treatment of Diphtheria. (Bedeutung und Durchführbarkeit von Prophylaxe und Frühbehandlung der Diphtherie.) W. Braun.
115 Cultivation of Germ of Tertian Malaria. H. Ziemann.

116 Trypanosomiasis with Symptoms of Sleeping Sickness. (Menschliche Trypanosomiasis mit Schlafkrankheitssymptomen aus Portugiesisch Ostafrika, verursacht durch Trypanosoma rhodesiense, und über Lumbalpunktatsbefunde, insbes. die Nonne-Apeltsche Phase I Reaktion, bei Schlafkrankheit.) H. Werner.
117 *Difficulties in Differential Diagnosis in Gynecology. A. Sippel.
118 Diagnosis of Bronchostenosis. O. Jacobson.
119 *Temperature of Children. (Normale Körpertemperatur der Kinder und ihr Verhalten bei Bewegung und Ruhe.) D. Fraenkel.
120 Technic for Roentgen Moving Pictures. F. M. Groedel.
121 High-Frequency Current in Therapeutics. E. F. Schurig.
122 The Support of the Foot. (Zur Frage der Stützpunkte des Fusses beim Gehen und Stehen.) F. Momburg.
123 Hypersusceptibility to Arsenic. (Beobachtungen über Arsenüberempfindlichkeit.) M. Kaufmann.

114. **Diphtheria.**—Braun emphasizes that the main point in the eradication of diphtheria lies in prophylaxis and early treatment, and that both can be effectually accomplished with comparatively slight additional expenditure. For this there should be a systematic organization of means to stamp out the disease and the entire profession should work together for this purpose.

117. **Differential Diagnosis in Gynecology.**—Sippel discusses the too facile diagnosis of hysteria to explain disturbances in the internal female genitals for which really there is some, possibly minute, organic cause. On of his patients had passed through the hands of eleven physicians and had been treated for assumed gastric ulcer, for gall-stones, neuralgia, etc., without relief and had been dismissed as a hysteric. The trouble was finally traced to an epigastric hernia in the linea alba which was readily corrected. Displacement of an ovary with venous congestion may cause disturbances ascribed to hysteria. On the other hand sound ovaries have been removed when the trouble was in the appendix or sigmoid flexure. The persistence of disturbances after the operation labels them as of hysteric origin unless the true cause is discovered. A frequently overlooked source of pain is posterior parametritis, a painful thickening and stretching of one or both sacro-uterine ligaments; this is only to be discovered by palpation, possibly only through the rectum. He has cured many of these alleged hysteries by systematic stretching of the ligaments with the colpeurynter. His experience warns expressly against diagnosing hysteria in case of pains in the female genital sphere. It is easy to distinguish between hysteric pain and pain due to an actual organic lesion by putting the patient under the influence of an anesthetic. If the pain is of hysteric origin, that is, originating in the psychic sphere, it must subside when the consciousness is shut off. In dubious cases, therefore, he induces general anesthesia until the consciousness is lost and the reflex excitability reduced. He then seeks to elicit reflex movements by acting on the painful points. If he can elicit reflex movements this shows that the trouble is a local one and not of psychogenic origin. He has found this measure of the greatest differential aid in dubious cases. Even when organic disease is recognized, it may be difficult to locate it. In one case a teratoma of the left ovary simulated gestation in the horn of the uterus. There were no circulatory disturbances in the tumor; it had the shape of a pregnant uterus and there was ossification deceptively simulating the back and head of a six-months fetus, even to a groove suggesting the sagittal suture. The diagnosis in this and in similar cases would have been facilitated if the pelvis had been raised and the examination done under general anesthesia. Raising the pelvis will be found a most valuable aid in differentiating gynecologic conditions.

119. **Temperature of Children.**—Fraenkel was surprised to find considerable fluctuations in the temperature of apparently healthy children. Exercise sent the temperature up while it declined to the normal during repose. These changes and temperature were independent of the outdoor temperature. In neuropathic children the fluctuations were greater. No difference between the behavior of the temperature was noticed between the children giving a positive or a negative reaction to tuberculin. The normal temperature during repose is seldom above 37.2 C. in the rectum. Of the 163 children examined 113 gave a positive reaction to tuberculin. The tests were made at the children's sanatorium at Borgdorf near Berlin.

Deutsche Zeitschrift für Chirurgie, Leipsic

January, CXX, Nos. 5-6, pp. 395-610

124 Pyelitis. (Zur Pathogenese und Klinik der Nierenbeckenentzündungen.) A. Lindemann.
125 Perforation of Gastric Ulcer. (Ueber das akut in die freie Bauchhöhle perforierende Magengeschwür.) A. Wagner.
126 Catgut. (Zur Katgutfrage.) P. Wolff.
127 Experimental Research on Ischemic Paralysis and Contracture. H. F. Kroh.
128 Alcohol in Surgical Sterilization. (Ueber die Alkoholdesinfektion.) Y. Ozaki.
129 Experimental Research on Surgery of Heart Valves. (Herzklappenchirurgie.) E. Schepelmann.
130 Technic for Suture of Vessels. (Neues Verfahren zur Gefässvereinigung.) S. Porta.
131 Development and Retrogression of Lymph-Nodes. (Kritische Bemerkungen zu den kritischen und experimentellen Untersuchungen über das Entstehen und Verschwinden von Lymphdrüsen.) C. Ritter.

Medizinische Klinik, Berlin

February 2, IX, No. 5, pp. 161-199

132 Non-Operative Treatment of Cancer. (Die nichtoperative Behandlung des Krebses nach den Grundsätzen des Heidelberger Samariterhauses.) R. Kafemann.
133 *Fatalities After Belt Constriction and Spinal Anesthesia. (Im Anschluss an die Momburgsche Blutleere und an Lumbalanästhesie aufgetretene Todesfälle.) C. Sternberg.
134 Technic for Examination of the Blood. (Praktische Winke zur Blutuntersuchung.) L. Zapf.
135 Decompressive Measures with Choked Disk. (Druckentlastende Eingriffe bei Stauungspapille.) R. Hessberg.
136 Atony and Ptosis of the Stomach. L. Disqué.
137 Appendicitis from Oxyuris. (Die Wurmfortsatzentzündung ex oxyure.) H. J. Rheindorf. Commenced in No. 4.
138 Structure of Retina in Mammals. (Die Stäbchen und Zapfen der Wirbeltiere.) V. Franz.

133. **Fatalities After Belt Constriction and Spinal Anesthesia.**—Sternberg gives the details of a case of obstetric hemorrhage arrested by Momburg's belt constriction. The woman died six days later and necropsy revealed fibrinous peritonitis, old purulent endometritis and extreme meteorism. It was evident that the peritonitis was the result of the stretching of the intestines by the meteorism, and he regards this as the direct consequence of injury of the intestine from the constriction. The part of the intestine compressed and thus rendered ischemic was injured to such an extent as to entail the meteorism in the anemic patient. In six other cases death followed suddenly during or soon after an operation under spinal anesthesia with tropaeocain or novocain; status lymphaticus was evident in two of the patients. Michelsson has compiled twenty-five fatalities after spinal anesthesia with tropaeocain and nine after novocain, and cites statistics ranging from Holmeier's 1:200 to Tomaschewski's 1:17,847, the average being 1:3,500. Sternberg's figures are 1:295 and 1:442 in 1,770 applications of spinal anesthesia at Brunn.

Münchener medizinische Wochenschrift

February 4, LX, No. 5, pp. 225-280

139 *Surgery of Common Bile-Duct. (Zur Chirurgie des Choledochus.) v. Hofmeister.
140 *Thyroidism and Tuberculosis. (Thyreose und Tuberkulose.) L. Saathoff.
141 *Simple Test for Urobilinogen. (Eine klinisch einfache Methode quantitativer Urobilinogenbestimmung.) Flatow and Brünell.
142 Improved Technic for Cultivating Anaerobes. (Vereinfachung der Anaerobenzüchtung nebst Angabe eines praktisch verwertbaren neuen Kulturverfahrens.) W. Lindemann.
143 Serodiagnosis of Syphilis. (Zur Wertschätzung der Brendel-Müllerschen Reaktion.) H. C. Plaut.
144 *Diphtheria Bacilli in the Urine. W. Beyer.
145 Indications for and Results of Tampon Drainage of Abdominal Cavity. H. Küster.
146 Sterilization of the Unfit. (Zur Frage der Sterilisierung aus rassehygienischen Gründen.) A. Hegar.
147 Lithotripsy or Lithotomy. Feiber and Marc.
148 Familial Fetal Chondrodystrophy. H. Chiari.
149 Radium Loaned to Practitioners. (Abgabe von Radiumpräparaten aus öffentlichen Stationen zur Behandlung privater Kranker.) E. Schiff.
150 *Syringe Rented Instead of Sold Outright. (Ein neuer Amerikanismus in der Medizin.) F. Crämer.
151 Hematology in Service of Neurology. Naegeli. Commenced in No. 4.

139. **Surgery of the Common Bile Duct.**—Hofmeister gives the details of five typical cases to illustrate the complex and dangerous consequences which are liable with an old gall-

stone affection. These cases were encountered during the last eight weeks and they suggested some new points in technic which he thinks are liable to prove of great service. In one case the liver showed signs of incipient degeneration from the inflammatory occlusion of the bile duct; in another the gall-bladder had been entirely destroyed by secondary suppuration and an encapsulated focus of bile was found under the liver and under the small pelvis. One patient, a woman of 67, was operated on for gall-stones in the common bile duct in 1898, 1900 and 1904. Then followed cicatricial stenosis of the papilla and the symptoms required further duodenotomy, drainage of the hepatic duct and also of the common bile duct into the duodenum. There was no jaundice for over eight years, notwithstanding the presence of stones in the bile duct. He thinks that the apparent recurrence of gall-stones in this case was due to overlooking some of the new-forming calculi. He was careful to dilate systematically the papilla, which was easily done with urethra bougies after transverse slitting of the duodenum to admit the bougie. The larger sizes brought out small concrements with them, and the duct was brushed out with a gauze wick. To avoid concrement formation around suture threads, he brings one long end of each thread out through the wound, inside a drainage tube. They are thus readily removed when the threads cut through, which usually occurs in ten or fourteen days. He drains the common bile duct with a rubber tube 7 or 8 mm. thick projecting for 3 or 4 cm. into the duodenum, the other end brought out through the wound in the skin. This holds the passage open as an elastic retention bougie, while it also relieves the intestine until normal bowel movements are restored. From 100 to 150 c.c. of digestive juices were voided through this tube in twenty-four hours. The tube also permits medication and feeding without burdening the stomach. He thus gave his patient coffee, tea, brandy, milk, eggs, castor oil, etc., and reinjected the digestive juices.

140. **Thyroid Poisoning and Tuberculosis.**—Saathoff applies the term thyreosis to the group of affections for which excessive or perverted functioning of the thyroid gland is responsible. Exophthalmic goiter is a subordinate syndrome in this great group. He has been investigating, in the patients at his sanatorium for internal and nervous diseases, the connection between this thyreosis and tuberculosis. His material is unusual as it included no advanced cases of tuberculosis. In forty-five cases of pronounced thyreosis including six with exophthalmic goiter, only one was free from tuberculosis and this one had long recovered from a severe form of Basedow. Only two in the whole group had tubercle bacilli. In his forty-four tuberculous patients, nearly all men, none had symptoms of thyroid poisoning. The tuberculous infection is probably the primary but the thyroid disturbances may set up a vicious circle. His experience indicates that uncomplicated exophthalmic goiter is not accompanied by fever. It further suggests that the blood-picture which has been regarded as characteristic for exophthalmic goiter is merely the expression of the tuberculosis in the first or second stages. He made a point of applying tests for tuberculosis in all the thyreosis cases, and giving treatment as for tuberculosis. The importance of this finding is evident, as when in doubt whether to ascribe the symptoms to thyroid poisoning, the discovery of even the smallest focus of active tuberculosis will confirm the diagnosis. More than this, he exclaims, "How many patients in this class have suffered from the erroneous assumption of neuroses, neurasthenia or hysteria under these conditions; they know they are not well and yet do not seem to have any actual disease." In regard to treatment he insists that the severe forms of exophthalmic goiter, whether they are complicated with tuberculosis or not, belong to the surgeon. When the vicious circle is broken at any one point conditions may begin to right themselves. A vigorous course of treatment for tuberculosis is indicated. If this can be improved, the exophthalmic goiter may subside spontaneously. Good air, abundant food and freedom from care with change of scene for a few months often do wonders for the body, nerves and mind. In all these cases of manifest thyreosis plus tuberculosis, the latter is generally in an early stage with favorable prognosis.

141. **Test for Urobilinogen.**—The test described is based on the staining properties of chromogen, that is, urobilinogen, when in contact with p-dimethylamidobenzaldehyd. Charnes' method is to determine the characteristic stripe in the spectrum, but Flatow has found that comparison with the hemoglobin color scale answers the purpose with sufficient accuracy. The fluid is poured in a colorimeter or wedge-shaped vessel. For the color scale he uses an alkaline solution of phenolphthalein, as he describes in detail.

144. **Diphtheria Bacilli in the Urine.**—Beyer states that he found diphtheria bacilli in the urine in every one of nineteen children examined when they had supposedly entirely recovered from diphtheria. The interval at date of writing was from four to eight weeks up to fourteen weeks and in six of the eight cases in which animals were inoculated with the bacilli they proved virulent. Strict hygiene would require the isolation of the children until the urine was sterile.

150. **Medical Appliance Rented Instead of Being Sold Outright.**—Crämer comments caustically on the methods of the physicians who are pushing their "Enterocleaner," Drs. Brosch and Aufschneider of Vienna. They call their method the "subaqual internal bath." It consists of a two-way catheter with which the intestines are flushed while the patient is in a full bath. The claim is made that the differences in pressure under water are peculiarly important for flushing the bowels. From twenty to thirty quarts of water can be used to rinse the intestines in this way, they say, without any special inconvenience to the patient. The apparatus is patented and it is not sold, but merely rented to physicians who not only have to pay the rent but also to pay an additional premium for each "enterocleaner bath" given. The physician pays 80 marks on receiving the apparatus and an additional 2.5 marks for each "enterocleaner bath." Crämer calls this system of procedure "the introducing of American commercial methods into medicine," and denounces it as a serious blow to medical ethics. All the physicians with whom he has spoken unite with him in condemning such a procedure and hoping that it will find no imitators in Germany.

St. Petersburger medizinische Zeitschrift

January 28, XXXVIII, No. 2, pp. 15-28

152 Diagnosis and Treatment of Chronic Diarrhea. A. Schmidt.
153 Chronic Gynecologic Disease. (Zur Therapie chronischer Frauenleiden.) A. Bonstedt.
154 Tracheal Cough. (Ueber Trachealhusten.) M. Buch.

Therapeutische Monatshefte, Berlin

February, XXVII, No. 2, pp. 97-176

155 *Scarlet Fever. (Therapie des Scharlachs.) E. Benjamin.
156 *Autovaccine Therapy of Furunculosis in Infants. L. Harrlehausen.
157 *Hygiene of Muscular Weakness in the Back. (Die Pflege des Muskelschwachen Rückens im Spiel- und Schulalter.) F. Göppert.
158 Bactericidal Action of Anion Treatment. (Ueber die biologische — bactericide — Wirkung der Anionenbehandlung.) P. Steffens.

155. **Scarlet Fever.**—Benjamin remarks that in desperate cases the disadvantages of serotherapy are outweighed by the glimmer of a hope from its aid. The antistreptococcus serum may be given in a single large dose and it is possible, he adds, that it might be supplemented by a dose of non-specific serum to enhance its action. In the acute stage of scarlet fever all our measures act only to sustain the defensive powers of the organism. The outcome depends mainly on the heart, and in applying hydrotherapy the heart must be carefully supervised. He says that the temperature should be taken morning and night for five weeks and the ears and urine examined for the same length of time. A diet poor in salt reduces the thirst and thus counteracts the tendency to edema, but no measures that he knows of will guarantee against nephritis. If symptoms indicate uremia, venesection may lead to prompt improvement especially when followed by saline infusion.

Benjamin had his attention called to the unusually mild character of scarlet fever when it occurred in children in the diphtheria ward who had been given an injection of diphtheria antitoxin. On these premises he began to inject antitoxin systematically as a prophylactic measure in children exposed to scarlet fever, and found that it almost invariably mitigated the disease, if it developed, into an abortive type. He usually injects ordinary horse-serum, inactivated at 56 C.; when this is not at hand he injects diphtheria antitoxin. The dose is between 5 and 7 c.c. Unfortunately the protection afforded lasts only from twelve to fourteen days, but it is a great relief, he says, to know that the children are thus protected during the two weeks after the first child has developed a severe form of scarlet fever. It has been his experience that the disease generally runs a similar course throughout the family, so that when the first one is mild this seroprophylaxis is not needed.

Another point he emphasizes is that patients may become infected anew during convalescence from other children in early stages in the same ward. It would be better therefore if the children could be kept apart from others in different stages of the disease. He tries to have the children kept in some neutral place for two or three weeks after the five or six weeks in the hospital. In the home, he keeps up the isolation for seven or eight weeks and then has the child kept for two or three weeks at some neutral point before returning to the family life.

156. **Autogenic Vaccine in Furunculosis in Infants.**—Harriehausen reports seven cases which illustrate the peculiar advantages of autovaccine therapy in rebellious cases of furunculosis in infants. He declares that the technic is extremely simple and takes very little time while the method is absolutely free from danger and there are no contra-indications. The charts of his cases show that no new furuncles developed after the second or third injection, while the preexisting furuncles all retrogressed simultaneously. The larger the single dose, the longer the interval should be; the first dose for adults should be about fifty million and for children about twenty million, and for infants ten million at five-day intervals, the dosage guided by the temperature, pulse, weight, appetite, general complaints and focal reactions. There are two contra-indications for adults, the menstrual period and severe diabetes. In the cases reported the infants were all much debilitated and the furunculosis had long resisted all other measures. The dosage and intervals and the underlying disease differed in the various cases but the excellent ultimate outcome was alike in all.

157. **Care of Weak Muscles in the Back.**—Göppert insists that the muscles of the back should be systematically strengthened without waiting for severe or irreparable lesions to develop. He teaches nurses and mothers to turn the infant on its stomach for a few moments in case of gastro-intestinal trouble in the first six months or later. By tickling the child it may be made to raise its head as it lies prone, and by this means it exercises the muscles in its back. This exercise often repeated, but only for a brief period each time, will be found very useful in warding off a tendency to weakness of the muscles in the back. The aim should be to have children exercise muscles other than those in the legs, and games, etc., should be promoted which realize this. The "flying dutchman," started by rowing movements, is excellent in this line, and swinging from rings. In case of severe deformity, orthopedic measures should be applied even to young infants.

Therapie der Gegenwart, Berlin

February, LIV, No. 2, pp. 49-96

159 *Diabetic Acidosis. (Diabetische Acidose und ihre Behandlung.) M. Lauritzen.
160 *Benzol in Treatment of Leukemia. (Benzolbehandlung der Leukämie.) W. Neumann. (Weitere Mitteilungen über die Behandlung der Blutkrankheiten mit Thorium X. Mit Bemerkungen über die Benzoltherapie.) G. Klemperer and H. Hirschfeld.

159. **Diabetic Acidosis.**—Lauritzen reviews his experiences in treatment of alimentary acid intoxication in diabetics, and reiterates that the patients can be kept in good condition for a longer time when they once thoroughly appreciate the necessity for keeping their food down to the ration which will keep their weight stationary. Any excess over this, especially excess of albumin, particularly meat albumin and casein, is directly injurious. The progressive tendency of the diabetes is best counteracted by this means. With mild diabetes he permits only 2 gm. albumin to the kilo of body weight with interposed periods of only 1.5 gm., or 1.5 albumin with periods of 1 gm. With very severe diabetes not more than 1 gm. albumin should be permitted per kilo of body weight, with interposed periods of only 0.5 gm. When the patients are on light work, thirty-five or forty calories per kilo are sufficient and forty-five to fifty calories on heavier work—always provided that the urine is free from sugar or contains but a few grams in the twenty-four hours. With larger amounts of sugar in the urine an allowance must be made for the loss of these calories in the sugar lost. Children must have more calories per kilo than adults. He advocates occasional vegetable days, one or two at a time, with possibly an oatmeal cure to follow, a few times during the year.

160. **Benzol Treatment of Leukemia.**—Neumann reports from Giessen a case which warns against building too high hopes on the benzol treatment of leukemia. He followed Koranyi's directions giving up to eight capsules a day, each 0.5 gm., commencing with one twice a day and increasing to two four times a day and then gradually reducing the dose. The course took thirty-six days and the leukemia was so much improved that the patient felt that she had been cured, but soon after the general health grew worse and worse, fever and diarrhea followed, with repeated epistaxis and a fibrinous and later hemorrhagic stomatitis and rhinitis, and the patient died thirty-nine days after the course of benzol. The spleen was unusually tough and the bone-marrow findings resembled the findings reported by Selling in benzol-poisoned rabbits. It seems evident that benzol is a very effectual remedy for leukemia but its use requires the greatest caution. It may be wise to drop it as soon as a distinct tendency to improvement becomes evident, without striving for a complete cure.

Klemperer and Hirschfeld regard benzol as a dangerous remedy as it caused serious injury in the animal research reported. It reduced the numbers of leukocytes but induced such severe necrosis of organs that its use in large doses in therapeutics seems dangerous. It seems wiser to try to stimulate the blood-producing apparatus with small doses. They applied the benzol in three cases of pernicious anemia in doses of 0.25 gm. twice a day. No benefit was derived in two cases in an advanced stage but in the third case there was an unmistakable curative action, but no more than is generally witnessed under arsenic. The patient was a housemaid of 23 and the abrupt onset of the anemia was paralleled by the rapid recovery.

Virchows Archiv, Berlin

January, CCXI, No. 1, pp. 1-160

161 Intoxication from the Pancreas. (Pankreasvergiftung.) L. Lattes.
162 Excrescences with Pericarditis. (Drüsenähnliche Epithelbildungen bei Perikarditis.) A. Tsiwidis.
163 Changes in the Iliac Artery in Syphilitics. A. K. Stein.
164 Lymphatic Foci in the Thyroid. (Lymphatische Herde in der Schilddruse.) M. Simmonds.
165 Cultivation of Tissues *in vitro*. R. A. Lambert and F. M. Hanes (New York).
166 Endotheliomas of the Lymph Passages. C. Vallardi.
167 Gliomatous Neuro-Epithelioma. B. Roman.
168 Subserous Adenomyomatosis of the Small Intestine. R. de J. de Jong.
169 Sarcomas in the Pleura. Bernard.

Wiener klinische Wochenschrift, Vienna

February 6, XXVI, No. 6, pp. 201-240

170 Radiotherapy of Cancer. (Ueber chemische Wirkungen von Röntgen- und Radiumbestrahlung in Bezug auf Karzinom.) E. Freund and G. Kaminer.
171 From the Seat of War. (Kriegschirurgische Erfahrungen aus Bulgarien.) A. Exner, H. Heyrovsky, O. v. Frisch and A. Fraenkel.
172 Research on Salvarsan. (Zur Frage der Parasitotropie und Toxizität des Salvarsans—Neosalvarsans.) K. Ullmann. Commenced in No. 5.

Zeitschrift für Geburtshülfe und Gynäkologie, Stuttgart

LXXII, No. 3, pp. 533-818. Last indexed February 15, p. 562

173 Ossification Centers in Fetal Pelvis. (Knochenkerne des fetalen menschlichen Beckens.) I. Obata.
174 *Eclampsia an Intoxication from Excess of Syncytium Nuclei in the Blood. (Das "Syncytiopräzipitin.") M. Kiutsi.
175 Children Abnormally Large at Birth. (Riesenkinder.) F. Ahlfeld.

176 *Causes and Management of Breech Presentation. (Steisslage.) P. C. T. v. d. Hoeven.
177 Importance of Pneumococci for Puerperal Infection. O. Bondy.
178 Sterilization of the Hands. K. Laubenheimer.
179 Cancer of the Vulva. (Erfahrungen über das Vulvakarzinom.) P. Rupprecht.
180 Anomalies in Development of Uterus. (Fehler in der Verschmelzung der Müllerschen Gänge.) F. Kermauner.
181 Transmission of Germs in Vagina to Child During Delivery. (Uebergang von mütterlichen Scheidenkeimen auf das Kind während der Geburt.) F. Noack.

174. **Eclampsia an Intoxication From Excess of Syncytium Nuclei in the Blood.**—Kintsi has extracted a precipitating substance from the epithelial cells forming the outermost fetal layer of the placenta, lying between the decidua and chorionic villi over the layer of Langhan. This syncytium has numerous nuclei and his research seems to show that these nuclei, cast off and passing into the circulation, act like a physiologic stimulant, inducing the production of antibodies and augmenting the secretions of the ductless glands. If, however, too many of these nuclei from the syncytium get into the blood, the excess causes serious damage, injuring organs and the blood and the vascular system. Eclampsia is the clinical manifestation of a sudden and extreme poisoning of the system by an excessive amount of syncytium nuclei getting into the blood at one time. Kintsi treated animals with syncytium and thus induced the production of an antiserum, which he calls syncytioprecipitin. Biologic tests with it confirmed the assumption that the syncytium is derived from the fetal ectoderm. His research confirms the physiologic and clinical importance of syncytiolysis and the grave danger when it surpasses normal limits.

176. **Breech Presentation.**—Hoeven analyzes the causes and mechanism of breech presentation and advises to wait until the breech presents at the vulva. As soon as this occurs, proceed at once to extract the child without further delay. Intervention before this entails an average mortality of 30 per cent. while waiting too long afterward has a mortality of 10 per cent., but acting on the above principles and delivering the child at once has a very low mortality. It was only 3.9 per cent. of the 126 children in his service and at Nancy none died of the fifty children delivered by this means. The aim is to let Nature do the work and not interfere until the moment of danger arrives, namely, when the breech is born. The child then begins to breathe and it requires immediate delivery. When the birth has proceeded spontaneously to this point the arms lie on the chest. He cites statistics to sustain the principles he advocates.

Zeitschrift für Kinderheilkunde, Berlin

January, V, No. 6, pp. 455-546

182 Case of Escherich's Pseudotetanus. O. Witzinger.
183 Research on the Pathogenesis of Digestive Disturbances. VII. (Ueber die flüchtigen Fettsäuren im Mageninhalt magendarmkranker und überfutterte Säuglinge.) K. Huldschinsky.
184 Malignant Granuloma with Recurring Fever; Pel-Ebstein Type. B. Schick.
185 *Salvarsan and Neosalvarsan in Inherited Syphilis. E. Dünzelmann.

185. **Treatment of Congenital Syphilis with Salvarsan and Neosalvarsan.**—Dünzelmann treated forty children with congenital syphilis, at the Leipsic children's hospital, for periods varying from ten days to sixteen months. The results observed from salvarsan and neosalvarsan intravenously were about the same. He thinks it a valuable treatment but further investigation is necessary in regard to dosage and methods of giving. A mixed salvarsan and mercury treatment is probably best. In poorly nourished children mercury should be given first, followed by salvarsan. Two pregnant mothers were treated with salvarsan and the infants showed negative Wassermann reaction but had some signs of latent syphilis.

Zeitschrift für Urologie, Berlin

January, VII, No. 1, pp. 1-80

186 *Hairs Apparently Growing in the Bladder. (Pseudotrichiasis der Blase und Pilimiktion.) J. Heller.
187 Congenital Stenosis of Posterior Portion of the Urethra. (Angeborene Stenosen der Pars posterior der Harnröhre.) E. Heinecke
188 Cancer of the Urethra. (Primäres Urethralkarzinom der Fossa navicularis.) B. Ottow.

186. **Hairs Growing in the Bladder.**—The hairs in the cases described evidently belonged to a dermoid cyst, and radical removal is the preferable treatment as the hairs are liable to grow again if they are merely pulled out. In twenty-seven cases on record hairs were voided in the urine and in sixteen the hairs were found growing in the bladder or were found in concrements. Heller has compiled a total of fifty-six cases but regards six as dubious; in eleven cases a dermoid cyst perforating into the bladder was the source of the hairs. In a personal case described a man of 41 had a history of gonorrhea in youth. In 1904 he had severe but transient cystitis and nephritis with inflammation of the testicles and another attack in 1908. In 1912 there was sudden hematuria and a calculus was found and removed. It contained hairs, and two new concrements developed in four weeks on the tuft of hairs seen in the bladder. The trouble was evidently infection and perforation into the bladder of a dermoid cyst. The cases on record are tabulated for comparison.

Zentralblatt für Chirurgie, Leipsic

February 8, XL, No. 6, pp. 193-224

189 Congenital Atresia of the Intestine. (Neuer Beitrag zur Pathogenese der angeborenen Darmatresien.) H. Forssner.

Zentralblatt für Gynäkologie, Leipsic

February 8, XXXVII, No. 6, pp. 193-224

190 Estimation of Duration of Pregnancy from Histologic Findings in the Placenta. (Bestimmung der Schwangerschaftsdauer auf Grund histologischer Placentarbefunde und etwaige praktische Verwertbarkeit dieser Befunde.) J. Schottlaender.
191 Intradural Injection of Magnesium Sulphate in Treatment of Eclampsia. P. Rissmann.
192 Kidney Functioning Before the Phenolsulphonephthalein Test. E. Eichmann.
193 Treatment of Eclampsia. R. Lutz.

Policlinico, Rome

January, XX, Surgical Section No. 1, pp. 1-48

194 Bone Grafts. (Contributo sperimentale allo studio dell'intibulazione.) L. G. Gazzotti.
195 Pathogenesis of Valgus Flat-Foot. (Patogenesi del piede piatto-valgo.) C. Ghillini.
196 Process of Repair in Arteries. (Ulteriori ricerche sul processo di guarigione delle ferite delle arterie e sulla riproduzione sperimentale degli aneurismi traumatici.) A. Pignatti.

Brazil Medico, Rio de Janeiro

January 15, XXVII, No. 3, pp. 21-30

197 *Symptoms of Tuberculous Mediastinal Lymph-Nodes in Children. (A tuberculose ganglionar mediastinica na infancia.) J. M. Gesteira. Commenced in No. 2.

January 22, No. 4, pp. 31-40

198 Linguatula Serrata Found in Human Intestine in Brazil. (Nota sobre a presença da larva de L. serrata Froelich, 1789, no intestino do homem, no Brazil.) G. de Faria and L. Travvassos.

197. **Tuberculous Mediastinal Lymph-Nodes in Children.**—Among the signs which Gesteira finds instructive is a slight bulging of the chest wall over the enlarged lymph-node, inspiratory effort, gorged branching veins. This latter sign, congested branching veins in the region, was present in nearly every instance in his experience, testifying to the local interference with the circulation. The side affected participates less in the excursions of the chest wall, so that the palpating hand feels a sensation as of a wave as the heaving of the chest wall lags behind on this side. Percussion gives the most instructive findings, done extremely lightly, as is always best for children. The dulness is generally found over the articulation of the clavicle with the sternum and it grows less as the percussion is carried outward, thus differing from the findings with apical disease in which the dulness grows more marked toward the outer end of the clavicle. The findings must not be confused with those of an enlarged thymus; with the latter the dulness is greatest at the upper end of the manubrium, and the triangular shape of the dulness area is also characteristic. He noticed in one case a cracked-pot sound very distinct over one side of the chest but on the side of the enlarged lymph nodes it was scarcely perceptible. The normal respiration sounds

are exaggerated, with enlargement of the lymph-nodes in this region, and expiration is prolonged. Less common but characteristic is the unilateral reduction of the vesicular murmur, especially when associated with other signs of compression of a bronchus. Examination is facilitated by the child's bending its head forward when the back is being percussed or auscultated and backward when the front of the chest is being examined. He never encountered the sign to which Rilliet called attention, namely, a rhonchus at the point corresponding to the bifurcation of the trachea. A venous murmur above the manubrium when the head is held far back is said to be useful in diagnosis of bronchial adenitis, but he never found it in his cases. Of far greater differential importance is D'Espine's sign; this is the difference in the level at which the whispered voice is propagated to the spinous processes. Normally this is the seventh cervical vertebra, diminishing in intensity downward. When there are swollen lymph-nodes, the sound is heard to the processes of the third or fourth dorsal vertebra. He found this sign always positive when other signs indicated the adenopathy, and invariably negative in children free from intrathoracic lymphadenitis. (This sign was described in The Journal, March 9, 1907, p. 909.) Gesteira says that this technic is in constant use in Brazil and is regarded as the earliest, the most reliable and the most easily applied of all means for revealing the presence of tuberculous processes in the tracheobronchial lymph-nodes.

Semana Medica, Buenos Aires

January 16, XX, No. 3, pp. 125-188

199 Congenital Malformation of the Heart. (Enfermedad de Roger.) P. J. Garcia.
200 *Psychology of Moving-Picture Exhibitions. (Los accidentes debidos al cinematografo.) V. Delfino.
201 Mineral Waters; Natural and Artificial. (Los recientes progresos de la hidrologia cientifica.) V. Delfino.

200. **Psychology of Moving Picture Exhibitions.**—Delfino has known a number of instances of fatigue of the eyes going on to actual conjunctivitis in a number of persons after moving picture entertainments, but these troubles always have passed away under simple rest of the eyes. The fatigue of the retina is caused by the flickering from the closing and opening of the shutter. The more rapidly this is done the steadier the moving picture, and the less strain on the eyes. The location of the spectator in respect to the picture is also important from this point of view. He also cites some cases of nervous disturbances following entertainments of this kind, alcoholics and neurasthenics being liable to have hallucinations develop afterward. Another feature of these moving pictures is the way in which illusions may be generated. Professor Ponzo of Turin states that he actually felt the smell of new-mown hay in his nostrils at the sight of a hay wagon in the pictures, and smelt the ocean air when looking at a ship making its way in midocean. He also felt a brief sensation of dampness and chill when watching the pictures of a tropical rain. He and his pupils made a number of studies in this line of the association between the sense of vision and the generation of illusions. For this moving picture entertainments offer a special opportunity.

Hospitalstidende, Copenhagen

February 5, LVI, No. 6, pp. 129-152

202 Salvarsan Plus Mercury in Treatment of Syphilis. (Behandling af Syfilis med Salvarsan i Forbindelse med Kviksølv.) H. Boas.
203 Porter's Method of Correcting Faulty Position of Fetal Head. L. Slamberg.

Nordiskt Medicinskt Arkiv, Stockholm

XLV, Medical Section 2. Last indexed Oct. 26, 1912, p. 1586

204 Behavior of the Hydrochloric Acid in the Gastric Juice During Kidney Disease. (Zum Studium des Verhaltens der Salzsäure im Magensaft bei Nierenentzündungen.) C. Sebardt. Commenced in No. 1.
205 Melanosis of the Mucosa of the Large Intestine. (Melanose der Dickdarmschleimhaut.) F. Henschen.
206 *Prevalence of Diabetes Mellitus in Scandinavian Countries. (Zur Kenntnis von der Ausbreitung der Zuckerkrankheit und deren Häufigkeit in den nordischen Ländern.) K. A. Heiberg.
207 Athletics and Dilatation of the Heart. (Sport und Herzdilatation.) S. E. Henschen.

206. **Diabetes in Scandinavian Countries.**—Heiberg's statistics confirm the constant increase in the prevalence of diabetes in the last decades.

Norsk Magazin for Lægevidenskaben, Christiania

February, LXXIV, No. 2, pp. 153-288

208 Ophthalmologic Notes. (Dioptriernes anvendelighet ved enkelte og sammensatte optiske systemer.) (Brytningskoefficienterne for øiets medier.) H. Schiøtz.
209 Mortality from Tuberculosis in the Insane Asylums and Prisons of Norway. (Tuberkulosedødeligheten i Norges lukkede anstalter.) M. Søegaard.
210 *Aspiration of Milk in Nursing. (En merkelig dødsaarsak hos et spædbarn.) J. Hjort.
211 *Danger from Explosion Gases in Mining. (Forgiftningsfarer ved minering under grubedrift.) T. Sommerfeldt.
212 *Extra-Pyramidal Paralysis. (Ekstrapyramidale motoriske affektioner.) G. H. M. Krohn.

210. **Aspiration of Mother's Milk.**—The child was a young healthy babe and by the end of two hours after suckling there was considerable cyanosis which gradually increased while the respiration seemed difficult. Under artificial respiration and stimulants the condition improved and the child slept apparently normally, the cyanosis less intense, but the condition became aggravated again during the night sleep and death followed a few hours later. Necropsy revealed the presence of milk in the lower air passages.

211. **Injury From Explosion Gases in Mines.**—Sommerfeldt refers to the injury from the breathing of gases generated by an explosion of blasting powder in a confined space. He has had a number of cases of this kind, including a mild case in his own person. He describes fifteen cases in detail and emphasizes the necessity for providing for ample ventilation after an explosion. The main reliance in treatment is on artificial respiration and symptomatic measures. The pulse becomes extremely rapid and unstable, indicating that the heart and circulation have been seriously affected, which suggests the importance of heart tonics and stimulants. The great danger from the toxic action of the gases is a sudden total loss of consciousness, liable to come on without warning and the fall may have fatal results. The condition then is very much like that of general anesthesia under ether or chloroform. The miners say they are "drunk." In one case the miner's arm was run through a support and when he dropped unconscious he hung from this support. Obstinate catarrhal affections may be left afterward in the throat and bronchi. This is evidently a sulphuric-acid poisoning. In one case the irritation from this cause would have induced fatal suffocation if an air pump had not been at hand. In his own person his pulse was 120 and as he got into bed it ran up to 160. He analyzes the symptoms and course in detail, remarking that the condition for a few days afterward is like that after a debauch.

212. **Extra-Pyramidal Motor Affections.**—Krohn discusses the motor affections from organic lesions in the central nervous system outside of the pyramidal tract. The clinical pictures may include apraxia, cerebellar disturbances, loss of equilibrium from lesions in the vestibule, and rigidity and tremor from lesions of the central ganglia or the rubrospinal tract. This latter group includes Wilson's progressive lenticular degeneration with its tremor, rigidity, dysphagia and dysarthria and the unstable psychic status. All the syndromes can be classified in three groups: peripheral, pyramidal and extrapyramidal affections, and he reports in detail two cases of the latter with necropsy and describes the mechanism involved. Paralysis agitans is a typical example, he says, of an extrapyramidal affection.

Ugeskrift for Læger, Copenhagen

January 30, LXXV, No. 5, pp. 181-228

213 Albumin in Sputum of Not Much Early Diagnostic Value. (Om Albuminstofbestemmelse i Ekspectorat.) E. Hempel-Jørgensen.

February 6, No. 6, pp. 229-290

214 Further Experiences with Absorbed Light Rays in Treatment of Internal Tuberculosis. (Behandling af intern Tuberkulose med absorberet Lysenergi.) T. Brinch.
215 Scabies. (Fnatkur ad modum Lundager.) Fiedler.

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STERILIZATION, BOILING AND PASTEURIZATION OF MILK

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The term, "sterilization," should never be applied to the processes used in the preparation of milk for the feeding of infants, because the milk is never rendered bacteriologically sterile by them. The term, "pasteurization," as it is ordinarily used, is indefinite and misleading. It should always be stated at what temperature the milk is heated and how long it is kept at this temperature; otherwise, it means nothing.

THE CHANGES PRODUCED IN MILK BY HEAT

Appearance, Taste and Smell.—A well-marked scum, or pellicle, develops on the surface of boiled milk. This may begin to develop at as low a temperature as 122 F. (50 C.) (Pfaundler and Schlossmann).[1] This is due to the disassociation of the casein compounds as the result of drying. Its composition is:

Fatty matter	45.42 per cent.
Casein and albuminoid	50.86 per cent.
Ash	3.72 per cent. (Rosenau).[2]

Changes in the taste and smell may develop at as low a temperature as 158 F. (70 C.) (Sommerfeld),[3] but are usually not marked unless the milk is brought nearly to the boiling point. Prolonged boiling changes the color toward brown, the amount of change depending on the duration of the boiling. The change in color is due to the caramelization of the sugar. Heating at 150 F. (65 C.), or over, for half an hour, materially delays or entirely prevents the rising of cream. This is because the normal agglutination of the fat droplets is broken down and they are more homogeneously distributed throughout the fluid (Rosenau).[2]

Composition.—When milk is boiled there is a partial fixation of the calcium salts, which are probably precipitated in the form of tricalcium phosphate (Kastle and Roberts).[4] There is also a precipitation of the magnesium salts (Rosenau).[2] There is a diminution in the amount of organic and an increase in that of inorganic phosphorus (Rosenau). About one-third of the citric acid is precipitated in the form of tricalcium citrate (Pfaundler and Schlossmann).[1] About 90 per cent. of the carbon dioxid and 50 per cent. of the oxygen and nitrogen are also driven off (Pfaundler and Schlossmann). There is also a certain amount of decomposition of the compounds of casein into casein and its base. The casein is rendered less easy of coagulation by rennin and is more slowly and imperfectly acted on by pepsin and pancreatin (Rosenau). It is difficult to understand why this is so, because the precipitation of the soluble albumins, which act as protective colloids (Alexander and Bullowa),[5] by boiling, should make the coagulation of the casein easier. The curd produced by the action of acids (Pfaundler and Schlossmann) and rennin (Rosenau) is, moreover, softer and more flocculent than that in raw milk. The soluble albumins are entirely precipitated (Sommerfeld).[3]

There are no available data as to the temperature at which the changes which take place in boiled milk first appear, except in the case of the soluble albumins. Sommerfeld quotes Steward to the effect that heating at 149 F. (65 C.) for thirty minutes diminishes them, and that thirty minutes at 176 F. (80 C.) completely destroys them. Schlossmann[6] found a slight diminution in the solubility of the albumins at 158 F. (69 C.) and Solomin[7] states that there is an "apparent" beginning of clotting of milk albumin by heating at 140 F. (60 C.) for fifteen minutes, but he is not sure whether or not it is really the lactalbumin which is involved. It is not far wrong to conclude, therefore, with Hippius,[8] that the heating of milk at 149 F. (65 C.) for thirty minutes causes no noteworthy changes in the chemical composition of the milk.

Ferments.—According to Hippius,[8] the proteolytic ferment of cow's milk is unchanged by heating for one hour at 140 F. (60 C.) or for one-half hour at 149 F. (65 C.), but is destroyed by boiling, while the oxidizing ferment is unchanged by heating, even for several hours, at from 140 F. (60 C.) to 149 F. (65 C.), but is destroyed by one hour at 169 F. (76 C.). Kastle and Porch[9] have shown, moreover, that the peroxidases are somewhat increased by heating at 140 F. (60 C.).

Bactericidal Action.—The bactericidal power of milk is still considerable after continued exposure to temperatures of from 140 F. (60 C.) to 149 F. (65 C.), but is destroyed by boiling (Hippius). The alexins are affected in the same way (Von Behring).[10]

Precipitin Reaction.—The heating of milk, even for one hour at 248 F. (120 C.) in the autoclave, does not diminish the precipitin reaction (Hippius).

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1. Pfaundler and Schlossmann: The Diseases of Children, 1908, i, 303.
2. Rosenau: Bulletin 56, Hyg. Lab., Pub. Health Service, 1909; Circular 153, U. S. Dept. Agric., Bureau of Animal Industry, 1910.
3. Sommerfeld: Handbuch der Milchkunde, J. F. Bergman, Wiesbaden, 1909.
4. Kastle and Roberts: Bulletin 56, Hyg. Lab., Pub. Health Service, 1909
5. Alexander and Bullowa: Arch. Pediat., 1910, xxvii, 18.
6. Schlossmann: Ztschr. f. physiol. Chem., 1896-7, xxii, 197.
7. Solomin: Arch. f. Hyg., 1897, xxviii, 43.
8. Hippius: Jahrb. f. Kinderheilk., 1905, lxi, 365.
9. Kastle and Porch: Jour. Biol. Chem., 1908, lv, 301.
10. Von Behring: Therap. d. Gegenw., 1904, N. F., vi, 1.

Bacteria and Their Products.—It has been proved by many investigators that the typhoid bacillus, the diphtheria bacillus, the dysentery bacillus and the cholera vibrio, as well as the other pathogenic non-spore-bearing organisms most often found in milk, are destroyed in milk by heating at 140 F. (60 C.) for twenty minutes (Rosenau) and at higher temperatures for shorter lengths of time. Butyric acid bacteria are destroyed at from 212 F. to 216 F. (100 C. to 102.2 C.) for from one to two minutes (Sommerfeld). The spores of the peptonizing bacteria are much more resistant, however, some of them withstanding boiling for one hour (Sommerfeld).

Since the investigations of Flügge,[11] in 1894, who found spore-bearing peptonizing bacteria developing in milk heated at 158 F. (70 C.) for thirty minutes and forming highly toxic substances therein, it has been very generally believed that the destruction of the lactic acid bacteria by pasteurization resulted in the unhindered growth of undesirable, proteolytic bacteria, which produced toxins and other poisonous products, and that pasteurized milk putrefied rather than soured. It has also been supposed that bacteria multiply more rapidly in pasteurized than in raw milk. Ayers and Johnson[12] recently found, however, that many acid-forming bacteria are not destroyed below 168 F. (75.6 C.) and that, in consequence, pasteurized milk turns sour in the same way as raw milk, although the process is somewhat delayed. They found that there were fewer peptonizing bacteria in pasteurized than in raw milk and that they did not multiply rapidly. The numerical relations of the acid-forming bacteria, the peptonizing (putrefactive) bacteria and the inert bacteria were practically the same as in clean, raw milk, and the acid development in an efficiently pasteurized milk was about the same as in clean, raw milk. They also found that the rate of multiplication of bacteria depended on the number of bacteria present in the milk. The rapidity of multiplication was the same in pasteurized as in raw milk containing the same number of bacteria and more rapid in both than in dirty milk.

It is generally believed that the heating of milk, even to boiling, has no effect on the toxic products of bacterial growth which it may contain. This belief is in part justified and in part unwarranted. The true bacterial toxins are thermolabile, many of them being rendered inert at 140 F. (60 C.). Bacterial endotoxins may be very resistant, however, that of the *B. coli communis* being, for example, unaffected by fifteen minutes at 272 F. (134 C.). There is no doubt that the spore-bearing organisms can set up putrefactive and proteolytic changes in milk and produce poisons as the result. The nature of these poisons is not known. Their connection with "milk poisoning" has been inferred, not demonstrated. Moreover, as far as is known, the true bacterial toxins play but little, if any, rôle in milk poisoning (Rosenau).

THE EFFECTS OF THE HEATING OF MILK ON ITS DIGESTIBILITY AND ON ITS VALUE AS A FOOD FOR INFANTS

Experiments in Artificial Digestion.—The evidence derived from artificial digestion experiments as to the comparative digestibility of boiled or sterilized and raw milk is inconclusive: there is little or none as to that of pasteurized and raw milk. The casein is rendered less easy of coagulation by rennin, but the curd produced by the action of acids (Pfaundler and Schlossmann) and rennin (Rosenau) is softer and more flocculent than that in raw milk. De Jager[13] concluded that raw milk was the more easily digested, while Fleischmann[14] decided that sterilized milk was more easily acted on by the digestive ferments than raw milk. Jemma[15] and Michael[16] found that sterilization did not impair the digestibility of milk.

Animal Experiments.—Almost all experiments agree in showing that all animals do better when fed on the raw than on the cooked milk of their own species. Von Brünning[17] has collected reports of experiments on feeding animals with the raw and cooked milk of another animal. The results were the same in all, namely, that, when fed on the milk of another animal, the young animals did better when the milk was cooked than when it was raw. Raudnitz[18] fed dogs on raw and on sterilized milk and found that the fat and nitrogen were better utilized with the raw than with the sterilized milk.

Experiments on Babies.—Finkelstein[19] fed six babies with raw and with cooked human milk. He gives no data as to these experiments, but states that the babies did not do nearly so well on the cooked milk. He also quotes Moro as having shown that the results with cooked human milk are not so good as those with raw human milk. It is evident, therefore, that babies react to the heating of the milk of their own species in the same way as other young animals.

Very few metabolism experiments have been done in babies as to the relative utilization of raw and cooked cow's milk and these are incomplete and fragmentary. They show, however, little difference in the results with the two foods. Müller and Cronheim[20] found that the calcium was less well utilized when the milk was cooked, but Finkelstein says that their methods are open to criticism. Krasnogorsky,[21] on the other hand, states that the iron is better utilized from cooked than from raw milk.

It has been generally believed in this country until very recently that babies fed continuously on cooked milk do not thrive so well as those fed on raw milk and that the cooking of milk predisposes to the development of the diseases of nutrition, while physicians in Europe have believed that babies thrive as well, or perhaps better, on cooked than on raw milk. There is, however, relatively little evidence on either side. Finkelstein[19] studied sixty well and fifty-three sick babies and concluded that there was no evident difference in the results with raw and with cooked milk and that neither the gain of the healthy nor the healing of the sick was visibly aided by raw milk. He quotes Czerny as having obtained the same results and states on the authority of an oral communication that the experiment of feeding raw and cooked milk to large series of babies had been tried for three years at the Waisenhaus in Stockholm and that no difference in the results from the two methods had been noted. Variot[22] states that during the twelve years ending in 1904 more than 3,000 infants were fed at the dispensary of the *goutte de lait* of Belleville with milk heated at 226 F. (108 C.) and that rachitis did not develop in any, but that anemia was not uncommon. Scurvy is not mentioned. Carel[23] states that of 210 infants belonging to the laboring class of Paris fed on raw milk, 31.8 per cent. developed rickets, while of 373 infants of the same class fed on cooked milk only 15 per cent. developed rickets and none scurvy. Sill[24] of New York reports, on the other hand, that he found signs of rickets or scurvy in 97 per cent. of 179 consecutive cases of infants fed on pasteurized or sterilized milk. The statistics of the French observers are open to considerable doubt, however, because, unless the French infants of the hospital class are very different from the American, 80 per cent. of them show signs of rickets, no matter on what they are fed, while scurvy was not sufficiently well known in France at that time to be recognized unless of a most extreme type.

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[11] Flügge: Ztschr. f. Hyg., 1894, xvii, 272.

[12] Ayers and Johnson: Bulletin 126, U. S. Dept. Agric., Bureau of Animal Industry.

[13] De Jager: Centralbl. f. d. med. Wissensch., 1896, xxxiv, 145.

[14] Fleischmann: Quoted by Doane and Price, Bulletin 77 of the Maryland Agricultural Experiment Station, 1901.

[15] Jemma: Dietet. and Hyg. Gaz., 1900, xvi, 83.

[16] Michael: Hyg. Rundschau, 1899, ix, 200.

[17] Von Brünning: Quoted by Finkelstein. See Footnote 19.

[18] Raudnitz: Ztschr. f. physiol Chem., 1890, xiv, 1.

[19] Finkelstein: Therap. Monatsh., 1907, xxi, 508.

[20] Müller and Cronheim: Therap. Monatsh., 1903, xvii, 340.

[21] Krasnogorsky: Jahrb. f. Kinderheilk., 1906, lxiv, 651.

[22] Variot: Compt. rend. Acad. d. sc., 1904, cxxxix, 1002.

It is very difficult to determine what influence the heating of milk, at whatever temperature, has on the development of rickets, because the exact etiology of rickets is at present so obscure. It is probable that heredity, improper hygienic surroundings and improper food all play a part in its production. It is extremely difficult to know in an individual case which is the most important element and almost impossible to determine it in large series of cases. Our present statistics as to the relative frequency of rachitis in those fed on heated and those fed on raw milk are not accurate enough to form the basis of any definite conclusions on this point, because they do not give any accurate data as to the other possible etiologic conditions.

The evidence to prove that the heating of milk produces scurvy is stronger than in the case of rickets, but not at all conclusive, this evidence being the fact that all large series of cases of scurvy show that a considerable proportion of the patients were fed on heated milk, more of them, however, on sterilized, boiled or scalded, than on pasteurized milk. It is impossible to prove, however, that it was the heating of the milk and not the composition of the food which caused the scurvy in these babies. It is evident that when an individual baby is fed on a heated, modified milk it is impossible to know, if scurvy develops, whether it is due in the special case to the heating or to the composition of the milk. It can be only a matter of opinion. A decision can be reached only by the analysis of large series of cases. It may even then be difficult, as is shown by the fact that the series collected by the American Pediatric Society, the largest single series on record, is quoted both for and against the etiologic influence of the heating of milk in the production of scurvy. Further evidence against the heating of milk causing scurvy is that scurvy sometimes develops in the breast-fed and in babies fed on raw milk. Still further evidence are Plantenza's[25] observations that, although scurvy developed more frequently in babies fed on heated milk which was not used at once than on raw milk, it did not develop when fresh milk was heated and used at once.

It has been asserted that the cooking of milk "devitalizes" it and thus renders it a less suitable food for infants. It is presumable that what is meant by "devitalization" is the destruction of the ferments. The point at which this occurs has already been given, showing that they are not injured at temperatures below 150 F. (65 C.). There is no proof, however, that the ferments of milk play any part in the digestion and utilization of the milk, the only apparent foundation for the belief that they do being a statement of Marfan[26] in 1901 that "it is probable that the milk ferments act as stimulators and regulators of nutrition, and that they are identical in function with the ferments elaborated by the various tissues and are intended to compensate for the deficiency of the internal secretions of the newborn." This statement is founded entirely on analogies and hypotheses and not on experiments or facts.

Cooking of Milk Advised as a Routine Measure.—The boiling and proper pasteurization of milk destroys the ordinary non-spore-bearing pathogenic microorganisms. The bacterial growth in pasteurized milk is the same as in clean, raw milk. The evidence at present available is insufficient to show whether cooked milk is more or less digestible than raw milk, whether babies thrive on it as well as on raw milk and whether or not it predisposes to the development of the diseases of nutrition. Granting that the cooking of milk does make it somewhat less digestible and that its continued use does predispose to the development of the diseases of nutrition, it is evident, nevertheless, that the disturbances which it causes are slight and insignificant in comparison with the diseases caused by milk contaminated with bacteria. All milk, except the cleanest, should, therefore, be cooked before being used as a food for infants.

Pasteurization.—The higher the temperature at which milk is heated, the greater are the changes in its composition. While it is somewhat problematical how much influence these changes have on the development and well-being of the infant, it is the part of wisdom to avoid them as far as is consistent with the attainment of the object of cooking milk, that is, the destruction of pathogenic microorganisms. Pasteurization is therefore preferable to boiling. The temperature of the pasteurization should be, moreover, as low as is possible. Pasteurization at 140 F. (60 C.) for twenty minutes is efficient; lower temperatures are not. This temperature and time are, therefore, the ideal ones. At this temperature there is no change in the taste, odor or color of the milk, no noteworthy changes in the chemical composition are produced, the ferments and bactericidal action are unaffected and bacterial toxins and non-spore-bearing microorganisms are destroyed.

There are three methods of commercial pasteurization in common use: the flash method, the holding method and pasteurization in the bottle. The flash method consists in momentarily heating the milk to a temperature of approximately 170 F. (76.7 C.) by allowing it to flow in a film over heated metal pipes or coils and then at once chilling it. The holding method consists in heating the milk to between 140 F. (60 C.) and 155 F. (68 C.) and then placing the milk in a receptacle where it is held at approximately this temperature for from twenty minutes to an hour. The flash method has been repeatedly shown to be unreliable and should not be employed. The holding method is not so satisfactory as would at first appear, because, while the destruction of the bacteria in a small quantity of milk by heating it at 140 F. (60 C.) for twenty minutes is simple enough, it is very difficult to heat a large volume of milk to a definite temperature and hold it at that temperature for a given period of time. Schorer and Rosenau[27] have shown that under ordinary commercial conditions the temperatures expected were not attained. In their four experiments, two planned for 140 F. (60 C.) and two for 145 F. (62.7 C.), from 99.1 per cent. to 99.9 per cent. of the bacteria were, nevertheless, destroyed. A certain number of pathogenic microorganisms, however, survived. They conclude, therefore, that in order to be safe, pasteurization under commercial conditions should be at 145 F. (62.7 C.) for from thirty to forty-five minutes. Schorer[28] further concludes that the safest method for pasteurization is in the sealed bottle, allowing at least thirty minutes for heating to the temperature of pasteurization and then pasteurizing at 145 F. (62.7 C.) for thirty minutes. He also wisely advises that all commercial pasteurization shall be carried out under official supervision.

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[23] Carel: Le lait stérilisé, Thèse de Paris, 1902-3.
[24] Sill: Med. Rec., New York, 1902, lxii, 1016.
[25] Plantenza: Arch. f. Kinderheilk., 1912, lviii, 155.
[26] Marfan: Presse Méd., 1901, ix, 13.
[27] Schorer and Rosenau: Jour. Med. Res., 1912, xxvi, 127.

It must never be forgotten that the pasteurization of milk does not do away with the necessity of taking care of it and keeping it cold. It is just as important to keep pasteurized milk cold as it is to keep raw milk cold, because pasteurization simply diminishes the number of microorganisms. It does not destroy them entirely.

While it is easier to approach laboratory methods in the home than under commercial conditions, it is wiser to adopt 145 F. (62.7 C.) for thirty minutes as the standard instead of 140 F. (60 C.) for twenty minutes, in order to be sure that the pasteurization is efficient. The changes produced in the milk at this temperature and time are little, if any, greater than at the lower temperature and shorter time.

It is not necessary to have any special apparatus for the pasteurization of milk in the home, as any dish of sufficient size and depth will do. Each feeding should be placed in a separate clean, boiled bottle. The bottle should then be tightly stoppered with non-absorbent cotton and placed in a pail or dish of cold water, the water in the dish being at the level of the milk in the bottle. The dish should then be placed on the stove and heated until the thermometer, suspended in the water, reaches 145 F. (62.7 C.). The dish and its contents should then be taken off the stove and covered with a blanket. It should be allowed to stand for thirty minutes. The bottles should then be taken out, cooled quickly, preferably in running water, and kept in a cold place until used.

There are several pasteurizers, designed for home use, on the market which are more convenient, although no more efficient. That sold by the Walker-Gordon Laboratory is a good one. Another, designed by Dr. R. G. Freeman of New York, although working on a little different principle, is very satisfactory.

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OPPORTUNITIES FOR THE PRESERVATION OF HEARING *

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The opportunities for the preservation of hearing include (1) systematic aural inspection for the detection of objective signs of impairment of the hearing, and (2) the adaptation of the operative technic to include the preservation of the hearing.

SYSTEMATIC AURAL INSPECTION

This scheme of systematic prophylaxis would apply to all ear diseases and defects not congenital, among them those originating in the pharynx, the nose, the eustachian tube, external canal, the ear complications of general diseases, nervous conditions and trauma. We thus include the stubborn forms of deafness due to chronic middle-ear catarrh, and absolute deafness of labyrinthine or nervous origin, as well as those inflammations of the tympanomastoid region which threaten entire loss of hearing and even life itself. At greater length we may catalogue them as inflammations of the pharynx, obstructions, adenoids and tonsils; inflammation of the nose and irregularities, hypertrophies and obstructions; obstructions and inflammation of the eustachian tube; inflammation of the middle ear and faulty nutrition and atrophy, degenerative states, deficiency in the nerve of hearing, inflammation of the external canal, obstruction by foreign bodies, cerumen and new growths, and especially the common insidious disturbances of the acoustic balance.

Inflammations of the pharynx involving the nasopharynx extend to the tympanopharyngeal tube and cause impairment of its functions, drainage and ventilation. The slight chronic pharyngitis often found in mouth-breathers, gouty or syphilitic persons brings about insidious changes along the tube and middle ear. Gross obstructions to respiration, hypertrophied adenoids and tonsils bring about the same conditions. Smaller obstructions may be large enough, if conveniently placed, to cover the mouth of the tubes or press against them. A very small amount of adenoid tissue in the fossae of Rosenmüller can seriously impede the action of the tubes. Irregularities and impediments to the flow of air and the blood, and lymph circulation of the nasal fossae can cause disturbances of the eustachian tube and middle ear.

The changes which affect the hearing most insidiously are of two kinds: those chiefly inflammatory, and those due to defective ventilation. In either case the results are much the same. First the inflammation causes congestion and increase of the connective-tissue elements, and then contraction, anemia, faulty nutrition, atrophy and degeneration. The choking of the eustachian tube causes the same results without intervention of inflammation directly through the congestion and stagnation of blood and lymph. A defect in the manumetric balance of the tympanum directly affects the drum-membrane. When there is negative pressure the membrane is pushed inward, flexing the ossicular chain. When there is increased pressure in the tympanum, the membrane is blown outward, extending the ossicular chain. Either of these positions is detrimental to the best sound transmission, and when continued long, the effect is serious. Overextension has a detrimental effect on the elastic fibers of the membrane and the ligaments of the ossicular articulations, which in time yield to this overstretching. All these changes directly affect the acoustic balance and render it less capable of transmitting the sonorous vibrations. When once started, this pathologic cycle tends to progress rather than to cease spontaneously, and the structural alterations have no tendency to repair without surgical aid. The atrophy, when once well under way, goes through all the series of changes consequent to faulty nutrition, involves the drum and its contents, and even spreads to the labyrinth.

Decrease of sound perception is the most delicate measure of general nervous exhaustion. It may indicate the commencing of nervous changes which later will destroy the hearing or affect the nervous system very seriously.

Patients should be urged to preserve the fundamental rules of the general hygiene of the ear. They should be advised not to touch the ear deeper than the orifice of the external canal, "to scratch the ear with elbow only"; to allow no water to enter the deeper part of the external canal; to keep the nose free; to blow the nose without closing the nostrils, and if possible to avoid loud sounds or continuous sounds of high pitch. My justification in repeating these directions is found in the fact that many ear diseases are caused by neglect of these simple directions.

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[28] Schorer: Am. Jour. Dis. Child., 1912, iii, 226.

* Read by invitation at the meeting of the Chicago Medical Society, Dec. 18, 1912

MEDICAL AND SURGICAL CORRECTION OF EXTRA-AURAL CONDITIONS WHICH THREATEN THE HEARING

General Treatment.—General conditions detrimental to good hearing are amenable to the usually accepted treatment for these conditions. This group consists of circulatory, metabolic and toxic disturbances.

Anemia and arteriosclerosis are causative of deafness because of defective or insufficient blood-supply to the auditory organ. Anemia is the more common of these factors in early life, while arteriosclerosis is more active in advanced life.

Metabolic disturbances interfere with good hearing through trophic and toxic impairment of the nutrition of the auditory organ. Most important in this group is the loss of balance of the internal secretions of the ductless glands. The type of deafness called otosclerosis is conspicuous as the result of altered internal secretions. Deficient thyroid secretion in myxedema is also often the cause of hypothyroid deafness. So-called gouty and rheumatic diatheses are sometimes associated with deafness, which improves on improvement of the general condition. The relief of constipation often relieves poor hearing. Extreme exhaustion is usually associated with impairment of hearing.

Toxic factors are often important causes in deafness. Through them originate inflammatory and degenerative effects on the auditory nerve and its endings. Tea, coffee, tobacco and especially alcohol are well-known factors in impaired hearing, partly through the injury to the auditory nerve and partly through middle-ear disturbances. Drug injury of the auditory nerve is brought about by quinin and salicylates more frequently than by any other drugs. Hypnotic anodynes, such as the antipyrin group and the veronal group, have been used to such an extent that the auditory nerve apparatus has suffered. Syphilitic infection should receive early energetic treatment because the syphilitic poison is injurious to both the auditory nerve and the middle-ear apparatus.

Local Treatment.—This should be directed to the nose, nasopharynx and pharynx. The nose should have even-balanced air passages. There should be no adhesions or even points of contact of the nasal mucous membranes. The nasopharynx should allow free respiration and open ventilation of the eustachian tubes, and there should be no interference with the mobility of the tubal cartilages.

The mucosa should be free from the slightest suspicion of bearing infection or acting as a culture field for pathogenic bacteria. The three tonsils and the accessory spaces of the nose are the regions which may most readily harbor infection detrimental to hearing, through long-continued toxic effect, and by fulminating attacks of middle-ear inflammation.

In children 30 per cent. of serious loss of hearing is due to conditions which if treated in time would obviate injury to the ears. These conditions include suppuration and the so-called catarrhal conditions, which are equally important in this connection. For the prevention of the condition, nasal catarrh and adenoids must be given careful attention.

In the young, proper care of nose and throat, orthodontia and prevention of mouth-breathing are necessary for conservation of the hearing. In adults, disturbed internal secretions, management of infections, anemia and degenerative processes require attention owing to their powerful effect on hearing.

OCCUPATIONAL AND TRAUMATIC DISEASES OF THE EAR

I classify all diseases as occupational which attack a worker in the course of his vocation, whether they arise directly from the nature of the occupation (as for example boiler-maker's deafness), or whether they arise from an accidental occurrence dependent on the kind of employment, such as the rupture of the drum-membrane from an accidental explosion in powder-making.

The enumeration and description of occupational diseases of the ear is valuable, since a study of the subject points out the wide extent to which these diseases prevail. Such a study should direct the public to the necessity of protecting itself against injury from many occupations. This investigation will also collect data which should result in the mitigation of insanitary and harmful conditions. The effect of general ignorance is shown in a striking manner in the backwardness of public opinion and consequently in legislation, but most unmistakably in the lack of interest in the enforcement of protective laws which are even now on the statute books.

How inclusive this subject is will be apparent on considering the occupations which are accompanied by continuous loud sounds, explosions and detonations, rapid changes of barometric pressure, entrance of water into the nose or external canals, concussion of air in the canals, entrance of foreign bodies into the canals, blows about the head, entrance of pathogenic organisms, hydraulic pressure and abnormal high or low barometric pressure in the canals and the upper air-tract. Among the long list of men employed in occupations deleterious to the ears are boiler-makers, machinists, blacksmiths, engineers and caisson workers. In addition, there is a still longer list of occupations which are indirectly conducive to impaired hearing through undue irritation of the upper air-tract.

The etiologic factors in occupational diseases classified according to their importance are: (1) noises; (2) mechanical trauma; (3) explosions; (4) hydrostatic pressure; (5) percolation of water; (6) decreased barometric pressure, and (7) increased barometric pressure.

From a pathologic point of view, a classification of the occupational diseases of the ear in order of their importance is: (1) irritants of mechanical, functional, aqueous or thermal origin; (2) infections; (3) intoxications; (4) exhaustion, local and general; (5) solution of continuity; (6) commotion, and (7) foreign bodies.

The destructive force of the occupational diseases of the ear may be appreciated on considering the number of those affected. The preventive measures are to be sought by arousing public opinion to these evils and to their vital importance. The danger in the case of every occupation should be recognized by law and should be minimized by law. When the public is sufficiently educated to appreciate the loss through these remediable hardships, it will not be slow in demanding salutary legislation, and in punishing by legal penalty. The special means of protection in every instance are obvious.

Another form of aural trauma which is too often regarded lightly or even entirely overlooked is the insufflation of water into the eustachian tube either by accident or by the use of nasal douches.

PRESERVATION OF HEARING IN EXANTHEMS AND CERTAIN INFECTIOUS FEVERS

In exanthems and certain infectious fevers—notably typhoid fever, diphtheria, whooping-cough, pneumonia and syphilis—the preservation of hearing should be safeguarded by careful and constant attention to the ears and nasopharynx. The importance of this advice will be seen when I say that these infectious diseases are responsible for about 47 per cent. of the cases of serious deafness in children. Panotitis, with simultaneous inflammation of the middle ear and the labyrinth, is a serious menace in children after scarlet fever and other infectious diseases; it is evidently due to an exudative process, the bacteria which have caused the middle-ear inflammation also giving rise to inflammation in the labyrinth.

In these exanthems and infectious diseases the ears should undergo objective inspection; the more serious the general condition, the more often should the ears be inspected. In scarlet fever and measles, the ears and nasopharynx should be inspected twice a day. The nasopharynges should be kept clean and free by cleansing applications. If there is any suspicion of fluid in the middle ear, operative interference on the ear is indicated. The presence of fluid in the middle-ear space is suggested by (1) a bulging appearance of the drum-membrane proper or of Shrapnell's membrane, by a waxy or opaque appearance, or by a yellowish tinge of the membrane in cases of pus, and (2) a rise in temperature otherwise unaccounted for. These appearances, as I say, indicate operative interference with the ear, and the drum-membrane should be incised. If the high temperature persists or if the ear discharges pus for forty-eight hours after the section of the drum-membrane and the syringing of the ear, the mastoid antrum should be opened.

PRESERVATION OF HEARING IN CHRONIC CASES OF EAR INFLAMMATION

Much of the chronic deafness met clinically is due to degenerative changes. In spite of this, if the loss of hearing has not gone beyond the last 20 per cent. of the efficient standard, we can make a good prognosis for improving the hearing capacity up to the standard.

The treatment for chronic cases is directed to removing the fundamental cause of the defect in hearing whether it is local, nasopharyngeal or general.

The cases of chronic impairment of hearing usually require an extended course of treatment. In the deafness dependent on nerve lesions our prognosis is encouraging for cure in luetic cases; in other cases the prognosis is discouraging. In the cases of deafness with a persistent ear-discharge when the nerve of hearing is intact, restoration of efficient hearing is the rule. The first procedure is the arrest of the discharge and cicatrization of the discharging passage. In almost all cases this is accomplished by local antiseptic applications. If improvement does not immediately show itself with the use of any one agent, the help of several agents should be tried. A general point in the treatment is to provide a sufficiently large perforation in the drum-membrane. Syringing should be used to clear the canal and middle ear if very much accumulation is present; otherwise, it should be wiped dry with pledgets of cotton. For antiseptics, the following are given in order of their usefulness: Boric acid saturated solution; alcohol; mercuric chlorid, from 1:1,000 to 1:4,000 in water; tincture of iodin; phenol, from 1:20 to 1:40. When the discharge is scanty, it is wiser to use powders than solutions. Of these, boric acid is most useful. Next come iodoform, xeroform, aristol, alumnol and many others. In less than 1 per cent. of the cases of impaired hearing coincident with a chronic discharging ear, an operation is required to arrest the discharge. This operative procedure should preserve intact the middle-ear structures when they are in position.

When the middle ear has cicatrized after the purulent discharge has ceased, hearing is stimulated and brought to efficient proportions by exercise (inflations and massage) and by replacing the lost parts by an artificial drum-membrane.

The local conditions are improved by methods which increase the blood-supply, such as exercise, massage and chemical stimulation, and by mechanical means for stretching adhesions, such as inflation.

The nasopharyngeal conditions are made normal by local antiseptic applications. The most important of these antiseptics are solutions of nitrate of silver, iodin, chinosol and powders of zinc stearate and aristol. Obstructing tissues should be removed by operative means.

The general condition is important and requires care, especially in the condition called "otosclerosis."

PRESERVATION OF HEARING IN ACUTE CASES OF DEAFNESS

In cases in which the onset of the impairment of hearing is acute, aural examination discloses that the cause is a plugged external canal, a congested and obstructed drum, an auditory nerve lesion or a defect of the auditory tract.

The obstructions in the canal which interfere with hearing are easily removed unless they have caused inflammation. A general rule for removing these obstructions is to remove hard cerumen or dry obstructions by forceps or curet, and soft obstructions by syringing.

Congestion of the middle ear is usually of nasopharyngeal origin and is amenable to nasopharyngeal treatment, which should be directed especially to the orifice of the eustachian tube. Fluid in the drum may be blown out by tympanic inflation; sometimes a myringotomy is required. An important part of the treatment is directed to lessening the obstruction in the eustachian tube by nasopharyngeal treatment.

Auditory nerve lesions are more resistant to treatment. The treatment is the same as the treatment of similar affections of the nerves in other parts of the body and should be adapted to removing the cause. Defects of the auditory tract are treated by the method employed in similar brain lesions of other regions.

Acute impairment of hearing from obstruction in the middle ear can be relieved at once and soon cured if it is not due to virulent infection. The means employed should be drainage and inflation through the eustachian tube and drainage and ventilation through the section of the drum-membrane. In cases in which the recent loss of hearing is due to a virulent infection, the indications are usually that immediate surgical intervention is demanded. Even after the smallest interference in ambulant cases, aseptic dressings are imperative in order to guard against secondary infections.

PRESERVATION OF HEARING IN OPERATIONS ON THE EAR

Clinical experience has shown me that in mastoid operations hearing can be both preserved and improved without much additional effort. This effort chiefly comprises more care and attention to detail. In acute infections of the ear, operative interference should not only restore the hearing to what it was before the infection, but, in certain cases, should even raise the hearing to a more efficient level.

The preservation and improvement of the hearing in mastoid operations demand early and careful operations and rapid convalescence. Lesions of the labyrinth capsule through intratympanic interventions, and especially by the radical operation, can undoubtedly provide the cause for a suppuration of the labyrinth. In such cases, meningitis is imminent and can be averted only by a timely labyrinth operation. Rapid convalescence is assured by following the rules to remove all diseased tissue and to operate as aseptically as possible and to leave no devitalized tissue, such as shreds of connective tissue or detritus in the wound in the shape of bone chips or threads of gauze.

WHEN TO OPERATE TO PRESERVE HEARING

We have learned that in a dense mastoid the suppuration does not tend to resolution, but to continuation and to the development of the dangerous complication of mastoiditis. We have also learned that in a pneumatic cellular mastoid, inflammation goes on either to abscess formation or to resolution. We have learned that in mastoids partly dense and partly pneumatic, with the dense areas occurring near the antrum, the behavior of infection is identical with that of the wholly dense mastoids. These observations show that with inflammation of the antral region shown by inspection, palpation, skiagram, etc., a mastoid operation is indicated in all but the pneumatic bones, and in them when mastoid abscess has been formed. That is, in the pneumatic mastoid, operation should be delayed until the formation of abscess; in the dense mastoid, suppurative inflammation of the mastoid is sufficient indication for mastoid operation, and we should not wait for abscess formation.

The conditions of the ear on inspection favoring operation are fluctuation in the mastoid region, edema over the mastoid region, edema of the osseous canal wall, localized sagging of the inner end of the canal wall, bulging of the tympanic membrane, purulent discharge, pain on pressure in the mastoid region, perforation of Shrapnell's membrane, septic appearance of the patient, and eye-grounds indicating intracranial extension. The nature of the bacterial infection is of interest. In order of their increasing virulence are the staphylococcus, pneumococcus, *Bacillus pyocyaneus*, streptococcus and *Streptococcus mucosus* (or *capsulatus*). The last is extremely virulent and at the same time the symptoms are latent. Mastoid operation is indicated in *Streptococcus mucosus* (*capsulatus*) infection if the ear shows any of the objective symptoms of mastoid infection, and also if the discharge from the ear continues three or four days after the commencement of approved surgical and antiseptic treatment of the middle ear. In obscure cases the differential blood-count is of value. General symptoms favoring mastoid operation are rise of temperature to 100 or more, subnormal temperature (98 or less) or rectal temperature.

The skiagram of the mastoid region favors operation when it shows collections of pus and obscuring of the mastoid cells, or when it shows a mastoid antrum walled about with diploetic or dense bone. Of course, a combination of these conditions points still more strongly to the desirability of a mastoid operation.

In these days there is little excuse to delay operation in purulent middle-ear inflammation after incision of the drum-membrane, if the purulent discharge persists for four or five days in conjunction with a solid mastoid as shown by skiagram. In these early operations the hearing is preserved.

In otology, as in all other branches of medicine, it becomes constantly more important to consider the modification and adaptation of certain stereotyped operations, according to the needs of the individual case. Conservation of parts is the watchword. In mastoid surgery, the preservation of hearing is assured by two things: (1) the preservation of the parts of the mechanism of hearing and (2) the avoidance of cicatrices and adhesions through rapid convalescence.

Now that we have achieved the preservation of life in mastoid operations, we must cooperate for the next triumph, the preservation of the hearing in all cases. And I believe that, in the main, the preservation of hearing will be accomplished through the health of the nasopharynx.

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THE INFLUENCE OF GASTRO-ENTEROSTOMY ON GASTRIC AND DUODENAL ULCERS

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It is generally conceded that gastro-enterostomy exercises a favorable influence on open ulcers of the stomach situated in the antrum or at the pylorus, and on open ulcers of the duodenum. By this is meant that it establishes conditions favorable to the healing of ulcers which have resisted all other known forms of internal treatment. It is likewise recognized that this procedure has no effect on ulcers situated in parts of the stomach other than those just mentioned. It is furthermore admitted that the good effects of gastro-enterostomy on ulcers in the antrum, pylorus or duodenum are not always a lasting one; that recurrence or recrudescence of the ulcer takes place in at least 45 per cent. of the cases. It is well to state these facts at the outset, and with the lessons taught by them proceed to change or modify the operation of gastro-enterostomy as applied to the cure of gastric or duodenal ulcer.

As we do not know the etiology or pathogenesis of gastric or duodenal ulcer, it is difficult to state definitely how or in what manner our therapeutic procedures exercise a healing influence on them. This is not quite true of the effect of gastro-enterostomy; for the creation of a new opening between the stomach and uppermost part of the jejunum can exercise an influence on antral, pyloric or duodenal ulcer in only two ways: either by side-tracking the food contents of the stomach away from the pyloric area into the jejunum, or by permitting a reflux into the stomach of such contents as are contained in the jejunum proximal to the seat of the new anastomosis.

Gastro-enterostomy favorably affects ulceration of the stomach by one of these means alone or by both together, and it is decidedly worth while to discuss this subject in its minutest detail. This discussion will help to correct erroneous ideas that some may have as to the movement of gastric contents after gastro-enterostomy, and may help us to understand why ulceration in some parts of the stomach is benefited by gastro-enterostomy, whereas it is not at all favorably influenced when it is located in other parts of the organ, and finally why ulcers that have presumably healed after gastro-enterostomy recur several months or years later.

As to the movements of the gastric contents after gastro-enterostomy, it is an almost general opinion of medical men, surgeons as well as internists, that after gastro-enterostomy there is a change in the course which the food takes in going from the stomach into the intestines; to wit, that all the gastric contents leave the stomach through the new opening, and practically nothing passes through the pylorus into the duodenum. It is thought that the stomach is normally a passive reservoir during digestion, and that the creation of a new opening at the most dependent point of the organ causes the gastric contents to gravitate through it into the small intestine. The operation of gastro-enterostomy is thus looked on as a drainage operation, and the surgeon has been enjoined to make the new stoma at the lowest point of the stomach, and to place the patient in the upright position immediately after recovery from the anesthetic, thus to facilitate emptying of the stomach by gravity. Let us see how much of this is true. In the first place, the stomach as long as it retains its normal tone is never a passive reservoir; on the contrary, when food is present within the viscus the cardiac end is always exerting a positive pressure on it, and the pyloric end is the seat of continuous peristaltic movement. Furthermore it is impossible to make the new opening at such a point in the stomach that in the changing positions of the organ the opening will always be at its most dependent part, and, finally, it has been experimentally proved that the hydrostatic conditions in the abdominal cavity are such that gravity drainage from the stomach is impossible. As a proof of this last statement it has been experimentally shown that when a gastro-enterostomized stomach is filled with water, the latter does not run out by itself even though the animal is in an upright position. It is also most important to remember that material never moves along any part of the alimentary canal unless the pressure is greater on one side of it than the other. Kelling[1] has determined experimentally and I have found in the human subject that the chyme always takes its normal passage through the pylorus if the latter is patent rather than through any artificial opening. In view of these facts we must conclude that if the pylorus is patent the new anastomotic opening serves no purpose for drainage or for side-tracking of the gastric contents into the jejunum. All of the gastric contents pass through the pylorus when it is patent in spite of the fact that we have a wide, sufficient communication between the stomach and the jejunum. Only when the pylorus is closed do the contents of the stomach pass through the anastomotic opening into the jejunum, and the tighter the closure of the pylorus the more completely do the contents pass through the new anastomotic orifice.

How can we apply these considerations to the question of the influence of gastro-enterostomy on gastric ulcer? If the ulcer is situated in the pyloric end of the stomach, at the pylorus or in the first portion of the duodenum, there is invariably attendant on the ulcer a spastic condition of the pyloric muscle which more or less completely closes this orifice. It is unnecessary for us at present to speculate as to whether the spasm is primary to the ulcer or whether the ulcer produces the spasm, though it is my opinion that the spasm of the pylorus is a purely reflex result of the presence of the ulcer. In substantiation of such an assumption I would simply recall the fact that an ulcer or fissure of the anus is invariably attended with a spasm of the sphincter muscle of the rectum; that a fissure at the angle of the mouth is invariably attended with a spasm of the orbicularis oris; and that ulceration at the ileocecal orifice causes a spasm of the muscular fibers at this part of the intestine.

It might also be mentioned here that when the ulcers in the stomach are not situated at or near the pylorus we do not find any such spasm of the pyloric muscle, which is exactly in accordance with ulcerative conditions situated at a distance from the anal sphincter, oral sphincter or ileocecal orifice.

To come back then to the subject under discussion, I have stated that ulcers situated in the pyloric region are invariably attended with a spastic condition of the pyloric muscle which more or less completely occludes the pyloric orifice. When such spasm is present the effect of gastro-enterostomy is exactly the same as when the pylorus is organically closed by stricture or by tumor, and in such a case the gastric contents after gastro-enterostomy no longer pass through the pyloric orifice, but are more or less completely evacuated through the new anastomotic orifice. The ulcerated area of the stomach is thereby guarded from the constant irritation of food, and healing is thus favored.

Let us now go a step further. After healing of the ulcer takes place the spasm of the pyloric sphincter muscle relaxes; the pylorus again becomes patent; the stomach contents no longer pass through the new anastomotic orifice, but through the patent pylorus. Is it any wonder then that if the original cause of ulcer still exists, the traumatism produced by the food constantly passing across the old ulcerated area at the pyloric orifice should favor a recurrence or recrudescence of an apparently healed ulcer?

Furthermore, as the tendency is a strong one when the pylorus is patent for the new stoma to contract and even close spontaneously, we cannot assume that the creation of a new opening between the stomach and bowel acts as a prophylactic against the possible recurrence of an ulcer.

If the ulcer is located in the stomach elsewhere than at its pylorus or the first portion of the duodenum—that is if it is situated on the lesser curvature, near the cardia or in the fundus portion of the stomach—we cannot expect gastro-enterostomy to have any influence on it for with such an ulcer not only is there no side-tracking of the gastric contents through the new stoma, since the pyloric orifice is not the seat of a reflex spastic closure but even if there was a complete diverting of the food into the jejunum, such a condition would not protect the ulcerated area in the body of the stomach or cardiac region from the constant irritation of the food passing over it. In such cases the new stoma soon contracts and closes without having produced any effect on the ulcerated area.

Therefore we must conclude that gastro-enterostomy can accomplish good only in such ulcers as are situated in the antrum, pylorus or first part of the duodenum—ulcers that are always attended with pyloric spasm in consequence of which the pyloric orifice is closed. In virtue of such pyloric closure the operation of gastro-enterostomy is able to divert the food contents from the ulcerated area and thereby afford to it rest and freedom from irritation; when gastro-enterostomy does not afford such protection from trauma to the ulcerated area, as when it is situated in other parts of the stomach, it will have no favorable influence on the healing process.

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[1] Ann. Surg., 1907.

Let us now turn to the second method in which gastro-enterostomy may favorably influence a gastric ulcer, namely, by reflux of duodenal contents proximal to the site of the anastomosis into the stomach. It would be hard to say that such reflux is present in all cases after gastro-enterostomy, but in almost all the cases in my experience such reflux was present, as proved by the fact that bile and pancreatic juice could always be evacuated from the stomach by means of the stomach-tube. It was formerly thought that the presence of bile and pancreatic fluids in the stomach was evidence of a vicious anastomosis between the stomach and the intestine, but clinical experience has long since taught us that the presence of bile and pancreatic juice in the stomach after gastro-enterostomy is the rule rather than the exception, and that the stomach bears such reflux of contents very well. The contents of the duodenum and jejunum proximal to the site of the anastomosis are chiefly bile and pancreatic juice, and the secretions of the duodenal and jejunal walls. Such contents are strongly alkaline in character. This strong alkalinity neutralizes the hyperacidity of the gastric contents which is attendant on most cases of gastric ulcer, and there can be no question that immediate relief of this distressing symptom is affected by gastro-enterostomy. It is not at all unusual for patients to state immediately on recovery from the anesthetic that the hyperacidity from which they suffered prior to the operation had been relieved, and it is reasonable to assume that this relief is due to the neutralization of the hyperacid gastric contents by the reflux of the strongly alkaline contents through the anastomotic opening.

Does such neutralization of gastric contents promote the healing of the ulcer? If this were the case we would expect that occasionally an ulcer situated at sites other than the antrum, pylorus or first part of the duodenum would be favorably affected by gastro-enterostomy, for surely the entire contents of the stomach are neutralized, and there is no reason why ulcers at the lesser curvature, cardiac end or fundus of the stomach should not be as favorably influenced in this way as are ulcers in the pyloric region. In the absence of such beneficial influence on ulcers other than in the pyloric region we cannot assume that the reflux of intestinal contents into the stomach with the attendant neutralization of a coexisting hyperacidity is the cause of healing.

There is one other way in which gastro-enterostomy may favorably influence gastric ulcer, and I do not bring it forward prominently because of the insufficient experimental and clinical data on which my theory would rest.

As stated at the outset of the paper, we have no exact knowledge of the causation and pathogenesis of gastric ulcer. Recently, however, several experimental workers have advanced the theory that gastric and duodenal ulcer are due to infective states of the stomach and duodenum; that given a minute or gross defect in the gastric mucosa produced by trauma or other cause, such minute or gross defects will grow into ulcerations, provided the stomach contains pathogenic bacteria. If this theory proves to be true we could understand how gastro-enterostomy exerts additional good influence on gastric ulcers, for with a closed pylorus and thereby a closed stomach cavity, the pathogenic bacteria in the stomach rise to a high degree of virulence, and thus keep active the ulcerating process. The establishment of a new gastro-enteric opening by facilitating discharge from, and emptying of, the stomach will also diminish the virulency of its contained bacteria, and so promote a healing of the ulcerated area. There is no question whatsoever that when such infective processes exist in conjunction with ulcers, as has happened in my experience, the symptoms of the ulcer and the evidences of the infection have been relieved by gastro-enterostomy.

To sum up: Gastro-enterostomy is of value only in pyloric, antral or duodenal ulcers that are attended with pyloric spasm, and it has absolutely no value in ulcers situated in other parts of the organ, though immediate relief from the distressing symptom of hyperacidity is effected by gastro-enterostomy in all cases of gastric ulcer, wherever the ulcer is situated.

Furthermore, since when the pylorus becomes patent, the gastro-enteric orifice tends to contract and close, the tendency of recrudescence or reformation of ulcer is always present, provided the primary exciting cause still exists.

It is now worth while to see whether or not we can prevent the recurrence or recrudescence of those ulcers that are favorably influenced by gastro-enterostomy: The high percentage of recurrence, the tendency to malignant degeneration of the ulcer, has led surgeons and internists alike to the conclusion that it were better to excise the ulcer, or to do pylorectomy in place of gastro-enterostomy. There can be no question as to the advisability of excising an ulcer that is favorably situated in the antrum, pylorus or duodenum, not so much to prevent recurrence of the ulcer, for it has not been the experience that excision alone protects against recurrence, but rather to prevent a possible malignant degeneration of the ulcerated area.

For the time being, however, we are concerned chiefly with the thought of how to prevent the recurrence or recrudescence of healed or healing ulcerations in the pyloric region. It has been clinically found that pylorectomy is a far greater safeguard against recurrence than is gastro-enterostomy or excision alone, but pylorectomy has a mortality of from 12 to 14 per cent. under the most favorable conditions, whereas gastro-enterostomy has a mortality of from 1.5 to 2 per cent. under similar circumstances, and the conscientious surgeon must always be in doubt when facing an ulcer of the stomach whether it is not more advisable to do a simple gastro-enterostomy with its low mortality, than a pylorectomy with its much higher death-rate. Is there not a way in which we can obtain the same good effect of lasting cure by gastro-enterostomy as by pylorectomy?

This we can answer in the affirmative, by the operation of gastro-enterostomy with pyloric exclusion.

This consists of gastro-enterostomy practiced as usual, with the addition of an exclusion of the antrum, pylorus and duodenum by means of a purse-string ligature of heavy linen thread passed round the stomach just proximal to the antrum, and tied snugly enough to occlude the stomach at this point, without constriction of its walls or its circulation. Instead of a ligature we can enfold, by means of several layers of suture, the stomach wall at the selected point, and thereby exclude the antrum, pylorus and duodenum from the rest of the stomach cavity.

This operation of pyloric exclusion I have practiced many times since 1901, for various conditions; for bleeding ulcers situated in the pyloric region, for duodenal fistula or accidental wound of the duodenum, and for simple or callous ulcer in the pyloric portion of the stomach. I have practically never seen any bad results from such occluding ligature or occluding set of sutures. In one case in which a ligature was applied by a colleague it cut through the gastric wall, either because it had been tied too tightly or because the gastric wall at the site at which it was applied was infiltrated and brittle. The passage of such an occluding ligature does not in any way increase the mortality which is attendant on gastro-enterostomy, nor does it materially increase the time of the operation. It takes but a few minutes to pass such an occluding ligature. It effectually and permanently excludes the antral end of the stomach and duodenum from the passage of stomach contents through them.[2] In the presence of such a ligature all the contents of the stomach must pass through the gastro-enteric orifice. As such an occlusion is a permanent one, the gastro-enteric orifice does not close, and therefore there can be no recrudescence or recurrence of ulcer as when simple gastro-enterostomy is established and the pylorus becomes patent. Von Eiselsberg has modified this operation of mine by completely dividing the stomach proximal to the antrum, and closing both ends with a double row of sutures. I can find no advantage in such modification. On the contrary, it carries with it the additional risk of infection, and thereby tends to increase the mortality connected with gastro-enterostomy.

As previously stated, I have found the occluding ligature always safe and easily applied. I am accustomed to pass a heavy Pagenstecher thread behind the stomach, just proximal to the antrum, then to thread this ligature on a curved needle, take one or two stitches through the peritoneum and muscularis of the anterior wall of the stomach, just to prevent the ligature from sliding, and then slowly tie the ligature, being careful to bring the mucous walls of the stomach together, but not to constrict the circulation of the organ. The mortality of this operation is exactly the same as that of gastro-enterostomy. It has all the advantages and none of the disadvantages of pylorectomy. It is the only way in which, on the basis of preventing the passage of food through the patent pylorus, we can prevent the recrudescence or reformation of gastric ulcer.

In closing this paper I especially wish to emphasize the following points:

Simple gastro-enterostomy can influence pyloric or duodenal ulcer only when there is an attendant pyloric spasm. In the absence of the latter all the food passes through the patent pylorus, even though a gastro-enterostomy is present and so the ulcerated area is not protected from trauma.

The reflux of duodenal contents into the stomach is a natural attendant on gastro-enterostomy, and serves to alleviate the distressing symptom of hyperacidity, but it does not favor the healing of the ulcer.

Gastro-enterostomy will not protect against a recurrence of the ulcer. Barring the question of malignant degeneration of a healed or healing ulcer, excision of an ulcer has no particular merit over a gastro-enterostomy toward preventing recurrence or recrudescence.

Pylorectomy does protect against recurrence, but it has an attendant higher mortality. Gastro-enterostomy with pyloric exclusion favors the healing of the ulcer, and has the same value in preventing recurrence as has pylorectomy, with the great advantage over the latter of a very low mortality.

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[2] Shown by x-ray bismuth plates and secondary operations.

The Rectum Not a Fecal Storehouse.—The rectum is not normally a fecal storehouse, although through habit it often becomes so, especially in the female. Examination of the male for service in the army shows the rectum usually empty.—William J. Mayo in *American Journal Medical Sciences.*

SOME FEATURES OF THE THEORY AND PRACTICE OF MEDICINE DURING THE SEVENTEENTH CENTURY

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(*Concluded from page 820*)

HARVEY AND SYDENHAM

Of the theory itself of the circulation I shall not have to speak in detail. The children of to-day in the intermediate grades of the public schools know better than the great teachers of anatomy whom I have mentioned the course of the blood from the left ventricle through the arteries, capillaries and veins back in a circle to the right ventricle and through the lungs. Indeed, they know it better than Harvey himself knew it, for even to him a complete demonstration was denied, since it was not until 1661 that Malpighi observed with a microscope the passage of the blood through the capillaries, whose continuity with the arteries and veins Marchetti finally proved by injecting them. Harvey affirmed his conviction that such a communication must exist, but it was on this ultimate demonstration that his discovery finally rested.

The effect of Harvey's publication on his own life and on his practice possesses but little interest for us now. How he was buffeted and abused and reviled is a matter of personal record that I, fortunately, shall not have to transcribe. Something of the same feeling, though far less bitter and less enduring, was expressed 245 years later toward Lister, when he first announced his belief in wound-infection. His own university (the University of London) regarded him as a heretic, and the earliest recognition that he received came to him from the countrymen of Pasteur and from those of Virchow. The whole miserable story concerning Harvey is better forgotten.

The effect, however, on the theory of medicine was startling enough. The whole structure was shaken and much of it was destroyed. The theory of "natural spirits," of "vital spirits" and of "animal spirits" disappeared from medical terminology, though the phrases remained embalmed in current speech. The doctrine of the humors, once so predominant, gradually faded into insignificance; Galen was discredited, and the tyranny of authority was forever broken; the four elements, earth, air, fire and water, and their four conditions, hot, cold, moist and dry, began to give place to a new conception of the working of the body, and physiology, the study of vital functions, came for the first time under experimental observation. Picquet, at Montpellier, in 1647 traced the lacteals to the receptaculum chyli and demonstrated that the thoracic duct empties into the left subclavian vein; Peyer and Brunner discovered the intestinal glands; Schneider proved that the nasal mucus came from the membrane lining the nostrils and not from the brain through the cribriform plate; Wirsung found the duct of the pancreas; Highmore described the structure of the testicles and the seminal ducts, and Needham studied the functions of the ovaries. The tourniquet was invented by Morel during the siege of Besançon in 1674, and the obstetric forceps was invented by Peter Chamberlain about 1630. The progress that medicine made in the seventeenth century was marvelous. The discovery of the circulation was found to be the key to whole departments of medical knowledge.

The respiration still remained a mystery. It had been thought that as the heart and stomach possessed an innate principle of heat, so the lungs possessed an innate principle of expansion. Other principle there seemed not to be, though the action of the intercostal muscles had been observed. Jan. 22, 1666, Pepys noted in his diary: "The first meeting of Gresham College since the plague. Among other fine discourses, what pleased me most was Sir G. Ent" (then president of the College of Physicians), "about respiration; that it is not to this day known or concluded on, among physicians, nor to be done either, how the action is managed by Nature or for what use is it." Yet at this very time Borelli was studying the resemblance between the action of inspiration and that of the so-called vacuum pump, then recently (1654) invented by Guericke. Borelli was a professor of mathematics in Pisa for some years before his death in 1679. Of course this analogy in no sense constituted an adequate theory of respiration, for which 150 years must yet pass before the air inspired could be understood chemically, and the absorption of oxygen and the elimination of the products of combustion noted and measured. In fact, it was not until 1837 that Heinrich Gustavus Magnus published in the proceedings of the Berlin Academy of Sciences the complete solution of the process of respiration as we to-day understand it. And yet Borelli's pump-theory of respiration was as great an achievement as was Guericke's pump itself, which superseded the screw of Archimedes.

In the early part of the seventeenth century, then, medicine was a child clinging to the skirts of philosophy. Bacon was a philosopher; Caesalpinus, although he was physician to Clement VII, was a philosopher of eminence. Linnaeus acknowledged his obligations to Caesalpinus, whose range was almost universal. Caesalpinus taught that the world could be reduced to two principles, God and matter, and that all finite intelligences, the human soul, and angels and demons, belonged to the realm of matter. Nothing could be bolder than his philosophical speculations. He was a consistent materialist. Sarpi was a theologian and philosopher rather than a physician. Descartes wrote much on medicine. Locke was engaged in the practice of medicine when he wrote his constitution for South Carolina. Two years earlier, in 1667, he was physician to the Earl of Shaftesbury, in whose family he resided. Dugald Stewart said of Locke:

> No science could have been chosen, more happily calculated than medicine, to prepare such a mind as his for the prosecution of those speculations which have immortalized his name: the complicated and fugitive and often equivocal phenomena of disease, requiring in the observer a far greater portion of discriminating sagacity than those of physics properly so-called; resembling, in this respect, much more nearly the phenomena about which metaphysics, ethics and politics are conversant.

In such hands, however, the practice of medicine could not become developed. Even Harvey seemed to fail in this respect, although it is a difficult task to estimate his professional worth as a physician on account of the deluge of abuse with which his enemies sought to overwhelm him. This result he himself foresaw. "I not only feared injury to myself," he wrote, "from the envy of individuals, but I trembled lest all mankind should become my enemies." Dr. Gabriel Harvey, Spenser's evil genius, was 83 years old when William Harvey's book was published. While conceding that his namesake was a very fortunate antagonist, Gabriel Harvey maintained, in the seventeenth-century Latin, that William Harvey was in no repute whatever as a physician.[8] Gabriel Harvey says that his namesake was unskilful enough to give Lord Rainton a purge so powerful that "one-half of it operated eighty times, and the whole dose would probably have sent the patient to Hades." Aubrey said of William Harvey that "though the profession would allow him to be an excellent anatomist, yet I have never heard that any one admired his therapeutic way." Harvey himself said that after his book on the circulation of the blood came out, he "fell mightily in his practice, and was believed by the vulgar that he was crackbrained, and all the physicians were against him." Among his contemporaries, as Dr. Johnson says of Blackmore, he was much oftener mentioned by his enemies than by his friends.

But at the very time, June, 1645, when Dr. Harvey was occupied during the battle of Naseby in watching over the infant children of King Charles, there was a young man fighting under the command of Cromwell who was destined to represent the very best and highest traditions of the profession of medicine—destined to perpetuate the spirit of Ambrose Paré and to transmit it unimpaired to Haller and to Boerhaave. Having given a passing glance at the spirit of medical ignorance as exemplified in Dr. Sangrado and at the spirit of medical vanity and intolerance as illustrated by the physicians whom Molière described, there seems a necessity to fill out the picture of the practice of medicine in the seventeenth century by saying a few words of one of the exponents of its scientific and humanitarian spirit. This exponent is Thomas Sydenham.

Sydenham was born in 1624, two years later than Molière and four years before William Harvey's theory was given to the world. He came of an excellent family, that of the Sydenhams of Dorsetshire; and in 1642, at the age of 18, was entered as a commoner of Magdalen College, Oxford. Already the civil war between Charles and the Parliament had begun with the battle of Edgehill, and Sydenham left Oxford shortly after his entrance and enlisted in the army of the Parliament, in which two of his brothers also served, the eldest, William, holding a commission as colonel under Parliament. The Earl of Clarendon notes the general disaffection of Dorsetshire to the King's cause.

June 14, 1645, the battle of Naseby was fought, which put an end forever to the King's hopes of success in war; and on May 5, 1646, Charles surrendered his person to the Scots at Newark, only to be handed back by them to Parliament and to be imprisoned in Holmeby House. Sydenham, then 22 years old, laid down his musket and returned to Oxford. The war was finished. There is some interest in noting that John Bunyan had shouldered his musket and marched in the same rank with Sydenham.

In 1648 he took his degree of M.B. without having taken the preliminary degree in arts. There is a tradition that he afterward spent some time in study in Montpellier—how long we cannot discover—after which he returned to London and engaged in the practice of medicine. From the humble obscurity of the first years of his practice we can glean nothing of interest. The date of his first achievement is May 7, 1666, eighteen years after he had taken his bachelor's degree in medicine, and consists of a notice in the transactions of the Royal Society, then in the second year of its existence, reviewing his first work, entitled "A Method of Curing Fevers, Based on My Own Observations."[9] The principal interest of this work to-day does not consist in his classification and treatment of fevers. but in his revelation of himself. What was the last thought in his mind in writing it, is our first thought in reading it after 246 years, for what he thought is of less value than what he was. His prescriptions are not of much use to us. No one would think to-day of treating a case of intestinal obstruction, for instance, by applying a split puppy, hot, to the abdomen, but his method is perennially instructive. After all, it is not what a man knows but what he is that counts.

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[8] Felicissimus anatomicus, licet medicus nequaquam insignissimus.

[9] Methodas Curandi Febres, Propriis Observationibus Superstructa.

He possessed a clear insight into the significance of the various symptoms of disease. He considered carefully their relative values. This is one of the highest qualities of the human mind. It is what constitutes sanity. Not merely the most conspicuous symptom impressed him, but the most important—the one about which all the others were grouped—the cardinal symptom. As he says himself, "It is important in describing any disease, to consider the constant phenomena apart from the adventitious or accidental ones." These constant phenomena were what constituted the exact recognition of disease. The others he did not neglect, but he rightly regarded them as of subsidiary importance. This is a true method of observation.

His mind was remarkably free from the influences of superstition and from the stifling traditions of the ancient masters. He was not uninfluenced by the beliefs of his time—who of us is?—but when the accepted theories of disease were disproved by his experience, they ceased to direct his practice. We have rightly discarded almost all of the theories that were then current—we no longer believe, for example, that the plague was sent as a punishment for moral offenses; we no longer believe that small-pox is due to an atmospheric concoction of noxious vapors; we seem to have touched bottom in our explanation of malaria and of yellow fever: but in spite of Sydenham's faulty theory of disease, or rather in spite of the inadequate etiology of his time, it is probable that few physicians of to-day equal him in the accuracy of his observation, and that none would excel him in the skilful adaptation to the treatment of disease of the few and imperfect means at his disposal. He was obliged to rely on himself for many things. He was a fortunate man. He had no clinical thermometer, no stethoscope. The analysis of the urine consisted in an appeal to the sense of taste. There was no general recognition of the significance of the pulse-rate. Howell says, "Some pulses have been known to beat thirty thousand times an hour in acute fevers." In 1666, the year when his book on "Fevers" appeared, and the year when Molière's "Misanthrope" was written, Sir George Ent maintained that "the urine was not borne to the kidneys through the veins but through the nerves."

No one ever cured so many diseases with such inadequate resources. This is the highest praise that can be given to a man, and Sydenham merits it. "It is one of the elements of his superiority," says Latham in his "Life of Sydenham," "that he looked out for his cases more watchfully, looked into them more closely, and appreciated better the facts that they disclosed, than his fellows did." He never allowed his theories of disease to obscure his attentive observation of symptoms, or to come between him and his patient's welfare, for his purpose was to cure them. There is an unmistakable strain of exaltation in his voice when he records the recovery in a serious case. It is manifest that his whole heart was in his work. There is an intense sincerity in him. In the Koran there are condensed utterances where a whole thought is expressed into a single word. It is a witness to Mohammed's supreme conviction. "Assuredly," he says, and stops there. It is sufficient. So Sydenham attests his own earnestness in emphatic phrases. "Observe this watchfully," he says, to impress his thought on the reader; and again, "This I have proved by abundant experience," or "This must not be forgotten," or "Carefully attend to this." Such sentences are luminous.

Then again there is an excellent humility in him, which reminds us of Ambrose Paré's constant utterance, "I dressed him and God cured him." Sydenham is full of the same spirit of piety. "We have good reason for believing," he wrote, "that there are certain sorts of fever which Nature cures by a way of her own"; and again, "The disease must be attacked easily and, as far as its nature will allow, must go off of its own accord." "We now come," he says again, "to consider what our efforts must be to assist Nature in the elimination of the morbific matter, in her own way and after her own fashion." "Meanwhile," he records in his report of a case of continued fever, "I watched what method Nature might take, with the intention of subduing the symptoms by treading in her footsteps. Now while I so watched the disease, it departed; slowly and safely—still it departed. I often think," he reflects, "that we move more hastily than we ought to do, and that more could be left to Nature than we are at present in the habit of leaving her. To imagine that she always wants the aid of art is an error." It needed some courage to write that in the seventeenth century. From all these observations he drew a wonderful truth, whose statement alone would entitle him to a high place in his profession. It is this: "a fever is Nature's engine which she brings into the field to remove her enemy."

One would scarcely look in an essay on "Dysentery" with the expectation of finding a lyric utterance, and yet that is where he sings the praises of opium. He says:

> And here I cannot but break out in praise of the great God, the giver of all good things, who hath granted to the human race, as a comfort in their afflictions, a medicine of the value of opium, either in regard to the number of diseases that it can mitigate, or its efficacy in extirpating them! So necessary an instrument is opium in the hands of a skillful man, that medicine would be a cripple without it; and whoever understands it well will do more with it alone than he could well hope to do with any other single medicine. To know it only as a means of procuring sleep, or of allaying pain or of checking diarrhea, is to know it only by halves.

Sydenham's achievements were his own, and his limitations were the result of the conditions of his time. For he had his limitations and justice requires that they should receive a word also. Though an intimate friendship bound him closely to two of the best minds of his age, Locke and Boyle, he was not qualified to emulate their breadth of mind and their large scope of thought.

In 1663 quinin was introduced into general use in England under the name of jesuit's bark or cinchona. Sydenham used it and praised it, but without acknowledging or apparently recognizing its supreme value in intermittent fever. To tell the truth, cinchona fell among thieves, and was early discredited by its association with quacks, who advertised it for personal fame and who exploited it for selfish profit. Not until many years had passed away did cinchona recover from the contamination of its early associations.

Sydenham set little store by the discovery of Harvey. Not that he actively disparaged it, for he never mentions the name of his great contemporary, but he evidently thought that the practice of medicine, so far as it had to do with the conquest of disease, was very little indebted to the anatomists and physiologists, who dealt purely with the structural and theoretical departments of medical research.

The microscope also he ignored, even neglecting to inform himself of what it had already revealed. In 1661, as we have seen, Malpighi observed the capillaries in a frog's mesentery, and this confirmation of Harvey's discovery was one of universal interest; yet more than twenty years afterward, and in spite of the fact that Malpighi came to London and lectured before the College of Physicians on his observations with the microscope, Sydenham wrote, "We may know the larger organs of the body, but its minute structure will always be hidden from us. No microscope will ever show us the minute passages by which the chyle leaves the intestine, or those by which the blood passes from the arteries to the veins." The truth seems to be that Sydenham, in following the reaction against tradition, went too far, and disregarded as without value all the observations and discoveries of his contemporaries which did not promise an effective result in the conquest of disease.

Yet, while recognizing his limitations, we are far from feeling that any blame is to be imputed to him for them. Perhaps a wider horizon might have impaired the value of his actual vision, and have destroyed the great lesson of his life. That lesson is the lesson of practical work and not the lesson of science alone. Sydenham possessed a genius for the practice of medicine. His mind was exactly calculated for the work he had to do, and his courage compels our admiration.

His fame is secure. Haller exalted his name above all of his contemporaries and called his period "the Age of Sydenham." It was thus made to constitute an epoch. In this estimate we must concur—to this award we must contribute. And it is a singular honor to bestow on him, when we consider the eminent men who conspired to render his century so illustrious, that he should be selected as representing the best attainment of professional excellence of his time.

THE EFFECT OF COPPER ON EXPERIMENTAL TUBERCULOUS LESIONS

PRELIMINARY NOTE *

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Copper, in view of its reputed germicidal action and its relatively low degree of toxicity for higher mammals, would seem to have possibilities as yet unrealized in the therapeutics of infectious diseases. There is considerable literature of one sort and another on the use of copper salts for the treatment of infectious diseases, but most of it is sporadic in character, and apparently the results described have not been such as to lead to any very general adoption of copper in chemical therapeutics. In recent years perhaps the most satisfactory results have been obtained with copper in treatment of diseases due to higher fungi, such as oidiomycosis, actinomycosis and sporotrichosis, as recommended especially by Bevan. With the introduction of the principles of chemotherapy by Ehrlich, it seemed possible to us that organic compounds of copper might be successfully developed which would have distinct advantages in the treatment of bacterial and fungous infections, over the arsenic compounds which have been so successful in protozoan infections, in view of the supposed high bactericidal and low toxic properties of copper in comparison with arsenic. For some time experiments have been conducted in this laboratory with the object of testing thoroughly and, if possible, developing this hypothesis with particular reference to the treatment of tuberculosis.

Recently a series of papers has appeared reporting results in the treatment of experimental and clinical tuberculosis which are of so sensational a nature, and which promise to arouse so much premature enthusiasm and speculation, that we feel it our duty to present at this time the entirely adverse results of such work as we have completed. The first group of these papers, by Countess von Linden,[1] Prof. E. Meissen[1] and A. Strauss,[1] appeared in the *Beiträge zur Klinik der Tuberkulose.*

In the first of these papers Countess von Linden reports that the work was initiated by Finkler some time before his death, and was continued by the three authors mentioned above, her part being the experimental investigation. With the experiments in which methylene-blue was used we shall not concern ourselves here, but shall consider only the work with copper. Von Linden reports that copper chlorid and copper tartrate in 1 per cent. solutions "weaken" the tubercle bacillus in from twelve to twenty-four hours, but that a "complex lecithin copper compound" (the method of preparation and composition of which are not described), in 1 per cent. solution in oil, "considerably weakens" tubercle bacilli in five hours, and kills them in twenty-four hours. This lecithin copper compound is said to penetrate the tubercle bacillus, not only in direct experiments in which the bacilli are rubbed up in a mortar with the compound, but also, it is intimated, in tuberculous lesions in animals which have been treated with copper. Four series of experiments (three only completed) with copper are described in which, respectively, three, four, seventeen and eight animals were used. The copper was used at first in the form of chlorid, copper-potassium tartrate, and oily emulsion of copper cinnamate; later in the form of copper-lecithin compound. "All copper experiments agreed in showing that the curative property of these preparations is a particularly energetic one." Rapid improvement and recovery from even advanced infections in guinea-pigs is described, so small an amount as 0.0025 gram copper in a single injection having, the author states, produced healing of the local lesion at the point of infection. The treated animals lived longer than the controls, and at autopsy the lesions were more localized. The details of all the experiments are not given in this paper (nor elsewhere, so far as we can find) so that it is not possible to review them critically or to learn exactly the proportion and degree of favorable results. It is stated, however, that "the impression was obtained that even after the first injection the disease in the different organs comes to a standstill, and that, if in the correct intervals further treatment is given, the lesions heal with great certainty, without allowing recurrences to develop. In severe infections twelve injections, totaling 0.01 gram copper, have sufficed to accomplish healing, although still some isolated encapsulated foci were found not yet sterile."

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* From the Otho S. A. Sprague Memorial Institute and the Pathological Laboratory of the University of Chicago.

[1] Von Linden: Die Ergebnisse der Finklerschen Heilverfahrens bei der Impftuberkulose des Meerschweines, Beitr. z. Klin. d. Tuberk., xxiii, No. 2. Meissen, E.: Meine Erfahrungen bei Lungentuberkulose mit Iod-Methylenblau und Kupferpräparaten. Ibid. Strauss, A.: Meine Erfahrungen mit Iod-Methylenblau und Kupferpräparaten bei äusserer Tuberkulose, Speziell bei Lupus, ibid.

In view of the very high degree of susceptibility of the guinea-pig to inoculation tuberculosis, these results are nothing less than marvelous, and to many who have had experience with tuberculosis in these animals they are incredible.

Meissen reports his experience in the treatment of pulmonary tuberculosis along the same lines, forty-seven cases of moderate severity having been investigated, in which 80 per cent. of good results were obtained under treatment with copper "according to my impression materially better than in similar cases where only the usual treatment was used. In certain cases the favorable action surprised me." He did not try the methylene-blue treatment, because, he says, in the animal experiments the copper was more effective.

Strauss used both the methylene-blue and the copper treatment on lupus cases, trying all the copper compounds mentioned, both internally and locally, the copper being readily absorbed from salves containing the lecithin compound. Good results were obtained in almost all cases of lupus, better with copper than with methylene-blue; no satisfactory results were obtained with other skin diseases.

These papers were shortly followed by a paper by Prof. Hugo Selter[2] who seems grieved at having been left out of consideration although he was, he asserts, intimately associated with part of the work. He makes the important statement that certain of the animals reported by Countess von Linden showed when he examined them, no difference from the controls; also, his own experiments with methylene-blue gave no favorable results in tuberculous rabbits and guinea-pigs. With patients he obtained rather inconclusive results and deplores the premature nature of the reports of the countess and her associates. A polemic of personalities by all four participants follows this paper, in which Selter lays significant emphasis on the fact that the mysterious copper-lecithin compound is advertised as prepared by the Farbenfabrik vorm. Fr. Bayer & Co.

More recently there has appeared another paper by von Linden,[3] which practically repeats the material given in her previous publication. Somewhat more definite details of some of the experiments are given, which only serve to emphasize the mild infection with which her guinea-pigs were suffering (the average life of the controls in the largest series was thirty weeks) and the fact that intercurrent epidemics so cut into her series that no comparative figures of any value can be obtained. On the basis of two analyses, without report of adequate controls or data, it is concluded that tuberculous tissues contain more copper than normal tissues. The influence of the reaction of the tissues and autovaccination by bacilli killed by the chemical, are also taken into consideration as factors in the chemotherapeutic success. Strauss[4] also has published another article on the subject of skin tuberculosis, reporting a favorable experience in seventy cases. The best results were obtained, he says, with "salves of a new chemical compound" made by the Farbenfabrik vorm. Fr. Bayer & Co., "according to a special process," which will be furnished to those interested "under specified conditions" which are not stated. These "compounds" consist of "inorganic or complex copper salts and lecithin." For general treatment "a complex copper salt" is recommended. No results were obtained with colloidal copper. The application of the treatment results in considerable local reaction about the tuberculous lesions, which, it is suggested, may be an immunity reaction to products of disintegration of tubercle bacilli. In most cases both local and internal treatment with copper compounds, commonly combined with iodin-methylene-blue, was used. The results of all the cases are not described, but eight very favorable cases are reported, together with illustrations which would be more convincing if the photographer had not usually changed his background from dark to light in showing respectively untreated and treated cases, thereby reducing the prominence of any lesions present in the latter.

As experimental work in tuberculosis is very slow on account of the chronic character of the disease, it will be some time before extensive reports can be made of control investigations of the action of copper in tuberculosis, which undoubtedly have been begun in many laboratories. Since we have had some experience and results with copper compounds in their relation to tuberculous infections of laboratory animals, in experiments which were begun some time before the publication of the *Finkler Heilverfahren*, it seems desirable to present the main results in order that they may be available to those whose interest may be aroused by the German literature.

It may be briefly stated that in a considerable number of experiments with both rabbits and guinea-pigs, we have never observed copper compounds to produce any favorable effects on the course of tuberculous infections. The rabbits have been inoculated in one eye, which permits of especially favorable observation of the course of the disease. The guinea-pigs have been inoculated subcutaneously. Human tubercle bacilli have been used in all experiments. Our copper compounds have included copper sulphate, copper acetate, copper oleate and copper salts of amino-acids.

These have been administered both by feeding and by intramuscular injections begun at the time of inoculation, or at various intervals thereafter, and, in most experiments, pushed to the maximum dosage compatible with preserving the health of the animal. Analyses of both normal and tuberculous tissues have shown the entrance of the copper into the circulation and its deposition in the tissues including the eyes of the rabbits. Our figures have not shown any evidence of a tendency for the copper to accumulate in the tuberculous lesions in greater amounts than in the normal tissues, although apparently the copper does enter tuberculous tissues to some extent.[5]

We confess that these absolutely negative results were not anticipated, or at least we had hoped, from *a priori* reasons, that some encouraging results would be obtained, but we have seen nothing even suggestive of a favorable influence of copper on the experimental tuberculosis. Other experiments, of different nature, have failed to indicate any striking bactericidal action of copper compounds on the tubercle bacilli; on the contrary, we find copper salts to have surprisingly little effect on tubercle bacilli. To be sure, we have not had experience with the "complex lecithin-copper compound" made by the Farbenfabrik vormals Fr. Bayer & Co. We wrote to them for some of this material and received a letter to the following effect:

> In reply to your esteemed letter permit us to state that it is impossible for us at present to place at your disposal the

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[2] Selter, Hugo: Beitr. z. Klin. d. Tuberk., 1912, xxiv, No. 2.

[3] Von Linden: Weitere Erfahrungen mit einer Chemotherapie der Tuberkulose, München. med. Wchnschr., Nov. 19, 1912, p. 2560.

[4] Strauss, A.: Weiterer Beitrag zur Chemotherapie der äusseren Tuberkulose, München. med. Wchnschr., Dec. 10, 1912, p. 2718.

[5] The details of these experiments, together with others as yet incomplete, will be published eventually in the Journal of Infectious Diseases.

preparation for Finkler's treatment. Changes in the compound have become necessary, which are occupying us at present."[6]

But it is to be questioned whether a lecithin mixture or "compound" should have any noticeable advantage over a copper salt of any high fatty acid, such as copper oleate, which has similar physical properties. In these days of immunity reactions lecithin is a *Schlagwort;* we can see no other reason for its preference over oleic acid as a vehicle for copper. There are sound physiologic reasons for expecting particular advantages for the copper salts of amino-acids, but as yet we have not been able to demonstrate any such advantages although we are conducting a systematic investigation of the properties of copper salts of various amino-acids.

We would not be understood as denying the possibility of favorable results being obtained by the use of copper compounds in tuberculosis. Our sole intention is to state that we ourselves have been unable to secure any appreciable effects in experimental animals, and that our experience is not in harmony with the experimental results described by the Countess von Linden, on which the clinical use of copper is based. We have made no clinical observations whatever.

PELLAGRA

WITH SPECIAL REFERENCE TO PATHOLOGY OF GASTRO-INTESTINAL TRACT*

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The changes that occur in the body during the progress of a disease are always of interest and vital importance, and it is worthy of note that from the earliest recognition of pellagra much attention has been given to its pathology. But in spite of painstaking work by numerous investigators, our knowledge of the subject is yet in a somewhat chaotic state. Following the lead of earlier writers, those studying the subject more recently have confined their observations largely to changes in the central nervous system, while the morbid condition of the gastro-intestinal tract, it would seem, has been given insufficient attention. The extent and severity of the lesions vary with the type of the disease present, as do also the symptoms arising from their presence. With our present state of knowledge it would hardly seem possible to decide whether the gastro-intestinal lesions or the changes in the nervous system were the primary or fundamental conditions.

CHANGES IN THE NERVOUS SYSTEM

Sandwith[1] found in certain cases degenerative changes in the spinal cord, most marked in the columns of Goll and Burdach, but in many other cases no pathology was evident. This absence of cord changes was explained by the fact that either these patients had suffered from the disease only a year or less, or they were apparently not far advanced, so that in his opinion cord degeneration, as discovered by the microscope, occurred late in the disease. From autopsies in cases in which the condition had existed for different lengths of time, cell degenerations were noticed in the brain cortex as well as in the lateral and posterior columns of the cord.

In a large number of autopsies done by Lombroso[2] and others, variable changes are recorded as present in brain and spinal cord. In some instances the weight of the brain was increased, in others diminished; in some hyperemia was present, in others anemia was noted. Degenerations of a fatty, pigmentary or calcareous type were present in the walls of cerebral capillaries. The pigmentation universally found in the sympathetic and spinal ganglia was considered an indication of marked nutritional changes in the central nervous system. The lesions found in the cord are described as being similar to those due to ergotism, their advance depending on severity of poisoning or lowering of resistance by intercurrent conditions.

Roberts[3] states that there is atrophy of the convolutions and in a majority of cases the weight of the entire brain is reduced, but that in many instances the weight is normal or increased. Hyperemia or anemia was noted, and also degenerative changes as mentioned above. Gross cord lesions were not very evident. The microscopic changes noted were degeneration of the direct pyramidal tracts and columns of Goll and Burdach, together with pigmentary degeneration of the cells of both anterior and posterior horns.

Spiller[4] has emphasized the point that the degeneration in the cord is not a systemic but a diffuse process, and so resembles a toxic degeneration and does not essentially differ from that in anemia, except that in pellagra the nerve-cells are more affected. He concluded that the cause must be some toxic or infectious agent acting on all parts of the central nervous system causing cellular degeneration as well as nerve fiber degeneration in the posterior and lateral columns.

CHANGES IN THE GASTRO-INTESTINAL TRACT

The changes in the gastro-intestinal tract seem to vary chiefly in degree, being more marked in the acute forms, but in all cases in which definite lesions exist, they consist of chronic catarrhal inflammation with exfoliation of epithelial cells and infiltration of stroma. Thrash[5] was in doubt whether or not this was a terminal condition as a result of the prolonged illness. He believes that the gastro-intestinal disturbances are secondary and due to the effort to excrete poisons ingested or formed from perverted metabolism and cell destruction. Atrophy of the muscular coats of the intestinal wall has been frequently mentioned [5, 6] as present in a large proportion of cases examined, and rarely anemia or hyperemia of gastro-intestinal mucosa, as well as chronic enteritis.

Tuczek[7] states that definite post-mortem results are found in the acute forms, typhus pellagrosus, in the form of chronic gastro-enteritis with formation of ulcers and swelling of mesenteric glands. This is associated with marked changes in the central nervous system and with general visceral involvement. Roberts[8] in studying the pathology of pellagra noted atrophy of the muscular coats of the stomach and in acute cases found a true gastritis. The changes found in the intestine seemed to depend on the duration and severity of the disease.

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[6] "Im Verfolg Ihrer werten Zuschrift gestatten wir uns Ihnen die Mitteilung zu machen, dass es uns gegenwärtig unmöglich ist die für das Finkler'sche Heilverfahren in Betracht kommende Präparate Ihnen zur Verfügung zu stellen. Es haben sich nämlich Aenderungen der betr. Verbindung notwendig gemacht, die uns augenblicklich noch beschäftigen."

* From the Pathological Laboratory, State Hospital No. 2, St. Joseph, Mo.

[1] Niles: Pellagra, pp. 153, 158.

[2] Marie: Pellagra, p. 262.

[3] Roberts: Pellagra, pp. 142, 145.

[4] Roberts: Pellagra, p. 152.

[5] Niles: Pellagra, p. 159.

[6] Marie: Pellagra, p. 269.

[7] Marie: Pellagra, p. 274.

[8] Roberts: Pellagra, p. 119.

consisting of atrophy of muscular coats and, in acute cases, of enteritis with ulceration, the latter chiefly in the colon and rectum.

The suggestion that the gastro-intestinal lesions found at autopsy are terminal and do not correctly represent conditions existing during life loses weight when we consider the clinical importance of symptoms from this source. The gastro-intestinal symptoms are the earliest,[9] most persistent and dangerous of all manifestations of pellagra. Their importance is emphasized by the fact that their presence together with the skin manifestation is essential to a clinical recognition of the disease, and also by the fact that the gastro-intestinal and skin lesions are sufficient for a post-mortem diagnosis. In studying the priority of symptoms in a series of cases, one is impressed by the large percentage in which gastro-intestinal disturbance is the cause of first complaint.

In the series of cases under my observation, the prominence and distressing character of symptoms indicating derangement of the gastro-intestinal tract were very marked and constant. This fact, together with the rapid course of the malady, would class these cases in the acute type, typhus pellagrosus, the chronic forms showing seasonal recurrences and less active manifestations of the disease.

Four of the fatal cases of pellagra in this institution came to necropsy. A brief report of these cases and post-mortem findings, with reference to lesions of the digestive tract, may be of interest.

Case 1.—A woman, aged 57, had been in this institution continuously for the past nine years and for most of the time for the past twenty-two years. There was no history or evidence of a previous attack of pellagra. About June 1, 1911, characteristic skin lesions of pellagra developed on the back of both hands and wrists, together with marked stomatitis and excessive flow of saliva—evidence of acute intestinal disturbance—diarrhea and persistent abdominal pain. The case progressed rapidly and death occurred July 10, 1911. Necropsy was done twenty hours after death. Examination of the abdominal viscera showed intense congestion of omental and mesenteric vessels. The ileum, cecum and ascending colon presented a marked catarrhal inflammation, in some areas becoming hemorrhagic in character. Aside from the general hyperemia the rest of the gastro-intestinal tract appeared normal.

Case 2.—A woman, aged 64, had been a patient in this institution for the past thirteen years, during which time her record gives no history of a previous attack. About July 10, 1911, typical lesions of pellagra appeared on the dorsal surfaces of both hands, rapidly extending over the dorsal surface of the fingers and completely encircling both wrists (Figs. 1 and 2). The border of the lesion was distinctly reddened and the line of separation from the normal skin was clearly marked. The lesions were dry with a tendency to exfoliation; about the wrists there were numerous fissures. Areas of similar character soon appeared on the forehead and on the left side of the neck (Figs. 2 and 3). The mucous membrane of the mouth and tongue developed a reddened glazed appearance and there appeared a constant, excessive flow of saliva, filling the mouth and escaping in a continuous tiny stream. There was also a diarrhea, intermittent in character and apparently uninfluenced by diet or remedies. Nausea and vomiting occasionally accompanied the frequent bowel evacuations. The stools were small, liquid, brownish in color, and gave reaction for blood pigment. No parasites were found. Urinalysis and differential blood-count showed nothing of interest. The Wassermann reaction and blood-cultures were negative. This patient showed marked mental enfeeblement, but dementia was not deepened after the development of pellagra. She was conscious and recognized friends who visited her a few hours before death on Aug. 7, 1911.

Necropsy was done five hours after death. The condition to attract attention on inspection of the abdominal viscera was the very intense engorgement of all mesenteric vessels, giving to the intestinal wall a strikingly reddened, purplish appearance. The mesenteric lymph-nodes were markedly enlarged and of a soft pinkish color, resembling inflamed lymph tissue. The mucosa of the lower quarter of the esophagus and of the entire stomach showed a catarrhal inflammation of varying degree. The duodenum was distinctly hyperemic, while the mucous membrane of the jejunum and ileum was markedly inflamed. This condition varied in degree and became more intense in the lower portion. Peyer's patches were swollen. The appendix appeared normal. The inflammatory condition extended to the cecum and for several inches along the ascending colon; areas of congestion were observed along the transverse colon. The mucosa of the descending colon, sigmoid and rectum was about normal. No ulceration was observed.

Microscopic examination of sections of the stomach wall showed superficial necrosis with extensive destruction and exfoliation of glandular epithelium, infiltration between the gland tubules, frequently hemorrhagic, with cystic dilatation of the gland tubules. The vessels in the submucosa were greatly dilated and atrophy of the muscular layers was noted. This destructive process was not so far advanced at the cardiac as at the pyloric portion, where necrosis and hemorrhagic extravasation were very marked. In the pyloric portion the deeper branching parts of the tubules retained their epithelium, but in the superficial portion this was shed off, leaving a structure composed of areolar tissue, infiltrated with round cells and showing superficial necrosis.

Sections from the duodenum showed superficial destruction of the mucosa, the villi being fused together in a structureless mass with beginning necrosis. Except for some remnants at the bottom of the crypts of Lieberkühn, all glandular epithelium was lost. Brunner's glands were not involved.

Sections from the jejunum showed similar superficial exfoliation, but the form of villus could still be seen. At the bases of the crypts there were small remnants of epithelium, but on the tips of the valvulae conniventes necrosis extended to the submucosa. The muscular coats appeared normal except for infiltration between the layers.

In the lower portions of the ileum there was almost entire destruction of the mucosa; only in areas were epithelial remnants seen, a narrow line of partially necrotic tissue being left to mark its location. The muscular layers were atrophied so that in this region the intestinal wall was extremely thin. Sections taken from the cecum and ascending colon showed a destructive process similar to that in the ileum.

Case 3.—A woman, aged 40, was admitted to this institution in an advanced stage of pellagra. Skin lesions of pellagra extended over the dorsal surfaces of both hands and wrists, small areas were present on the back of the neck and on the left ear, and an extensive lesion involved the vulva and the entire perineal region, extending up the inner surfaces of both thighs. The mucous membrane of the mouth and tongue was universally reddened with a few superficial ulcers; the tongue was swollen, showing marked indentations from the teeth. An excessive flow of saliva filled the mouth and overflowed in a constant stream. Involvement of the digestive tract was further evidenced by abdominal pain, diarrhea and complete loss of desire for food. The diarrhea was constant and uninfluenced by treatment. Differential blood-count, Wassermann reaction and blood-culture were negative. Death occurred seventeen days after admission.

Necropsy was performed two and one-half hours after death. A hyperemic condition was noted in all the abdominal viscera. The mucosa of the esophagus was apparently normal. A catarrhal inflammation was present along the entire tract from the stomach to the cecum, most intense in the lower ileum and cecum, where there were many areas of submucous hemorrhage. The transverse and descending colon, sigmoid and rectum were about normal.

Microscopic examination of sections from the stomach wall showed superficial necrosis and exfoliation; the deeper portions of epithelium were still intact. The vessels were greatly dilated and numerous small hemorrhages into the mucosa were seen. Sections taken from different areas along the jejunum and ileum showed the same loss of epithelium, with only small remnants in the bottom of the crypts. In some places the villi retained their form; in others they were fused into a structureless mass. The muscular layers of the ileum were greatly atrophied. Specimens from the colon appeared to be about normal, except that in the cecum the catarrhal inflammation was very intense.

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[9] Roberts: Pellagra, p. 107

CASE 4.—A woman, aged 59, had been a patient in this institution for the past three and one-half years, with no history or evidence of a previous attack of pellagra. About Oct. 1, 1911, there appeared on the dorsal surfaces of both hands and lower forearms areas of dermatitis resembling sunburn; other lesions appeared on the right shoulder and on the side of the neck, and, as exfoliation progressed, the dark, purplish color with brighter red border gave the typical appearance of skin lesions of pellagra. Diarrhea began in a few days and continued with only slight remissions. An almost constant abdominal pain was complained of and a burning sensation, localized to the areas of dermatitis and to the mucous membrane of the mouth, was present, the sensitiveness of the latter interfering with the taking of food. The tongue and the mucous membrane of the mouth had the characteristic red, glazed appearance and there was present the same excessive flow of saliva. The feces were constantly liquid, of a brownish color and contained some mucus and varying amounts of blood. No parasites were found. Examination of the cerebrospinal fluid, differential blood-count and the Wassermann reaction were negative. Death occurred about two months after the first appearance of the disease.

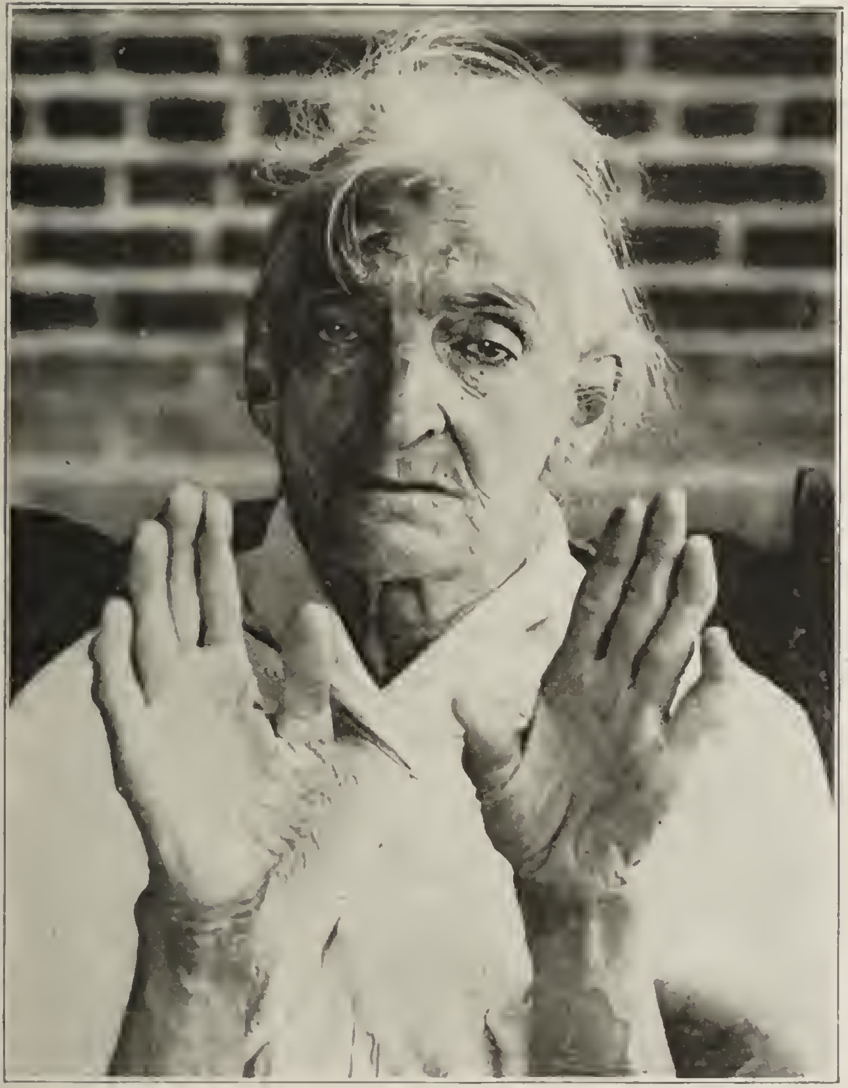
Fig. 1.—Patient, showing skin lesions encircling both wrists.

Necropsy was performed fourteen hours after death. There were skin lesions on the dorsal surfaces of both hands, over almost the entire face and ears and on the right side of the neck and right shoulder. A condition of hyperemia of the abdominal viscera similar to that noted in the previous cases was present. The gastric mucosa was about normal. The intestinal tract from the duodenum to the hepatic flexure of the colon presented a catarrhal inflammatory condition of varying degree, quite marked in the duodenum and jejunum but most intense in the lower ileum and cecum, becoming hemorrhagic in some areas. The lower colon and rectum were only slightly affected.

Sections from the wall of the jejunum showed fusion of the villi into a necrotic mass and only the epithelium lying deepest in the crypts, intact. There was round-cell infiltration into stroma of villi and between crypts. The muscular layers and the mucosa along the ileum were atrophied. This superficial erosion was not so marked in the cecum, but there was much extravasation of blood into the mucous membrane. The lower portions of the intestinal tract were only slightly involved.

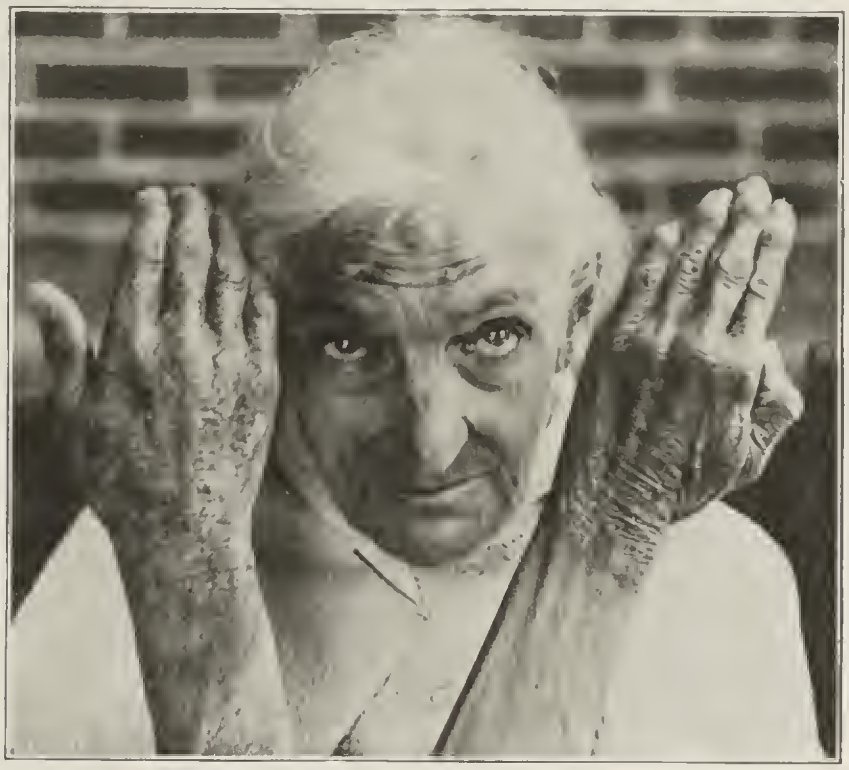
Fig. 2.—Same patient, showing lesions on dorsal surface of hands and fingers and on the forehead.

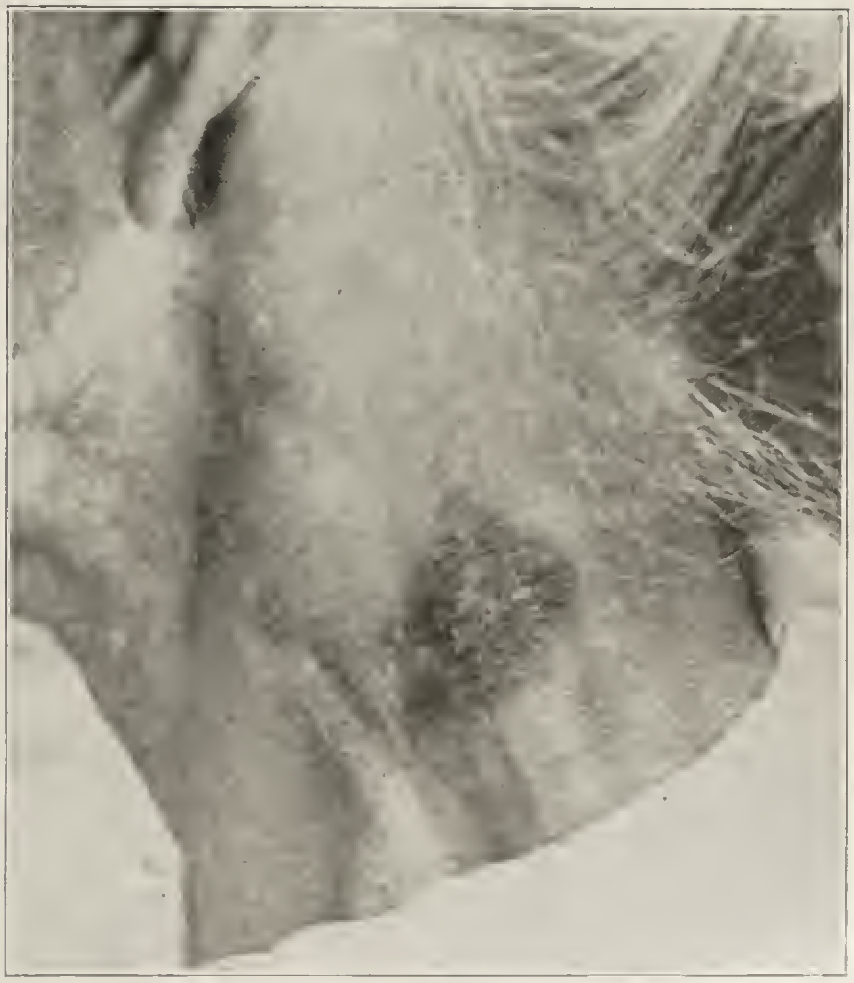
Fig. 3.—Same patient, showing lesion on left side of neck.

In preparing the microscopic sections, tissue was taken from numerous places in the gastro-intestinal tract, so that the findings would correctly represent the condition present. On the whole, the changes found were those of a chronic catarrhal inflammation, but in some areas the condition was very active and closely corresponded to the description given by Coplin[10] of hemorrhagic inflammation of mucous membranes. Many of the sections gave a picture very similar to his illustration of hemorrhagic colitis from colchicum poisoning.

These findings would seem to coincide with the theory that toxic products cause pellagra, whether taken with food products or of endogenous origin. In the cases observed, no probable causative factor in the food could be found.

A NEW ETHER-VAPORIZER

A PRELIMINARY REPORT ON THE TECHNIC OF INTRAPHARYNGEAL INSUFFLATION ANESTHESIA

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The vaporizer (Fig. 1) herein described was devised to supply certain deficiencies in preexisting types of vaporizers for insufflation anesthesia. These deficiencies are inaccurate knowledge of the amount of air passing and of the percentage of ether vaporized. The present vaporizer indicates at all times the amount of air passing and makes possible the mathematical control of the ether percentage. Only by such knowledge can control and accuracy of dosage be secured and the effect of a given dose be foretold. Otherwise the patient must be used as the primary index of the amount of ether being delivered.

The essential feature of this apparatus is a device whereby the total air delivered is at all times indicated. It consists of an inverted aluminum cup (1, Fig. 2) riding in a glass tube (2, Fig. 2) on a central rod (3, Fig. 2). This rides at increasing heights as the air-stream, flowing from below, becomes more forcible, and is comparable to the familiar glass ball riding on a water-jet in a shooting-gallery. The float is of such weight, and the air-delivery hole of such size, that the float begins to ride on a delivery of 8 liters (nearly 8½ quarts) of air per minute, and indicates with fair accuracy, by the increased height at which it rides, all passage of air up to 22 liters (about 23¼ quarts) per minute, which is the range of utility in insufflation anesthesia. The float registers by its average height not only the amount of air passing, but by its fluctuation the respiratory movement of the patient. It drops instantly on any stoppage of the air-stream, as for example by a kink in the tube.

On the glass tube which houses the float, is engraved, at convenient levels, the number of liters of air passed per minute. Also opposite each level is engraved the number of drops of ether necessary to add per minute to make the air-ether mixture 14 per cent. by weight, with the float riding opposite that particular level, and also the number of drops which would make a 1 per cent. mixture. The amount of air used is thus constantly visible, and may be controlled in volume by adjusting a pinch-cock on the air-delivery tube, while the percentage of ether may be adjusted to any amount desired by controlling the number of drops of ether added per minute.

The ether is held in a reservoir of 250 gm. (half a pound) capacity (*B*, Fig. 2), patterned after a standard high-pressure oil-cup, wherein the drop of ether (4, Fig. 2) may be seen and accurately controlled by a screw-valve (5, Fig. 2). The reservoir is filled from the top (6, Fig. 2), and thrown into air-circuit with the vaporizing-chamber by an air-valve (7, Fig. 2). It is mounted on the vaporizing-chamber (*C*, Fig. 2), a heavy glass cylinder, 4 inches by 4 inches. The ether drops onto the copper bottom of the vaporizing-chamber, which is kept at a temperature merely warm to the hand by a 4-inch electric stove (*D*, Fig. 2), with adjustable heat. In the absence of electricity the stove and bottom of the vaporizer may be immersed in a pan of warm water. The ether immediately vaporizes on this warm surface and diffuses into the air, passing through the chamber, the resultant being warmed to from 25 to 30 C. (77 to 86 F.)

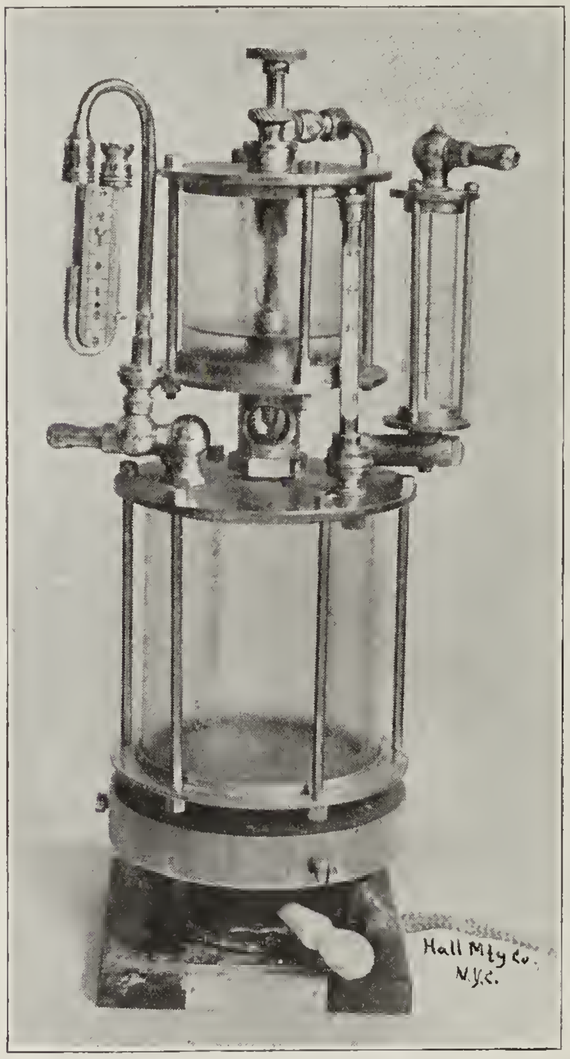

Fig. 1.—New ether-vaporizer.

A mercury pressure-gauge (*E*, Fig. 2), a thermometer (*F*, Fig. 2) and a safety-valve (*H*, Fig. 2) are mounted on the chamber.

The float has been calibrated by passing from a high-grade-test gas-meter accurately measured amounts of air, and registering each increase of 4 liters (4¼ quarts) per minute by a horizontal line on the glass tube housing the float.

The drop has been measured by repeated count, averaging under the condition of this vaporizer 29.3 drops per cubic centimeter or 41 drops per gram.

Knowledge of the amount of air which floats the aluminum cup at a particular level enables one to calculate the weight projected each minute at the cup. It is then a problem in simple arithmetic to arrive at the number of drops of ether to be added to the air-ether mixture whereby the percentage of ether-vapor by weight will be any selected amount.

Omitting the complex physical formulas and mathematical problems by which these results have been arrived at, and noting merely the results of the estimation: Dry air at 0 C. (32 F.) weighs 1.2928 gm. The conditions in the air used for calibration were those under which air would usually be delivered to the vaporizer: temperature at 22 C. (71.6 F.) under 30 mm. positive pressure and a water-vapor content of 1.5 per cent. by volume. Under these conditions the weight of air is 1.238 gm. per liter of air. If, for example, the float registers by its height the equivalent of 16 liters of air per minute, the equivalent in momentum of 19.84 gm. is projected at the float. Then to give 14 per cent. ether vapor, liquid ether running 41 drops to the gram, an amount of 114 drops of ether per minute would be added to the air-stream with the float at the 16-liter level. The resultant of these calculations is registered on the scale from the 8-liter to the 22-liter level, so that the ether and air delivery can be adjusted to any desired total by volume, and any desired percentage by weight, by reading the figures and setting the air-current and ether drop accordingly. Similar calculations may be made for chloroform.

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[10] Coplin: Manual of Pathology, p. 561.

The heat needed for vaporization of the average ether used is about 15,000 calories per hour, and is provided not for the purpose of administering to the patient warm vapor, but merely to volatilize promptly the liquid ether. Air itself does not carry sufficient heat to ensure prompt vaporization, for in vaporizing 14 per cent. by weight of liquid ether, the mixture is depressed 47.5 C. (85.5 F.) Therefore external heat must be provided for control of ether vaporization and to prevent the precipitation of much useful moisture from the air by refrigeration. Any idea of delivering vapor to the patient above room-temperature must be abandoned as unfeasible, as the following experiment will show. Air (specific heat 0.2831), superheated 24 C. (43.2 F.) above room-temperature, that is 22 C. (71.6 F.) or to 46 C. (114.8 F.) and delivered through red-rubber tubing, flowing at a velocity of 18.4 linear feet per second, lost of the superheat 7° C. in the first foot, 5° in the second, 5° in the third and 4° in the fourth, being a total loss in four feet of 21° of the 24° of superheat. Of the remaining three degrees, two degrees more, or 23° in all, were lost by the eighth foot, and 23.8° by the fourteenth foot. These figures were obtained by observation of chemical thermometers inserted at 1-foot intervals along 14 feet of red-rubber tubing size 5/16-inch, wall 5/32-inch thick. The readings both for air and for 14 per. cent. air-ether mixture covered a period of thirty minutes, during which no material decrease in the rapidity of heat loss was observed.

The ability to dose the patient accurately with air and with ether has rendered anesthesia by intratracheal insufflation by the Meltzer-Auer method, as developed for man by Elsberg, ideal except for the difficulties of intubation. It was to overcome the procedure of intubation that the pharyngeal method of anesthesia of Junker and others has been developed at the Roosevelt Hospital to a point where it has practically all the advantages with none of the complexity of intratracheal insufflation. The essential feature of this method is that a known quantity of air containing a known percentage of ether vapor is delivered into the pharynx, a quantity sufficient entirely to supply the need of the patient for air on inspiration, and of the lowest ether percentage which will hold that patient lightly and evenly anesthetized. Thus in the routine case light, even anesthesia is accomplished, and the possibility is avoided of negative pressure in the pharynx, which, by sucking back the mucus of the nose and mouth, is chiefly responsible for the "ether" pneumonia.

To exclude air from the outside which would dilute and render inaccurate the dosage of ether, an amount of from 16 to 18 liters (from 17 to 19 quarts) per minute must be insufflated in the adult. This amount can be delivered by a pressure of from 25 to 30 mm. through two small catheters, soft rubber, 16 F, passed one through each nostril of a patient in whom primary anesthesia has already been induced. The open end and double islet of each tube should rest in the lower part of the pharynx at a level of the epiglottis, a distance from the nasal orifice of about 12 cm. On expiration twice the usual amount of air is expired; that is, the tidal air from the glottis and the ether-laden air delivered through the catheters during this portion of the cycle. Hereby the mouth, nose and pharynx are kept free from mucus and from the blood of any operation on these parts, practically with the same efficiency as in intratracheal insufflation. The patient sleeps the same quiet sleep that marks intratracheal anesthesia. The jaw or head rarely has to be adjusted and may be twisted into position which in ordinary anesthesia would obstruct respiration, although not to the extent that may be done in intratracheal insufflation. The absence of so-called operative shock is notable, as with the intratracheal method.

Positive pressure on the respiratory tract may be obtained easily, by the anesthetist clamping the nose and lips of the patient with his hand until the cheeks bulge constantly and the air blows out continually between the fingers. Simultaneously the larynx must be firmly pressed back by finger or weight on the cricoid cartilage, blocking by pressure on the esophagus the ingress of air into the stomach. Positive pressure of from 5 to 25 mm., as gauged by a manometer in the pharynx, is thus easily maintained, and the patient continues to breathe smoothly. At about 10 mm. the excess of air blows out between the lips unless they be very tightly held. Greater pressure is unnecessary since 5 mm. is all that is required to prevent collapse of the lung in intrathoracic surgery. In the routine insufflation, the insufflated air is allowed to escape freely by nose and mouth. If air be swallowed or insufflated into the stomach the patients do not breathe smoothly, and higher percentages of ether become necessary to secure relaxation; but as practically no positive pressure is created in the pharynx in routine insufflation, blocking of the esophagus is necessary only in intrapulmonary work. The stomach does not become inflated with air unless one of the following two errors in technic has been made: The first error is to begin insufflation before the swallowing-reflex is abolished. The patient should be anesthetized primarily by a face-inhaler to the begin-

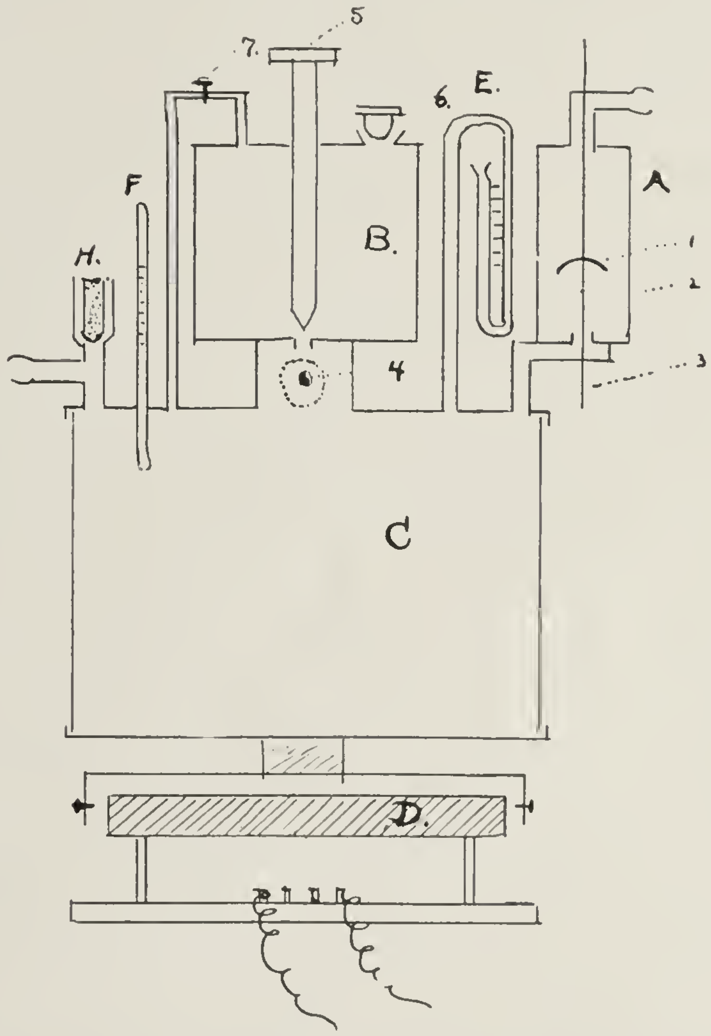

Fig. 2.—Working details of ether-vaporizer: *A*, air-indicator; *B*, ether-reservoir; *C*, vaporizing-chamber; *D*, electric stove; *E*, mercury pressure-gauge; *F*, thermometer; *H*, safety-valve; 1, inverted aluminum cup; 2, glass tube; 3, central rod; 4, drop of ether; 5, screw-valve; 6, opening for filling with ether; 7, air-circuit. Stock articles of commerce are chiefly used in the various parts on account of the cheapness and durability of such articles and the ease with which they may be replaced.

ning of surgical relaxation before insufflation is instituted. The second error is to pass the tubes into the beginning of the esophagus. The tubes should never be passed further than the following measurements: Mark off on the catheter the distance from the ala of the nose to the corresponding auditory meatus of that individual and insert the catheter only to that measurement which will carry it in behind the epiglottis but not into the grip of the esophagus. On the other hand, if the tubes be not passed into the lower pharynx, the air supplied is not freely available for inspiration.

For a few minutes after the introduction of the tubes it is well to hold the mouth closed and the jaw forward as one does with a face-inhaler. Soon, however, the stertor of the usual anesthesia quiets to a natural unobstructed respiration, and the jaw and mouth can be neglected. Usually, in fact, so smooth is the delivery and quiet the sleep that it would be perfectly feasible with this, as with the intratracheal method, for the operator to adjust the tubes and the air-ether delivery, and then proceed with the surgical operation without the presence of any anesthetist, as one does by insufflation on the animal in the laboratory of surgical research.

Patients take the same percentage of ether whether the ether is delivered copiously by the intrapharyngeal method, or by the intratracheal method. This percentage has proved remarkably constant on the average. A patient having first been placed under primary anesthesia to the stage of abolition of the pharyngeal reflex by a closed or open face-inhaler, the usual percentage by weight of ether necessary to maintain by insufflation, light, even, surgical anesthesia has proved for the first five minutes of surgical anesthesia to be 18 per cent.; for the next twenty-five minutes, 14 per cent.; throughout the second half-hour, 12 per cent.; through the second hour, from 12 to 8 per cent. Alcoholics, athletic fat persons, thick-set negroes, certain patients at puberty, athletic young adults between 18 and 26 years of age, and patients requiring operative manipulation in the upper abdomen average 4 per cent. higher than this throughout the first half-hour, children and relaxed women run about 2 per cent. lower. Of course the quantity must meet the entire demand of inspiration, without dilution by outside air, for these figures to hold true.

In the average adult about 960 liters (a thousand quarts) of air and about 165 gm. (5½ ounces) of ether are delivered in the first hour of surgical anesthesia. Of the total vapor less than half is utilized to maintain a constant intrapulmonary ether percentage by being inspired; the rest is wasted through the expiratory and apneic period, doing work only to clear the upper air-passage. Rebreathing is not contemplated or countenanced in this method.

The air-supply at Roosevelt Hospital is from an efficient permanent equipment.[1] As a portable source, a foot-bellows with gas-reservoir is fairly satisfactory, as is a small motor-driven rotary blower.

Fuller details of pharyngeal insufflation, as applied to ether and to nitrous oxid-oxygen will be published soon, with tables of ether percentage required by man.

I wish to express my indebtedness to Drs. Charles H. Peck and Charles N. Dowd, on whose services at Roosevelt Hospital the methods herein described have been developed, and the ether-air requirements observed on a total of about 350 cases of intratracheal insufflation anesthesia and 250 cases of the intrapharyngeal type.

63 West Forty-Ninth Street.

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[1] Described in the International Hospital Record, November, 1912.

PERINEORRHAPHY WITH THE FIGURE-OF-EIGHT SUTURE

CHARLES G. CHILD, JR., M.D.
Professor of Gynecology, New York Polyclinic Medical School; Attending Gynecologist to the City Hospital
NEW YORK

The following method of suturing in cases of perineoplasty may not be original, though I have never seen it described. If, however, it is not new I feel that I need hardly make further apology for re-presenting so valuable a bit of operative technic.

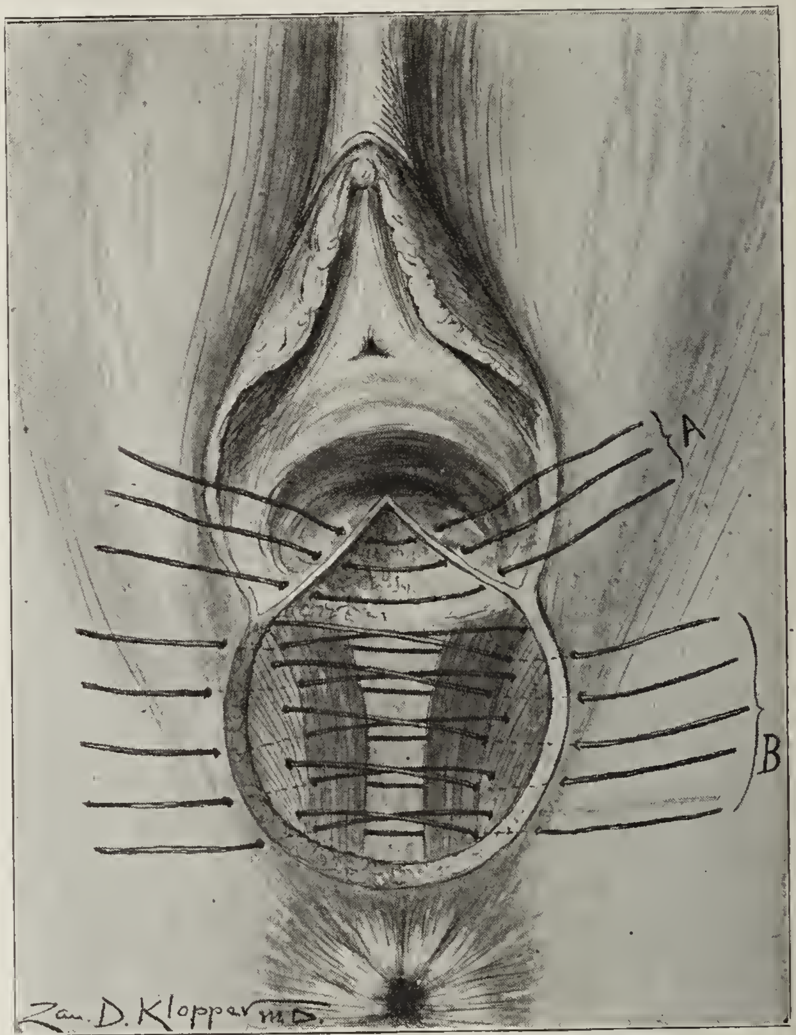

Fig. 1.—The figure-of-eight sutures at B unite the levator ani and perineus transversus muscles as well as the skin. The sutures at A approximate the cut edges of the vagina.

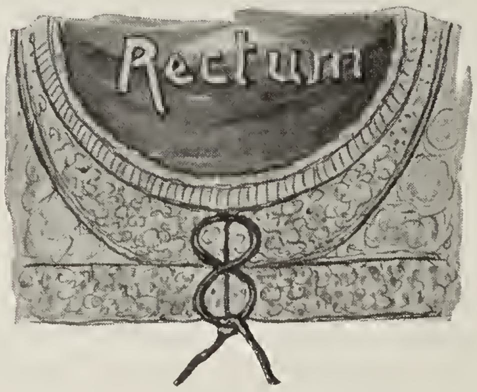

Fig. 2.—Transverse section of perineum showing how the inner (upper) loop of the figure-eight suture unites the ani muscles, and the outer (lower) loop unites the transverse perineus muscles and skin. The knot is on the skin surface.

In a thorough trial on all classes of cases I have found the results uniformly so much better than with the older methods that it seems to me a distinct advance.

The choice of a suture material for use in cases of perineal repair is of some moment, and second in importance only to the method of introducing the sutures. I have long since discarded absorbable material such as catgut and kangaroo-tendon on account of the uncertainty of absorption, varying tensile strength and low power of resistance to infection. Of the nonabsorbable materials the so-called silkworm-gut, because of its uniform strength and pliability, makes the ideal suture for this work. The extra large strands should be used and preferably those that have been dyed. They should be well softened in water before use.

METHOD OF INTRODUCTION

The vaginal sutures are passed and tied in the usual manner. In the perineum a figure-of-eight suture is used, the first bite of which catches up the levator ani muscles, and the second bite the transverse perineus muscles and skin. Care should be taken in tying these sutures not to bring them too tightly together, or they will cut deeply into the tissues and be difficult to remove. The tissues included within their grasp are to be just snugly approximated—no more.

The ends are left long and all sutures are removed on the tenth day.

ADVANTAGES

1. High percentage of primary union.
2. Perfect approximation with the obliteration of all "dead" space.
3. Fewer sutures with a consequent minimization of interference with nutrition to the tissues.
4. No buried sutures of uncertain strength and questionable sterility, with a low power of resistance to infection and an uncertain period of absorbability, but removable sutures of unquestionable strength, nonabsorbable, non-infectible and absolutely sterilizable.

163 East Seventy-First Street.

THE CONGENITAL ABSENCE OF RIBS

REPORT OF A CASE WITH COMPLETE ABSENCE OF THE LEFT SEVENTH AND EIGHTH RIBS[*]

CARROLL SMITH, M.D.
ST. LOUIS

The congenital absence of ribs seems to be a rare condition. Supernumerary ribs, especially in the cervical region and less frequently in the lumbar region, are more often seen. Bicipital ribs are occasionally found and usually occur at the first rib.

The congenital arrest in the development of the ribs is more frequent than the arrest of formation or the complete absence of the ribs. The arrest of development is generally manifested at the costal cartilages and the anterior parts of the ribs. It does not occur at any constant level. The defect is generally unilateral, and the first rib is usually unaffected.

As a rule defects of the ribs do not occur alone. There is usually some corresponding failure of development in the vertebral column. The scapula, the muscles of the thoracic wall, and the pleura are also frequently involved. Scoliosis is often present. These patients are generally born with a straight spinal column, but later it becomes bent by muscular action, early in life or at the time when the patient begins to walk. Usually some axial rotation develops in the vertebral column, as well as compensatory curves in the lumbar and cervical regions. Pulmonary hernia may be present.

After a careful search of the literature I am able to mention nine cases showing the complete absence of one or more ribs. The titles of many articles are misleading. They imply that there is a complete absence, when only a defect of a rib is present. Few of these cases were subjected to an x-ray or post-mortem examination, so it is possible that non-palpable rudiments of ribs may have been present in some of them.

Packard[1] reports a case of a woman aged 39, with eleven ribs on each side. The post-mortem examination by Dr. S. W. Mitchell showed that the left fourth rib was broadened anteriorly and was united to the sternum by a broad cartilage, which was perforated by a round hole so as to indicate its normal double state. On the right side the fourth rib was broadened at the anterior end.

Gripat[2] describes an acephalic monster with nine ribs on the right side and seven on the left. On the right side the first rib was attached to the middle of the second rib by a ligament. The second and third ribs were united behind at the vertebral column, but were separated in front and attached to the sternum. The fourth and fifth ribs were formed in the same manner as the second and third. The sixth, seventh, eighth and ninth ribs were free anteriorly, but articulated normally with the vertebral column posteriorly. On the left side the first, second and third ribs were united posteriorly, and this common osseous structure was traversed by holes for the nerves. The fourth rib was twice the width of any of the others. The fifth, sixth and seventh ribs were separated and had no anterior attachments.

Gage[3] mentions a girl aged 17, with five ribs absent on the left side. The first, second, third, fourth and fifth left ribs were normal. The sixth rib was represented anteriorly by its costal cartilage which joined the fifth rib. No trace could be found of the left seventh, eighth, ninth and tenth ribs. The eleventh and twelfth ribs were normal. There were twelve dorsal vertebrae. There was no curvature of the spinal column at birth; but a scoliosis in the middorsal region, with the convexity toward the normal right side, developed about the fifth year. There was a compensatory curve in the lumbar region. The angles of the ribs were prominent on the right side, due to a marked horizontal rotation of the vertebral column. There were no other such cases in the family.

Gage[3] also mentions a case which was reported by Willet and Walsham to the Royal Medical and Chirurgical Society (in 1880). There were only five ribs on the right side and four on the left, and four and one-half dorsal vertebrae were absent. There was a lateral curvature of the spine with the convexity to the left, which they believed to be due to the absence of the right half of the third dorsal vertebra.

Sabrazès[4] reports the case of a girl aged 2, in whom the sixth and part of the seventh ribs were absent. The left first, second, third, fourth and fifth ribs were normal. The sixth rib was absent. The seventh rib was represented by a broad cartilage anteriorly. The eighth rib was composed of two bony rods side by side, which were fused together posteriorly. The cartilage joining these rods to the sternum anteriorly showed traces of being divided. The ninth rib was bound in front to the eighth by a thick cartilage. The tenth, eleventh and twelfth ribs were floating.

Murray[5] describes a patient aged 5, with complete absence of the eighth, ninth and tenth ribs on the left side. The left eleventh rib was smaller than the corresponding right rib, while the left twelfth rib was longer and larger than the right twelfth rib. The defect in the thoracic wall between the seventh and eleventh ribs was 6.25 cm. wide in the axillary line.

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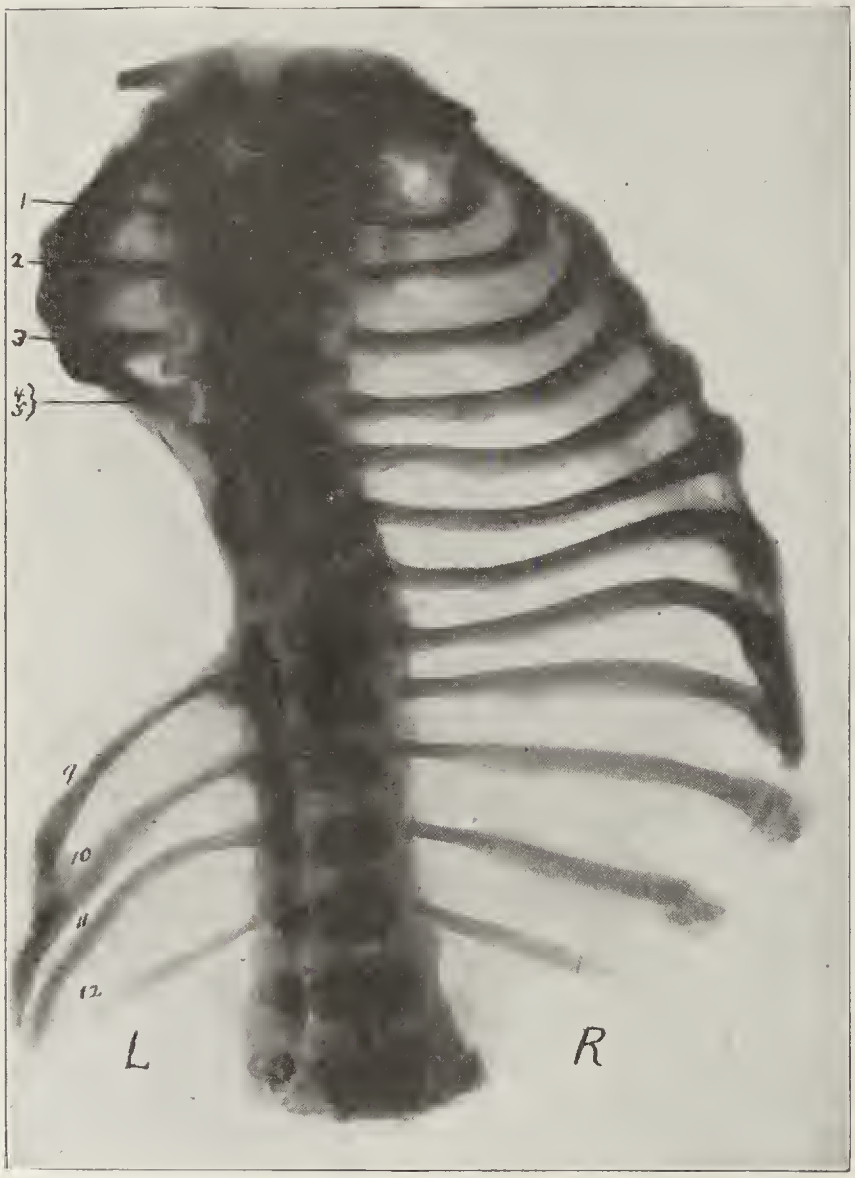
[*] Read before the St. Louis Medical Society, Oct. 19, 1912.
[*] From the Department of Anatomy, St. Louis University.

1. Packard: Proc. Path. Soc., Philadelphia, 1867, ii, 121.
2. Gripat: Bull. Soc. anat. de Paris, 1872.
3. Gage: New York Med. Jour., 1889, i, 650.
4. Sabrazès: Rev. de méd., 1894.
5. Marray: Tr. Clin. Soc. London, 1896, xxix, 252.

Freund[6] describes an infant of 8 weeks, in which the right fourth, fifth and sixth ribs were found completely absent on palpation. There was a deep groove at the level of the left mamma, 4 cm. wide, extending from the sternum to the vertebral column.

Labbé[7] describes a full-term infant which died at birth. An autopsy showed twelve ribs on the right side. On the left side there were only eleven ribs. The fifth and sixth ribs were welded together, as were also the seventh and eighth. The infant also had an umbilical hernia, a congenital scoliosis, a spina bifida, bilateral congenital dislocation of the hips and club-feet, and there was an absence of the genital organs and bladder.



Skiagram showing congenital absence of ribs in an infant.

Gladstone[8] mentions a case in which the twelfth ribs were absent on both sides. The patient had seven cervical, eleven thoracic and six lumbar vertebrae.

In addition, I desire to report the following case:

L. R., female, aged 4 days, was brought to the outpatient department of the Alexian Brothers' Hospital on account of a deformity of the thorax on the left side. The infant was apparently otherwise perfectly developed. The baby had a transverse furrow just below the left nipple which extended from the vertebral column to the sternum. The flexed upper extremity fitted accurately into the depression. The area was covered by normal skin over a firm, fascia-like tissue. On respiration there was bulging and retraction of the thoracic wall over the defect, which was especially marked on crying. On careful palpation no signs of ribs could be detected in the defective region. The heart pulsation could be felt at the upper part of the depression. The right side was normal. The left arm was in no way abnormal, nor were any abnormalities found in any other region.

On the eighth day after birth the child died. A post-mortem examination showed the cause of death to be pneumonia. The entire bony and cartilaginous thorax was removed, as well as the thoracic and abdominal viscera, the left scapula, brain, cord and lower end of the humerus. The thorax was normal on the right side. On the left side the first, second and third ribs were normal, except that they seemed jammed together and compressed laterally. The fourth and fifth ribs were fused together. At the costochondral articulation this bony structure became broader and was attached to the sternum by two cartilaginous bands. About 1.5 cm. of the sixth rib, attached anteriorly to the same length of cartilage was found in the thoracic wall without any connection of the rib or cartilage to the vertebral column or sternum. The seventh and eighth ribs and their cartilages were entirely absent. The spinal column was defective on the left side at the level of the sixth and seventh ribs and was covered with smooth pleura at the place where these ribs should normally be attached. The ninth, tenth, eleventh and twelfth ribs were floating. The xiphoid process was bifid. A slight scoliosis, with the convexity to the right, was present in the spinal column at the level of the defective region.

The accompanying skiagram clearly shows the scoliosis, the defective vertebral column and the complete absence of any vestige of the sixth, seventh and eighth ribs at the posterior region.

Dr. Abraham Myerson examined the other specimens removed, and found a scaphoid scapula (Graves), a patent ductus arteriosus and an open foramen ovale. Microscopically, syphilitic periarteritis was seen in nearly all the viscera and a double central canal of the spinal cord was found in the thoracic region. The bones showed no changes. Levaditi's stain for spirochetes was negative. Dr. Myerson also made a careful study of the father, mother and six children of the family, and found undeniable evidence of a syphilitic taint in all of them. The father gave a positive Wassermann reaction. There were no such defects of the ribs in any of the other members of the family. This phase of the case will be made the subject of a special study by Dr. Myerson.

The etiology of such anomalies is obscure. Ballantine[9] states that "there is a large amount of evidence in favor of the view that some malformations of the chest-wall may be due to the pressure of the arm of the fetus in antenatal life." The muscles, mammary gland, nipple, subcutaneous fat and hair of the affected region may be involved in addition to the ribs. The hand, forearm and arm may also be defective. Ballantine believes that this association is explicable if the teratogenic cause be pressure.

Thomson[10] made a careful study of a series of cases with congenital arrests in the development of the ribs, and has pointed out that these defects do not correspond to anything in the normal course of development and cannot, therefore, be regarded as an arrest of the same nature as mesial fissure of the thorax or abdomen. Thomson also mentions that nearly all of the structures in the lower pectoral region are prone to be affected and in a manner having no relation at all to their vascular or nervous supply. This author was led, therefore, to the conclusion that "the fetus was so acted on *in utero* that its arm was kept for a long time pressed firmly against its side and that in consequence of this continued pressure, not only was the growth of the parts retarded, but the absorption of some of them was brought about."

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[6] Freund: Quoted from von Bergmann-Bull.: System of Practical Surgery, New York, 1904, ii, 449.

[7] Labbé: Quoted by Legendre: Les Malformations costales par défaut, Thèse, Lyons, 1906, p. 53.

[8] Gladstone: Jour. Anat. and Physiol., 1911-1912, xlvi, 220.

[9] Ballantine: Antenatal Pathology and Hygiene, New York, 1905, ii, 148, 471.

[10] Thomson: Teratologia, 1895, ii, 1.

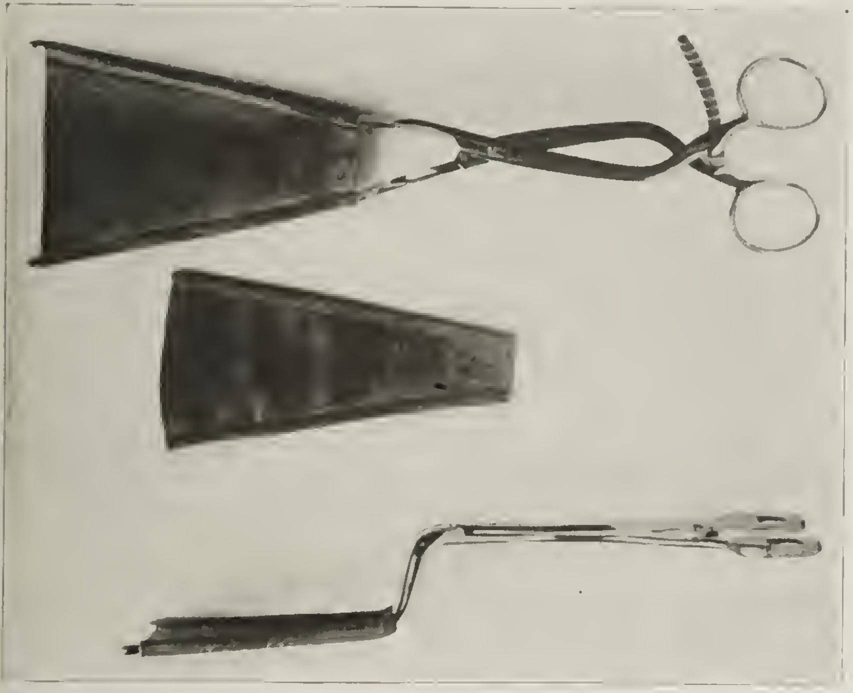
In the case which is here reported, the upper limb fitted accurately into the defect. The compression of the upper intercostal spaces and the fusion of the fourth and fifth ribs seem to indicate that pressure was present. The absence, however, of arm, forearm, or hand deformities, and muscle and breast changes, the presence of the scaphoid scapula, the double central canal of the cord, the patent ductus arteriosus, the fact that there seemed to be no attempt at development of the seventh and eighth ribs and the hereditary syphilitic taint, lead one to believe that the condition was due to an inherent defective development.

537 North Grand Avenue.

A VISCERAL DEPRESSOR

David Hadden, M.D., Oakland, Cal.

The illustration represents a device intended to take the place of the tablespoon or the trowel in the closure of the abdomen. The rubber web keeps the bowel from bulging to the side of the instrument and getting in the way, which occurs with the smooth metal depressor. Further, there is the greater advantage of being able to withdraw the instrument through a much smaller opening.



Abdominal depressor with rubber web.

Used in the pelvis, being opened after insertion, it serves as an excellent retractor to hold the bowel back from the pelvic organs without force or the irritation of gauze. There is weight enough to have it retain its position. For this purpose, however, I am having made an instrument with only one bend, and that at right angles.

The rubber webs are replaceable, withstand boiling, and are moderate in price.

VISCERAL DEPRESSOR FOR USE IN CLOSING LAPAROTOMY WOUNDS *

L. Miller Kahn, M.D., New York
Assistant Surgeon, Lebanon Hospital

The device illustrated is a simple cloth triangle with a hem on the two long sides to permit the introduction of the blades of a curved dressing forceps. The base of the triangle is 3½ inches and the sides 5 inches. At the apex is sewn a piece of tape, 10 inches in length. This tape is to be fastened to one of the finger-rings of the handle, so that the triangle will not slip from the blades. The purpose of the instrument is readily understood from the drawing.

When an abdominal wound is ready to be closed, the instrument (forceps blades adjusted into triangle) is inserted, the points of the blades carried within the peritoneal cavity and brought against the under surface of the parietal peritoneum. The blades are now separated as widely as possible. This puts the cloth diaphragm on the stretch, and while retaining the viscera, permits of easy suture of the peritoneum, and the danger of piercing or suturing intestine or omentum in the wound is obviated. The suture of the peritoneum is carried down to the lock of the forceps and the forceps withdrawn, leaving the diaphragm within the peritoneum. The diaphragm is now withdrawn through the small opening and one suture placed in the opening. The instrument entire may be withdrawn if the operator so wishes. The device has been found very useful and much superior to the clumsy gauze pad used for the same purpose. One triangle is to be sterilized with each set of taped pads.

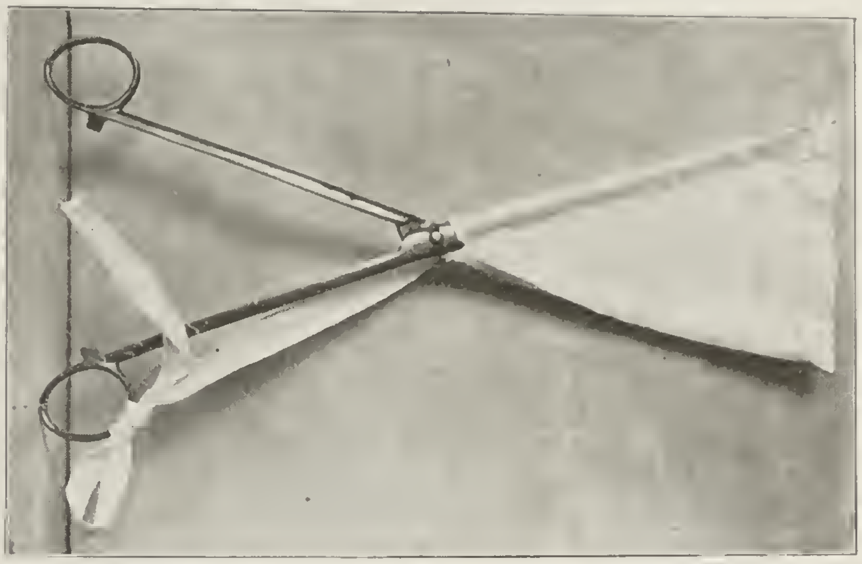


Fig. 1.—Blades of ordinary curved dressing forceps inserted into hems on sides of cloth triangle and tape tied to finger-ring.

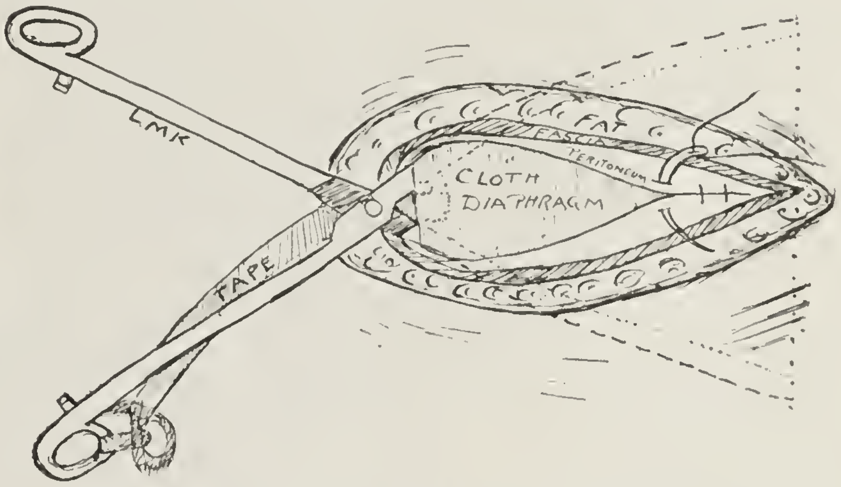


Fig. 2.—Visceral retainer inserted in abdominal wound.

223 West One Hundred and Thirteenth Street.

A SUCTION HAND-VALVE FOR CLEARING THE OPERATIVE FIELD

Eugene S. Kilgore, M.D., San Francisco

The hand-valve here described, which is in use in the Students' Infirmary of the University of California, has proved a convenient addition to the suction apparatus for clearing blood or other fluid from the operative field, especially in throat operations.

Negative air pressure is secured by use of the ordinary filter-pump or ejector attached to a water faucet (Fig. 1). The carboy (*b*) is added to the system to give greater duration to the suction when it is being drawn on, air being pumped out of it for several minutes before operation begins. The mercury manometer, which hangs on the wall of the operating-room, is not necessary, but merely a convenience, as it indicates the amount of available negative pressure. The jar (*a*) receives all of the aspirated fluid, and none of the parts of the system beyond this has to be cleaned.

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* Presented before the Section on Surgery, New York Academy of Medicine, Nov. 1, 1912.

The purpose of the hand-valve is to conserve the suction in the intervals when it is not required, without the inconvenience of clamping the stiff rubber tubing. This saving of the suction, together with the reserve supplied by the carboy, allows a cumulative effect, which enables the small filter pump, with only a moderate water pressure, to exert during the moments of action a suction probably as vigorous as would be obtained with a steam-jet exhaust, a vacuum cleaner or one of the electric air pumps. It also prevents the effect of a constant air stream to dry matter on the inner walls of the tube. Its form is shown in Figure 2. The handle forms a spring which automatically closes the valve when it is released. When in use it is opened by slight pressure in the direction of the arrow. The handle is placed at a convenient angle with the tube, so that the hand which manipulates it need never come into the field of vision. The end of the aspirating tube is protected by a short perforated cap similar to the Blake tube, which effectually prevents such soft parts as the uvula or omentum from being entrapped in the end of the tube, blocking it and perhaps injuring the tissues. At x the tube can be detached from the valve and be replaced by the piece y. This is for attaching a catheter for use in the nostrils or elsewhere; or, through the medium of a short rubber tube, for attaching such convenient fixtures as those described by Kenyon and Pool.[1] There are no screws in the valve, and, for the purpose of cleaning, all parts, including the stop-cock, are separable by simple manipulations.

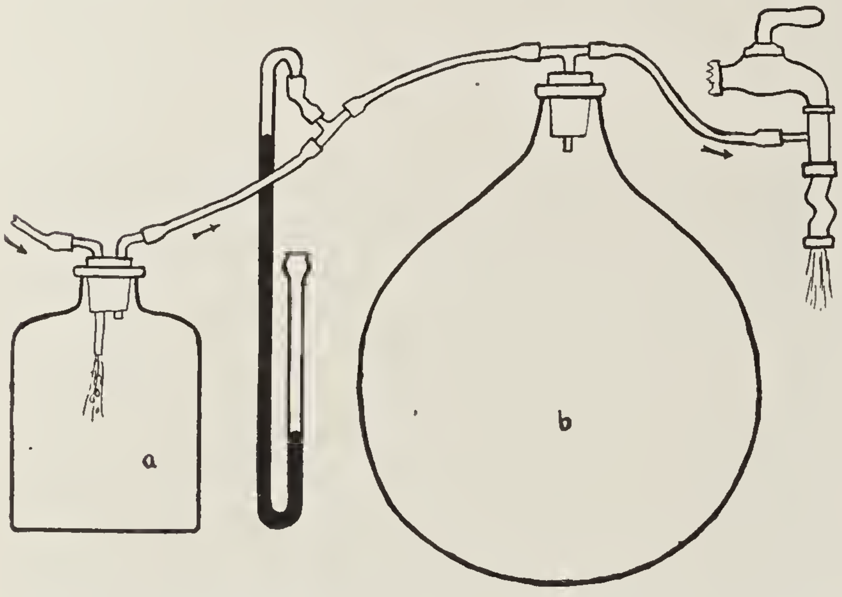

Fig. 1.—Diagram showing connections of filter pump, carboy, mercury manometer and receiving jar.

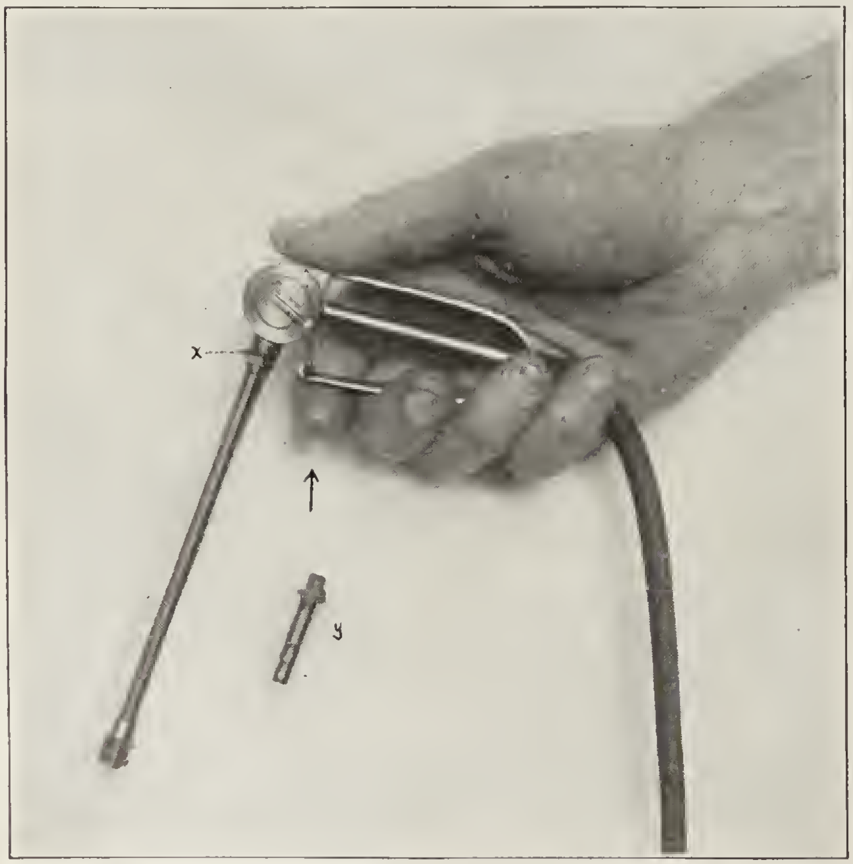

Fig. 2.—Suction hand-valve in use.

Most of the parts of the suction apparatus here described can be put together from materials easily obtainable anywhere. The valve can be obtained from A. B. Richter Co., Oakland, Cal.

University of California Hospital.

LEISHMANIOSIS (ORIENTAL SORE) OF THE NASAL MUCOSA

L. B. Bates, M.D., Ancon, C. Z.

The case here described is the fifth one of oriental sore which has been encountered in Ancon Hospital. As the pathogenic agent, epidemiology, histopathology and treatment of the previous cases have recently been described in detail,[2] I wish here only to record the unique feature of the case under consideration.

REPORT OF CASE

The patient, E. N., a Panamanian farmer aged 35, is a resident of San Carlos, Los Santos Province, Panama. His present lesions are of three years' duration. He is married and has six children. His wife, children and acquaintances are free from similar lesions.

Almost the entire length of the helix of the left ear is rather deeply ulcerated. The ulcer has the characteristic peripheral fossa and raised edges, and is entirely covered with a thick, hard, black crust. A similar condition, but to less extent, exists on the right ear and on the extensor surfaces of both elbows. The lower half of his nose is swollen to about twice its normal size and is indurated, the induration extending to both cheeks. The free margins of the alae nasi are deeply ulcerated and covered with hard crusts. Over the sternum there is a scar about 4 by 6 inches, on the lower edge of which are heavy crusts. There is a button about the size of a marble on the right shin. There is practically no glandular enlargement and the patient's physical condition is otherwise negative.

Smears from the ear and from the alae nasi stained with Hastings' stain, followed by Giemsa, showed a moderate number of typical *Leishmaniae tropicae.*

As leprosy was originally considered, a careful search in smears from both sides of the nasal septum was made. When the swab was applied to the nasal septum the nares were held wide open so that the swab did not come in contact with the alae. The septum was apparently very tender and commenced to bleed on the very slightest pressure. It was the same on each side. Smears from the septum showed many pus-cells and a moderate number of leishmaniae. In a smear from the right side an endothelial cell containing two of these bodies within the cytoplasm was seen. No acid-fast organisms were seen in smears from the nasal septum or from any other lesions. As the patient was sent to the hospital for diagnosis only and left before the examination of the slides was completed, we unfortunately did not get an opportunity to examine the nares by reflected light. Attempts have been made to find the man since his discharge but without success.

The tenderness of the nasal septum, the great ease with which it bled, the presence in smears from the nasal septum of pus-cells and endothelial cells in numbers, and the presence of typical *Leishmania tropica* in the cytoplasm of one of these endothelial cells make me feel that I am warranted in reporting this as a case with the leishmania lesion on the mucous membrane, although definite ulceration was not observed.

The report of but one other case of involvement of mucous membranes, that of Carini,[3] can be found in the literature at our command.

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1. Kenyon and Pool: Surg., Gynec. and Obst., December, 1909.
2. Darling, S. T.: Oriental Sore in Panama, Arch. Int. Med., May, 1911, p. 581; Oriental Sore, Jour. Cut. Dis., December, 1911.
3. Carini, A.: Leishmaniose de la muqueuse rhino-buco-pharyngée, Bull. Soc. path. exot., Paris, May 10, 1911.

A SPECTACULAR CASE OF LIPOMYXOMA

Herman C. Little, M.D., Changsha, China

Physician to the Yale Mission Hospital

History.—Patient, aged 24, monk, entered the Yale Mission Hospital, Changsha, China, Oct. 23, 1912, with tumor of the left side of the face and neck of ten years' duration. It began as a small nodule just below the angle of the left lower jaw and increased gradually to the size shown in Figures 1 and 2. Until three months ago the skin of the tumor remained intact, and except for a hypersensitiveness of the skin and tension due to the weight of the growth, there was very little pain. Three months ago the skin broke in two places shown in Figure 2, and since then has broken in several other smaller places.

Examination.—A large, nodular tumor, so heavy that it caused the patient considerable inconvenience, limited all movements of the head and neck, and had to be carried in his arms when he walked and held in his lap when he sat down. The skin was ulcerated in several places, the largest two being near the lower external aspect (Figure 2). These areas were discharging a foul blood-stained fluid. There were several small areas over which the skin was cyanosed and apparently preparing to ulcerate, beneath which the substance of the tumor was soft and in some places fluctuating. The tumor as a whole was hard and resistant. The skin over the sound parts was freely movable and entirely unattached. The growth was apparently only slightly adherent to the tissues of the neck, and the patient could move his head within a limited range while holding the tumor fixed in his arms or lap. There were no signs of metastasis. The attachments can be seen by the accompanying photographs.

The general physical examination was negative except for anemia of the skin and mucous membranes.

Operation.—The tumor was easily removed at operation and was only adherent to the parotid gland but not a part of it.

Tumor.—After operation the tumor was found to weigh 13.6 kg. (30 pounds). Its longest vertical diameter was 39 cm. (15⅓ inches), its longest horizontal diameter 30 cm. (11¾ inches), its horizontal circumference 62 cm. (24½ inches).

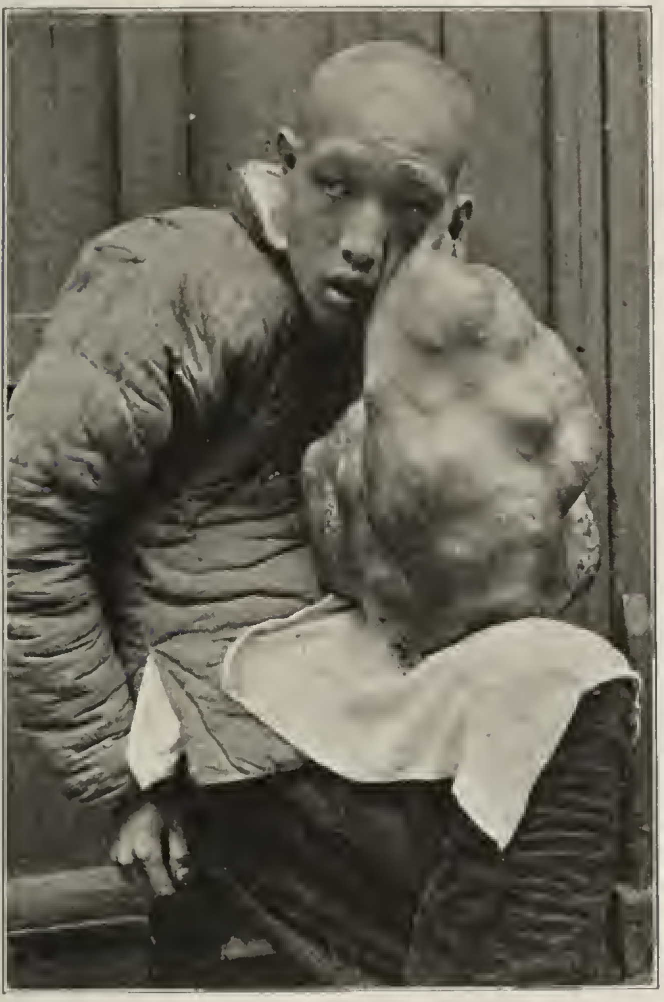

Fig. 1.—Front view of patient with lipomyxoma.

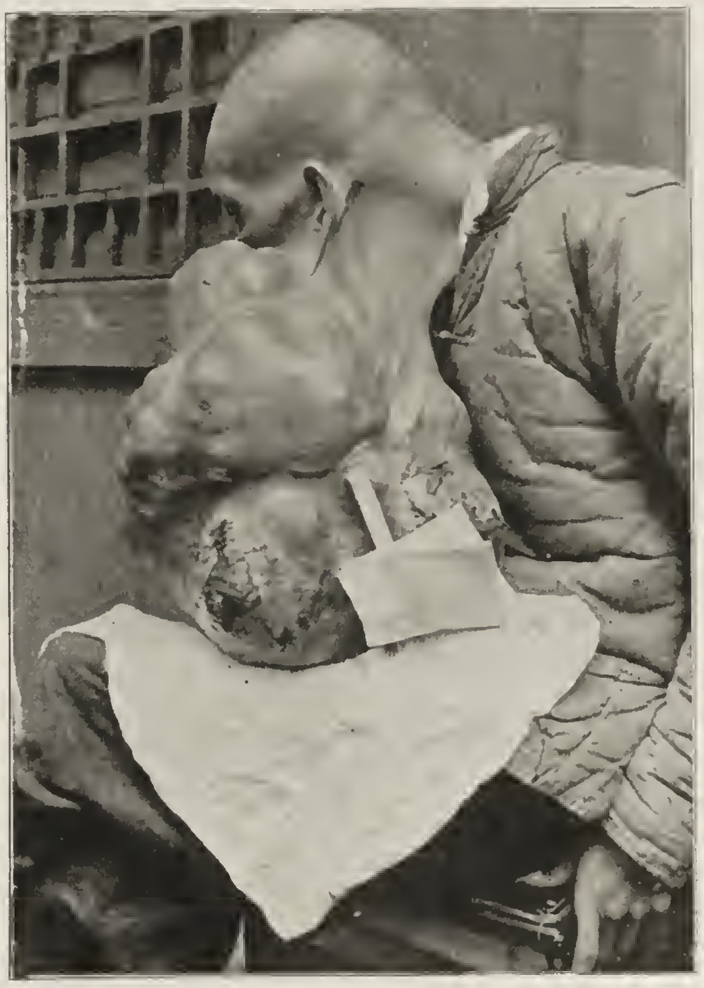

Fig. 2.—Side view, showing ulcerations.

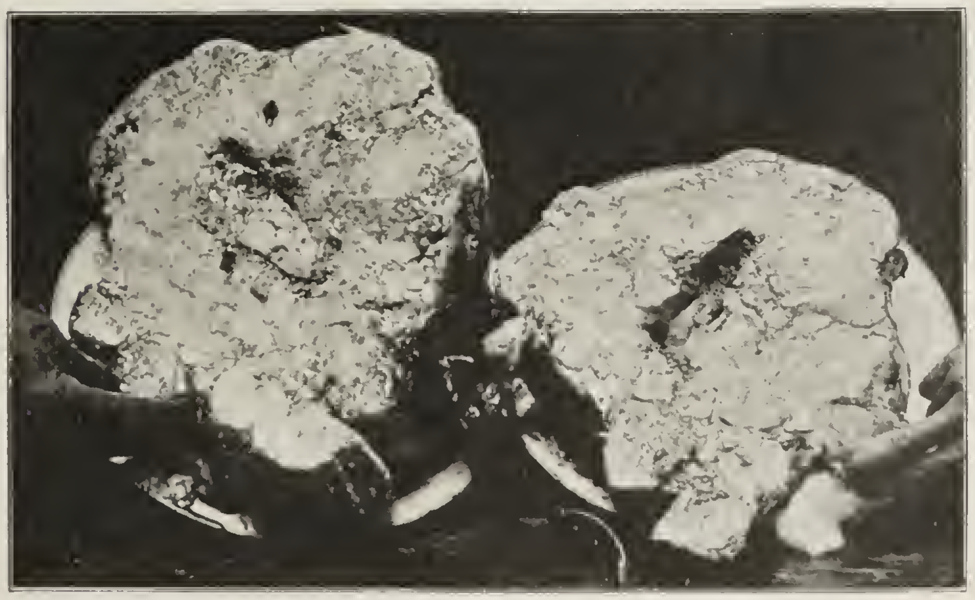

Fig. 3.—Cross-section of growth showing cysts.

The tumor was encapsulated by a loosely adherent membrane. Cross-section revealed numerous cysts of various sizes, many of which were enclosed by walls of broken-down tissue.

Some of these cysts contained a thick greenish-brown fluid, others a semigelatinous material.

The largest cyst was in the center, as shown by the cross-section, Figure 3. The tissue which composed the hard, unbroken-down part of the tumor was fat, which was separated into lobules of irregular size and shape.

From the general macroscopic appearance of the tumor it was diagnosed as lipomyxoma.

The case is reported by permission of Dr. F. C. Yen, on whose service the patient was admitted and who performed the operation.

INFECTION OF PHARYNX BY THE ASPERGILLUS NIGER

Frank A. Conlon, M.D., Lawrence, Mass.

The *Aspergillus niger* has been reported rather frequently as occurring in the outer ear, but, as far as I can find, after a careful search of the literature, it has never been observed previously in the pharynx.

My patient was a young man, 18 years old, whom I had been treating for chronic catarrhal otitis media. On inspecting his pharynx, I found it covered with a black glistening membrane which covered his whole pharynx and nasopharynx. This membrane was quite tough and could be lifted 4 or 5 mm. without rupturing, leaving an apparently normal mucous membrane underneath. A small part of this membrane was sent to the pathologic laboratory of the Boston City Hospital, where it was reported to be entirely made up of mycelium and spores of the *Aspergillus niger*. In spite of rather vigorous treatment, the *Aspergillus niger* could be demonstrated for weeks in the secretion of the pharynx. I find that infection by the aspergillus is rather a common disease in pigeon,[1] swan[2] and fowl.[3] It is a rather interesting point of etiology that two days before this membrane appeared the patient had been engaged in cleaning a hen-coop.

A USEFUL LAMPSTAND ATTACHMENT

E. M. Bixby, M.D., Pomona, Cal.

As an illumination for eye work more directly above the patient than could be obtained from the Coakley lamp at the side of the table was needed, the desired result was secured at small cost by having a blacksmith drill a quarter-inch hole through one leg of the stand and put in a link of quarter-inch iron (Fig. 1).

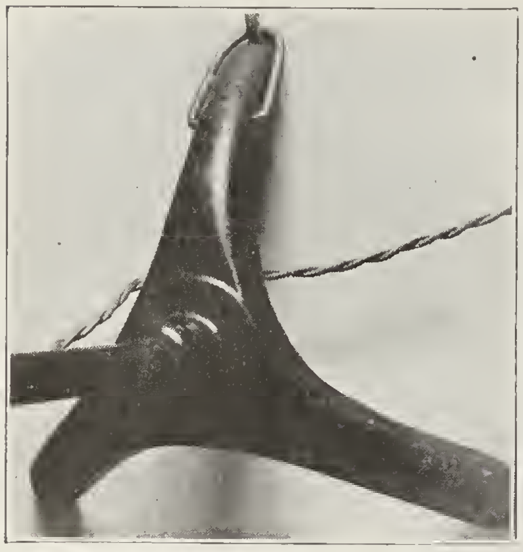

Fig. 1.—Stand of Coakley lamp with iron link in position.

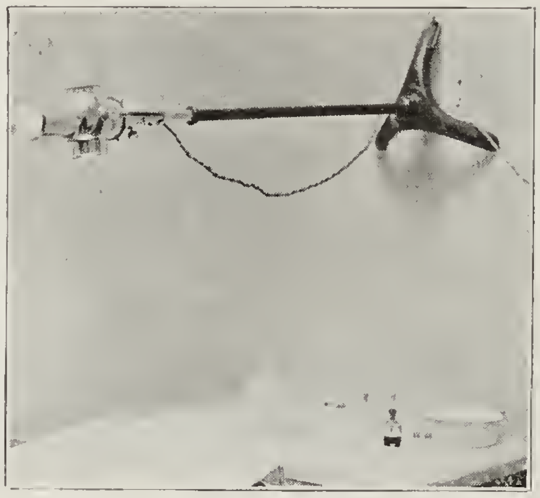

Fig. 2.—Lamp attached to wall over operating-table.

A stout hook was screwed in the wall at the proper height to bring the lamp about 18 inches above the table (Fig. 2).

The sliding extension and the pivoted yoke of the Coakley stand permit the lamp to be placed at any desired angle or to be pushed back out of the way while the patient is getting on or off the table.

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[1] Generali: Med. Veterinario, 1879.
[2] Schollskke: Schweiz. Arch. f. Thierheilk., 1887.
[3] Kit: Deutsch. Ztschr. f. Thiermed., 1881.

Start an Active Campaign Against the Filthy Fly Now.—Procrastination has such influence over some of your neighbors that they will need to study over the matter months before they can make up what they call "their minds" to do something, remarks *Nature and Culture*. Springtime and flytime wait for no man or suffragette.

Therapeutics

NEURASTHENIA

It is not the purpose of this article to discuss the treatment of this disease in all its details, but the subject deserves more frequent consideration than it receives. Few words in common use among physicians are more difficult to define accurately than neurasthenia. Such descriptive synonyms as "nervous exhaustion," "nervous prostration" and "nervous breakdown" are often used. Whatever name is applied to it, the condition termed "neurasthenia," which was first described by Dr. George M. Beard in 1869, has been almost yearly increasing in frequency, until now it is a common condition.

The term "neurasthenia" is often used inaccurately and erroneously, and is applied to a variety of diseases ranging from incipient tuberculosis to commencing general paresis; even mild forms of mental disease have been mistaken for simple neurasthenia. The diagnosis of neurasthenia is like that of malaria and influenza, a cover for carelessness, actual ignorance or lack of care in physical diagnosis. Hysteria is also often interchangeably mixed with neurasthenia.

The diagnosis of this disease can be reached only by careful investigation and physical diagnosis through excluding more tangible conditions. The symptoms so frequently simulate those of beginning organic disease, arterial disease and cardiac debility that the exclusion of these more serious conditions is often difficult. The most common symptoms include indisposition for physical exertion, impairment of memory, incapacity for the usual mental work, insomnia, irritability, mental depression, pains and other sensory disturbances in various parts of the body, especially in the top of the head and in the neck and back, palpitation with sometimes shortness of breath, and disturbances of digestion, such as dyspepsia, flatulence and constipation.

The causes of nervous breakdown are many. Perhaps the most important is improper mental work, either due to long hours, or to working too many hours in one position, or in one room, or with bad air or poor light, or under the strain of some nervous irritation, either external or internal. Unrecognized internal irritations are frequently reflex, due to eye-tire, or due to some troublesome and ever-insinuating chronic or recurrent pain, although such pain may not be sufficiently severe to cause the patient to stop his work. Another internal nervous cause which is now being recognized both in school and in the selection of operators and clerks in the various works of life, is their mental aptitude for the work required. Not only the child and the boy and girl, but also the adult will work easily for many hours and many days and months without nervous tire, provided that the work is pleasing and done without internal mental friction, so to speak; whereas, if the same person is required to do work that is intensely disagreeable or for which he has no aptitude, he is prone to nervous breakdown, and to fail both in perfecting and improving his work. In other words, one person works best with one part of his brain, another best with another part of his brain; one works best intellectually, another best with his eyes, another best with his brain mechanically directed, another best with fine movements with his hands and fingers, another with coarse movements of his hands and fingers, and still another best with larger muscle movements of the arms and legs. A person misplaced is prone to nerve-tire.

Another important cause of nervous breakdown is the combination of mental or physical activity, or both, with insufficient hours of rest, home worries, anxieties and the lack of home peace. In these conditions the person has no mental rest unless he is actually sleeping.

A frequent cause of neurasthenia, and one more frequently urged of late than formerly, is that of disturbance of the sexual functions. Some writers have even gone so far as to state that genuine neurasthenia is almost always due to abnormal sexual activity. This is certainly not true in this country, although there can be no question that sexual excesses, especially if abnormal, and sexual diseases and irritations are liable to cause as least temporary nervous breakdowns. It is easy to overwork this cause. A patient's fear that such causes are incurable and always lead to nervous breakdowns is harder for the physician to combat than the actual injury the patient has caused himself. Among the factors which present themselves for consideration in this connection are the effects of sexual excess and of total sexual abstinence, the most suitable age for marriage and the education of children in sexual hygiene. These phases of the subject are so broad as to demand separate consideration, and on some of them The Journal has already expressed its views. All must probably be taken into consideration, sooner or later, in the endeavor to prevent the ever-increasing nervous excitability and irritability of the age.

Another assigned cause of neurasthenia is the absorption of toxins, especially the putrefactive toxins produced chiefly in the intestinal canal. This cause is urged by those who believe in the uric acid irritation of the nervous system, that vegetarianism is a cure for all ills, and that anything which keeps the colon healthy will tend not only to keep the nervous system calm, but also to prolong life. Certainly this possible factor must be considered in deciding exactly how it is best to treat a patient with neurasthenia.

The various internal secretions are not sufficiently well understood for us to know how many of them, when imperfect, can cause nervous irritability. Hypersecretion of the thyroid gland is known to be an irritant to the central nervous system, but the causes of this hypersecretion are not sufficiently well understood. If this condition is diagnosed, it should be treated primarily, rather than the neurasthenia.

It is a fact that nerve-tire is increasing, and that it keeps pace with the increase in hypertension, arteriosclerosis and cardiovascular-renal disease. Neurasthenia is a disease of this rapid age; the growth of sanatoriums and private hospitals for the treatment of nervous breakdown is on the increase, and justifiably so, as these patients are better treated at these institutions than at home, if the institution is a reliable one.

In deciding that a patient has neurasthenia and not hysteria, hypertension and beginning arteriosclerosis, all other more tangible diseases having been excluded, the physician must make one of the most difficult of diagnoses.

Before considering the treatment of neurasthenia, we may rapidly enumerate what should be corrected to prevent the disease developing. These are: better school conditions than at present; more individuality in teaching children and in physical exercises for them; more hours of sleep for them; less filling of every hour of their days with some duty or entertainment, be it ever so simple; the early teaching of obedience and respect for the rights of others; the avoidance of societies, dances and teas for young children, and less of these for girls and boys before they are 18 or 19; the prevention, if possible, of pains from abnormal menstrual function in young girls; the correction of eye defects in all children and young people; and many other corrections of the incorrect things of young life which are recognized by every one and corrected by no one.

When the condition of neurasthenia is actually present, the treatment is, primarily, to remove all sources of nervous irritation, if possible, and to prevent and correct any physical disability, if possible. The food must be correct, the digestion must be good, and the bowels and condition of the intestines must be corrected, if defective. Next, the condition of the eyes must always be interrogated. Of this there is no question, and, even without headaches, a considerable proportion of all neurasthenic, nervous patients, and even hysteric patients, have eye defects that must be corrected before improvement will occur. Tea, coffee and other nervous stimulants should be withheld; sleep is an absolute essential and must be induced, but in the simplest possible way. And here comes the advantage of the private hospital or sanatorium, where proper hydrotherapeutic measures, massage, graded exercises, perhaps electricity, and rest on the Weir Mitchell plan, with all freedom from home frets can be carried out.

While private hospitals are urged as the best place to treat these patients, it should not be necessary for the local physician to lose the care of his patient. Every city of any size should have such an institution. It is essential to-day that such hospitals should be established, and it is not just that every such patient (and they are numerous and on the increase) should be sent to a distance, at great expense, and the local physician have no opportunity to treat him properly. The institution should carry out, with such expert advice as the physician decides that the patient requires, his orders as to which physical treatments, what rest, what diet, and finally what drugs, if any are needed, should be given the patient.

With proper food, proper rest, freedom from care, good air and proper physical treatments, especially hydrotherapy, the patient will generally sleep and improve more or less rapidly. If forced feeding seems advisable, it may be tried for a time, though hyperalimentation now is not often necessary. Circulatory aid is often needed, and small doses of digitalis are sometimes valuable in causing increased muscular, mental and nervous strength.

If sleep is not caused by hydrotherapeutic measures, the mildest simple hypnotics must perhaps be used for a short time. Sometimes half a teaspoonful of the fluidextract of an active ergot, taken at bedtime, will cause sleep, especially if there is a tendency to sleeplessness as soon as the patient lies down, while he is drowsy and sleepy if sitting up, this condition being a vasomotor ataxia.

If intestinal indigestion is present and bowel toxemia is diagnosed, the withdrawal of meat, the substitution of vegetables and cereals, and washing out the colon with plain water or physiologic saline solution, daily, or every other day for a short time, will generally relieve the condition. Constipation should, of course, not be allowed. Such a stimulant of the nervous system as strychnin is rarely indicated.

Of the disturbances of the internal secretions, only that of the thyroid gland will be mentioned; the signs and symptoms of hypersecretion or hyposecretion should be studied, and if either condition is present it should be treated properly.

No matter how much improvement is noted or how well the patient may seem, neither the physician nor the family should be surprised at another nervous breakdown if the patient returns to the same environment in which he suffered the first. Therefore, to make such a cure more or less permanent, it is essential that the conditions that caused the breakdown should not be allowed to recur.

DISTURBANCES OF THE HEART *

(*Continued from page 831*)

SIMPLE HYPERTROPHY

Like any other muscular tissue the heart hypertrophies when it has more work to do, provided this work is gradually increased and the heart is not strained by sudden exertion. To hypertrophy properly the heart must go into training. This training is necessary in valvular lesions after acute endocarditis, and is the reason that the return to work must be so carefully graduated. When the heart is hypertrophied sufficiently and compensation is perfect, a reserve power must be developed by such graded exercise as represented by the Nauheim, Oertel or Schott methods. Anything that increases the peripheral resistance causes the left ventricle to hypertrophy. Anything that increases the resistance in the lungs causes the right ventricle to hypertrophy. The right ventricle hypertrophy caused by mitral lesions has already been sufficiently discussed. The right ventricle also hypertrophies in emphysema, after repeated or prolonged asthma attacks, perhaps generally in neglected pleurisies with effusion, in certain kinds of tuberculosis, and whenever there is increased resistance in the lung tissue or in the chest cavity.

The term "simple hypertrophy" is generally restricted to hypertrophy of the left ventricle without any cardiac excuse—the hypertrophy caused by hypertension and hard physical labor. It is well recognized that it hypertrophies with hypertension and with chronic interstitial nephritis. It also becomes hypertrophied when the subject drinks largely of liquid—water or beer—and overloads his blood-vessels and increases the work the heart must do. This kind of hypertrophy develops slowly because the resistance in the circulation is gradual or intermittent. In athletes and in soldiers who are required to march long distances hypertrophy generally occurs. This hypertrophy, if slowly developed by gradual, careful training, is normal and compensatory. In effort too long sustained, especially in those untrained in that kind of effort, and even in the trained if the effort is too long continued, the left ventricle will become dilated and the usual symptoms of that condition occur. Such dilatation is always more or less serious. It may be completely recovered from, and it may not be. Therefore a proper understanding of the physics of the circulation by the medical trainer of young men to decide whether or not one should compete in a prolonged effort, as rowing in a race, for instance, is essential. It is wrong for a single athlete to have an incurable condition occur from competition.

Sometimes simple hypertrophy of the left ventricle occurs from various kinds of conditions that increase the peripheral circulation. It may occur from oversmoking, from the overuse of coffee and tea, from certain kinds of physical labor, or from high-tension mental work. It is a part of the story of hypertension. Many times such patients as well as occasionally trained athletes, and sometimes patients with arteriosclerosis or chronic interstitial nephritis, complain of unpleasant throbbing sensations of the heart. Added to these sensations are a feeling of fulness in the head, flushing of the face, and possibly dizziness—all symptoms not only of hypertension but of too great cardiac activity. Various drugs used to stimulate the heart may cause this condition; when digitalis is given and is not indicated or is given in overdosage these symptoms occur.

The treatment is simply to lower the diet, cause catharsis, give hot baths, stop the tobacco, tea and coffee, stop the drinking of large amounts of liquid at any one time, and administer bromids and perhaps nitroglycerin, when all the symptoms of simple hypertrophy will temporarily, at least, disappear.

If the heart is enlarged from hypertrophy, if it is the right ventricle that is the most hypertrophied, the apex is not only pushed to the left, but the beat may be rather diffuse, as the enlarged right ventricle will prevent the apex from acting close to the surface of the chest. If the left ventricle is the most hypertrophied, the apex is also to the left, but the impact is very decided and the aortic closure is accentuated.

SIMPLE DILATATION

The term "simple dilatation" may be applied to the dilatation of one or both ventricles when there is no valvular lesion and when the condition may not be called broken compensation. Broken compensation has been sufficiently discussed. Dilatation of the heart occurs when there is increased resistance to the outflow of the blood from a ventricle, or when the ventricle is overfilled with blood and the muscular wall is unable to compete with the increased work thrown on it. In other words, it may be weakened by myocarditis or fatty degeneration; or it may be a normal heart that has sustained a strain; or it may be a hypertrophied heart that has become weakened. Heart strain is of frequent occurrence. It occurs in young men from severe athletic effort; it occurs in older persons from some severe muscle strain, and may even occur from so simple an effort as rapid walking by one who is otherwise diseased and whose heart is unable to sustain even this extra work. All of the conditions which have been enumerated as causing simple hypertrophy may have dilatation as a sequence.

The symptoms of heart strain, if the condition is acute, are those of complete prostration, lowered blood-pressure, and a sluggishly, insufficiently acting heart. The heart is found enlarged, the apex-beat diffuse and there may be a systolic blow at the mitral or tricuspid valve. Sometimes, although the patient recognizes that he has hurt himself and strained his heart, he is not prostrated, and the full symptoms do not occur for several hours or perhaps several days, although the patient realizes that he is progressively growing weaker and more breathless.

The treatment of this acute or gradual dilatation is absolute rest, with small doses of digitalis gradually but slowly increased, and when the proper dosage is decided on, administered at that dosage but once a day. Cardiac stimulants should not be given, except when faintness or syncope has occurred, and if strychnin is used, it should be in small doses. The whole care, diet, massage and return to full work should be on the plan advised for a myocarditis following an acute disease. The heart may completely recover its usual powers, but subsequently it is more readily strained again by any thoughtless laborious effort. The patient must be warned as carefully as though he had a valvular lesion and had recovered from a broken compensation, and his life should be regulated accordingly, at least for some months. If he is young, and the heart completely and absolutely recovers, the force of the circulation may remain as strong as ever.

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* Editorial Note: This series of articles on "Disturbances of the Heart" will be issued in book form, in accordance with the desires of a large number of our readers from whom we have received letters. We will appreciate it if as many persons as possible order copies in advance, so that we may have some idea how many to print.

Sometimes the heart strain is not so severe, and after a few hours of rest and quiet the patient regains complete cardiac power and is apparently as well as ever; but for some time subsequently his heart more easily suffers strain.

ACUTE DILATATION OF THE HEART IN ACUTE DISEASE

It has for a long time been recognized that in all acute prolonged illness the heart fails, sooner or later, often without its having been attacked by the disease. The prolonged high temperature causes the heart to beat more rapidly, while the toxins produced by the fever process cause muscle degeneration of the heart or a myocarditis, and at the same time the nutrition of the heart becomes impaired either by improper feeding or by the imperfect metabolism of the food given; hence the heart muscle becomes weakened, and cardiac failure or cardiac relaxation or dilatation occurs.

The specific germ of the disease or the toxin elaborated by the specific germ of the disease may be especially depressant to the heart, as in diphtheria, or the germ may be particularly prone to locate in the heart, as in rheumatism and pneumonia. But all feverish processes, sooner or later, if sufficiently prolonged, cause serious cardiac weakness and more or less dilatation.

Just exactly what changes take place in the muscle fibers of the heart in some of these fevers has not been decided. Whether an albuminous or parenchymatous degeneration of the muscle fibers or a fatty degeneration occurs; whether there is a real myocarditis that always precedes the dilatation, or whether the weakening and loss of muscle fibers or a diminished power of the muscle fibers occurs without inflammation, dilatation of the heart is always a factor to be considered, and frequently occurs in acute disease.

While it is denied that acute dilatation can occur in a sound heart, at the latter end of a serious illness the heart is never sound, and acute dilatation can most readily occur, though fortunately it is generally preventable. When the dilatation occurs suddenly, as indicated by a fluttering heart, a low tension, rapid pulse, dyspnea and perhaps cyanosis with venous stasis in the capillaries, death is imminent, although such patients may be saved by proper aid. Even when the dilatation is slower, as evidenced by a gradually increasing rapidity of the heart and a gradually lowering blood-pressure, and with more evidences of exhaustion, death may occur from such heart failure in spite of all treatment.

Unless a patient dies from accident, as from a hemorrhage, from cerebral pressure or from some organic lesion in acute disease, the physician frequently feels that if he can hold the power and force of the circulation for several hours or days, the patient will recover from the disease, for in most acute diseases the patient has a good chance of recovery if his circulation will only hold out until the crisis has occurred or until the disease is ready to end by lysis. Therefore anything during the disease that tends to sustain, nourish, quiet and guard the heart means so much more chance of recovery, whatever else may or may not be done for the disease itself.

The best treatment of dilatation of the heart in acute disease is its prevention, and to prevent it means to recognize the conditions that can cause it. These are:

1. Prolonged high temperature. A short-lived temperature, even if high, is not serious. Prolonged temperature of even 103 F. or more is serious, and even that of 101 is serious if too long continued.

2. Exertion and excitement. Every possible means should be inaugurated to prevent muscular exertion and strain of the patient while in bed. Proper help in lifting and turning the patient should be employed, the bed-pan should be used, proper feeding methods should be adopted, and friends should be excluded so that the patient may not be excited by conversation.

3. Bad feeding. The diet should of course be sufficient for the patient and proper for the disease, but any diet that causes a large amount of gas in the stomach, or tympanites, is harmful to the patient's circulation, to say nothing of any other harm such as indigestion may do. All of the nutriments needed to keep the body in perfect condition should be given to a patient who is ill; in some manner he should receive the proper amounts of iron, salt, calcium, starch, protein, sugar and water.

4. Intestinal sluggishness. This not only means that tympanites should not be allowed, but necessary laxatives should be given. It would be wrong to prostrate a patient with frequent saline purgatives, but the bowels must move at least once every other day, generally better daily; and if the case is one of typhoid fever, they should be moved by some carefully selected laxative, and after the bowels have sufficiently moved, the diarrhea should be stopped by 1/10 grain of morphin, and the next day the bowels properly moved again.

5. Depressant drugs. In this age of cardiac failure heart depressants of all types, and especially the synthetic products, should be given only with careful judgment, and never frequently repeated or long continued.

6. Pain. This is one of the most serious depressants a heart has to combat; acute pain must not be allowed, and prolonged subacute pain must be stopped. Even peripheral troublesome irritations must be removed, as tending to wear out a heart that has all of the trouble that it can endure.

7. Insomnia. Nothing rests a heart or recuperates a heart more than sleep. Insomnia and acute disease make a combination that will wear a heart out quicker than any other combination. Sleep, then, must be produced in the best, easiest and safest manner possible.

8. A too speedy return to activity. The convalescence must be prolonged until the heart is able to sustain the work required of it.

The treatment of gradual dilatation in acute disease has been sufficiently discussed under the subject of acute myocarditis. The treatment of acute dilatation is practically the same as the treatment of shock plus whatever treatment must coincidently be given to a patient for the disease with which he is suffering. The treatment of shock will be discussed under a separate heading.

(To be continued)

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SATURDAY, MARCH 22, 1913

ANIMALS AS CONVERTERS OF PLANT NUTRIMENTS INTO HUMAN FOODSTUFFS

There are numerous circumstances under which questions of economy in the use of foodstuffs need to be taken into consideration. The problem of the cost of production of our nutrients is one that appears to be growing in importance and seriousness from decade to decade. In the extensive use of animal foods, so common in most civilized nations to-day, it is rarely borne in mind that the production of this type of nutrient involves a conversion of plant food into animal foodstuffs — a transformation inevitably necessitating a sacrifice of considerable energy. The animal which devours the plant products requires no small proportion of the stored energy for its own maintenance, that is, its normal life processes; accordingly the residue available for the production of meat and fat or the secretion of milk, which may become available to man as dietary articles, must represent a correspondingly smaller portion of the actual nutrients originally stored in the plant ingested. One is, therefore, justified in asking to what extent it may be possible or desirable for mankind to attempt to avoid this intermediate waste of energy by making direct use in larger proportion of the plant products which are ordinarily converted to our advantage by the herbivorous animal.

In attempting to answer this question we must bear in mind the diverse character of some of the plant products which are ordinarily consumed by man and the plant-eating animals, respectively. The latter utilize such natural products as straw, grass, leaves, etc., which ordinarily form no part of the human dietary. An inspection of these products reveals at once their relative richness in cellulose and related substances, which are not rendered available to the human individual in nutrition, but evidently are not without some nutrient value to the animals which consume them. Probably the most important factor in enabling the herbivorous animals to utilize such materials as have been referred to lies in the part played in them by certain types of alimentary bacteria which exert sufficient solvent action on the cellulose envelopes of various types of plant materials to liberate their more digestible contents for the subsequent action of the digestive juices of the animal, and, perhaps, also to convert the insoluble and unavailable cellulose into fermentation products which may still have a certain degree of nutrient value in the organism. At any rate it is clear, from such experimental evidence as is available at the present day, that cellulose is disintegrated in the alimentary tract of herbivorous animals to an extent which never occurs in the digestive tube of man. The only comparable factor which can enable the human organism to liberate the foodstuffs from their impervious coverings in the cereals, etc., is the process of grinding and milling which brings about an extensive comminution of these products. To a certain extent this is also accomplished by effective mastication, which, however, is ordinarily efficient to only a small degree in rendering the texture of resistant foodstuffs satisfactory for good utilization.

It is interesting to note that all the vegetable foodstuffs which are easily digested by man are advantageously used directly in our diet. The ultimate value of animal production lies, in part, in the fact that it enables mankind to transform into more readily utilizable food products nutrient materials for which the human organism is not well adapted. It follows, therefore, that in order to furnish nutriment to the maximum population from the natural resources of the land, the more digestible vegetable products should be applied directly for the nutrition of man, whereas the more resistant ones should be converted to his use through the intermediation of the ruminating animals. The respective rôles of the two types of organisms ought to be borne in mind whenever conditions arise which call for a maximum utilization of the products of the soil for the maintenance of a large population.

HEALTH EXPENDITURES OF THE FEDERAL GOVERNMENT

One of the most interesting contributions to the discussion of the public health activities of the federal government is Senate Document 1072, which contains a summary of the expenditures of the government during 1912 for public health and medical purposes. The information in this document was collected in accordance with a resolution introduced by Senator Works of California, asking for a report on "the total expenses of the government for 1912 for health departments, bureaus and all other health activities in its various branches," together with the number of officers and employees engaged in such work. Secretary MacVeagh submitted a summary of the expenditures followed by a recapitulation by departments, which is reproduced verbatim as showing the exact amount of the expenditures of the federal government for health purposes.

This report is the basis for the newspaper statement that the national government is spending nearly twenty million dollars a year in public health work. But what are the facts?

Following the tabulation quoted herewith is a report from the secretary of each department, giving the items of the expenditures. These details throw considerable light on the work actually being done. For instance, how does the state department spend $36,000 for health purposes? Investigation shows that $19,999.28 of this amount was to meet the expenses of the Ninth International Conference of the Red Cross, held in Washington last year, while $10,163.64 was for the recent International Congress on Hygiene and Demography. Of the remaining amount, $2,830.55 was the annual share of the United States for the maintenance of the International Sanitary Bureau, and $3,015.62 was the share of the United States in the support of the International Office of Public Health, at Rome.

RECAPITULATION BY DEPARTMENTS

Departments and Bureaus	Expenses of Operation and Maintenance	Salaries and Other Compensation	Total Expenses	Number of Officers and Employees
State Dept.	$36,084.09	....	$36,084.09	.....
Treasury Dept...	668,289.55	$1,236,413.49	1,904,703.04	1,507
War Dept.	2,875,574.56	2,838,516.13	5,714,090.69	4,521
Panama Canal..	628,641.44	991,749.68	1,620,391.12	1,634
Soldiers' Home, Wash., D. C...	65,469.01	23,415.56	88,884.57	89
Nat. Homes for Disabled Vol. Soldiers	755,022.61	291,719.21	1,046.741.82	1,244
Navy Dept.	1,911,522.88	1,819,000.00	3,730,522.88	2,074
Interior Dept...	892,422.70	684,691.40	1,577,114.10	1,278
Dept. of Agricul.	347,225.60	3,551,977.28	3,899,202.88	3,159
Dept. of Commerce & Labor	44.739.83	95,060.03	139,799.86	98
Dept. of Justice.	32.598.18	9,953.00	42,551.18	28
Total	$8,257,590.45	$11,542,495.78	$19,800,086.23	15,632

The $1,904,703.04 spent by the Treasury Department for health purposes was, of course, largely expended by the United States Public Health Service, $747,638.32 being required for the salaries of the officers and employees and the traveling-expenses of the medical officers of the Public Health Service, while $14,892.80 went into the Hygienic Laboratory. The marine hospitals and care for the seamen of the merchant marine required $367,797.41. The federal Quarantine Service and the construction of quarantine stations cost $414,592.85, while the amount spent for preventing epidemic diseases in the United States, Porto Rico and Hawaii amounted to $326,057.38, plus $30,065.11 for the leprosy investigation station in Hawaii, making a total expenditure by the Treasury Department for health purposes of $1,533,256.46.

The Isthmian Canal Commission spent, last year, $1,620,391.12 for sanitation. Of this amount $956,275.01 was spent in administration and in maintaining hospitals and asylums, $35,861.36 in buildings and repairs, while the remainder, amounting to $640,879.53, was spent in sanitation and the disposal of garbage, street-cleaning, etc., in Panama, Colon and the Canal Zone.

The medical expenditures of the War Department ($5,714,090.69) are, of course, larger than those of any other department and are confined entirely to the work of the medical corps and the construction of Army hospitals. Likewise, the Bureau of Medicine and Surgery of the Navy spent $3,730,522.88. As the object of warfare, however, for which the Army and Navy exists, is to destroy rather than to save life, the expenditures of these departments can hardly be regarded as for public health purposes. The total appropriations for the medical services of the Army and Navy are $9,444,613.57, over half the total charged against public health work.

The soldiers' homes, which spent $1,135,626.39, and the Pension Bureau medical service, which cost $240,287.44, can hardly be regarded as established or conducted in the interests of public health. The Bureau of Indian Affairs of the Department of the Interior shows an expenditure of $395,388.71 "for health purposes." Yet the commissioner says in his report that the only specific appropriation available for sanitary work among the wards of the nation is an appropriation of $60,000 "for relieving distress and prevention of disease among Indians," which amount is, he adds, "wholly inadequate to meet the requirements of the service."

The Department of Agriculture has the second largest amount charged against it. The Bureau of Chemistry, for the enforcement of the pure food law, is responsible for $782,263.02, while the Bureau of Animal Industry is charged with $3,090,403.29. This bureau is given the credit of having been established for the protection of the health of the public, whereas it was established originally and is now conducted as a commercial bureau to increase the value of farm products.

In the Department of Commerce and Labor, the Division of Vital Statistics of the Bureau of the Census required $105,195.47. The Children's Bureau spent $9,128.01. The Department of Justice paid out for the care of the health of United States prisoners $42,551.18.

The only items in this schedule which can properly be charged against the public health activities of the government, as far as the United States are concerned, are $1,533,256.46 of the appropriation for the Public Health Service which is actually spent for public health purposes, the $782,263.02 spent by the Bureau of Chemistry in enforcing the Food and Drugs Act, and the $105,195.47 required to operate the Division of Vital Statistics of the Bureau of the Census. To charge the cost of international conferences, Army and Navy medical services, construction of Army hospitals, expenses of the Pension Bureau and the Bureau of Animal Industry and the sanitation expense of the construction of the Panama Canal as public health expenses is, of course, absurd. The fact is that instead of the federal government expending $19,800,086.23 last year for public health purposes, it actually spent $2,420,614.95.

It is also worthy of note that the only three bureaus in which there were bona fide health expenditures were the Public Health Service, the Bureau of Chemistry and the Division of Vital Statistics, which are the identical bureaus which under the Owen bill would be transferred and made an independent health bureau.

Evidently the heads of departments at Washington under the late administration labored under the same error as some of our popular agitators, and confused medical treatment with health. The department proposed by Senator Owen is to be a health department and not a department for medical treatment. If this fact can be grasped, much confusion will be avoided both in the public press and in the seats of government.

MEDICINE AND THE LAW

"Every lawyer when young should be apprenticed to some good physician, and should return to him regularly through life," says Mr. G. M. Stratton[1] in contrasting the spirit of medicine with the spirit of law. In accepting this graceful appreciation our profession might reply as simply as did Mark Twain who, in responding to the toasts at a dinner given in his honor, said that never before had he heard compliments so beautifully expressed or so well deserved.

Stratton, speaking of the spirit pervading each of these professions, finds that lawyers as a body, in their professional work, are "of the backward look," while physicians keep pace with the advance of the natural sciences. The body of the law stands immovable, for it "represents the stability, the habit of our social life," as against the creative energy of reform. "Of two Rip Van Winkles awakening to-day, the physician would find his old methods as rust-eaten and useless as his instruments; the lawyer, after a few hours with new statutes, would feel at home in any of our courts." Too often the aim seems to be to play out a game with punctilious regard for all the rules, however minute, fantastic or technical, rather than to decide a weighty question with due sober respect for the grave human issues involved. Thus "an action for murder comes to nought because the complaint fails to state that John Smith slain was a human being." Then too, the lawyer passes through the school of advocacy. In practice he is ready to fight on either side. This robs not only the attorney but also the judge of whatever rounded view he might otherwise have of his larger social duty, his responsibility to the public. The object of medicine is not in conflict with other social needs. The physician does not heal one man at the cost of the health of another. The lawyer too often defends one man's rights at the expense of another's. "The individual lawyer is not free to put into operation some entirely new principle the value of which he may perceive; he is not free to experiment effectively," as is the physician. It is to offset the deadening influences of the lawyer's work that Stratton advises him to seek inspiration from medicine. By intercourse with the physician he may find the spirit which is lacking in his own profession.

Stratton's evident sympathy with the medical side of his contrast leads one to fear that he looks solely on the limitations of the one great profession and on the opportunities of the other. On that point, let the men of law speak for themselves. It would, of course, be most foolish to regard such a tribute to the spirit of medicine as called forth by personal merit, even that of the masters of the art. Yet the least among us, provided he be sincerely imbued with the spirit of his chosen work and earnestly devoted to its success, is entitled to feel pride as well as satisfaction in the fact that his task is to read the inexhaustible book of living Nature instead of the annals of the past.

THE ENCOURAGEMENT OF MEDICAL RESEARCH

Prof. R. G. Hoskins of the Starling Ohio Medical College in Columbus has proposed a plan for the encouragement of medical research[1] which is intended to act as an incentive to competent workers who are not reached by the opportunities of the great research foundations or other scientific laboratories. The scheme aims to reward actual accomplishment without unduly favoring any one. It is suggested that the result could be achieved by the simple expedient of endowing the periodicals devoted to the publication of research so that contributed articles could be paid for according to their merit. Dr. Hoskins believes that such an arrangement would obviate what he considers to be, in many institutions, the most discouraging feature of research, the feeling that unusual effort, from a selfish point of view, is not merely futile but even detrimental, in that certain social and personal sacrifices are made without compensatory gain. We are told that the plan in operation would be simplicity itself. Rewards would go automatically to those who earned them. The difficulty of securing editorial boards fair-minded enough to decide the problems which would inevitably arise in this plan is admitted, although not regarded as insurmountable.

It is doubtless true that there are capable investigators who are not reached by the present organization of research undertakings in this country. We look with a certain misgiving on the tendency to divorce research from the universities and to segregate it in independent centers. There are many aspects to these broad questions and they cannot be settled by offhand judgments and haphazard opinions. But aside from this and admitting the difficulties under which even men of ability when isolated may struggle in an attempt to accomplish something worthy in the medical sciences, it is questionable whether the plan proposed could bring about the ends it aims to accomplish. The honorarium paid by some of the German publications to their contributors has tended to encourage quantity rather than quality of contribution in many instances, although it must be admitted that the cases are not strictly comparable with the standard proposed by Dr. Hoskins. There is an underlying error, we believe, in the attempt to measure the value of research by the publications submitted. Diligent, protracted investigation — the dictionary's definition of research — makes no pretense to furnish a product of specific value. Laborious study of the sort which brings what are commonly spoken of as "negative" results may have the utmost importance. Usually this lies in enriching the experience of the individual, in better preparing him for his further ventures, in paving the way for others so that they may avoid the errors of methods and the inadequacies of tested schemes. We are prone to overlook the value of such apparently unfruitful endeavors, though in truth they are often quite as important as a few striking positive findings. Negative findings do not always lend themselves to publication.

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[1] Stratton, G. M.: Lawyer and Physician: a Contrast, The Atlantic Monthly, January, 1913, p. 46.

[1] Hoskins, R. G.: A Plan for the Encouragement of Medical Research, Science, Feb. 21, 1913, p. 303.

Present-day methods of administration tend to recognize and reward the man. The dissatisfaction which is voiced in such plans as we have been discussing will be overcome in part when the status of the man of science in this country is decidedly changed. Pecuniary awards are admittedly difficult of adjustment in science; but it is reasonable to expect for its devotees a greater social respect and public recognition than they are wont to receive. The respect and admiration of one's fellow man are potent factors in making the pathway of life more attractive. The popular estimate of the scientific worker is veiled in the thinnest humor in "The Food of the Gods," the fantastic story by H. G. Wells. "Quite ordinary persons, you perceive, outside their science. Or if anything on the unpractical side of ordinary. And that you will find is the case with 'scientists' as a class all the world over. What there is great of them is an annoyance to their fellow scientists and a mystery to the general public, and what is not is evident."

Science has contributed and is bound to contribute to the practical and utilitarian in the life of man, yet it is not and cannot be pursued as a mercantile affair. Modern physics is not cultivated as the servant of a steel corporation or an electricity monopoly. And similarly scientific medicine will continue to progress despite its inadequate rewards and its seeming inequalities of opportunity, because man's mind craves and finds satisfaction in the growth of human knowledge.

ANOTHER FUNCTIONAL TEST DISCREDITED

Another test for functional disorder in the organism has apparently come to grief. It has been known for some time that malignant growths contain an enzyme of the erepsin type capable of digesting protein beyond the proteose stage. This proteolytic power has been described as present in the gastric contents of cancer patients, where it was supposed to have been derived from cancer tissue and secreted into the stomach. An excellent method of detecting this digestive property was devised by Neubauer and Fischer in 1909 when they introduced the dipeptid glycyltryptophan as a test object. This compound is not split by pepsin; but other proteolytic enzymes can initiate hydrolysis and liberate the tryptophan, which is easily identified by means of a color reaction with bromin. Subsequently other tryptophan-yielding protein mixtures, such as the commercial "pepton" of Witte (which likewise does not yield amino-acids by treatment with pepsin alone) have been substituted in the functional test for the diagnosis of cancer. A large literature has already grown about this theme. For the most part it consists of statistical reports regarding the negative or positive outcome of the tryptophan test in normal cases or those suspected of carcinoma.[1] There has been no lack of critique in the matter, however. It is generally agreed that in the large majority of the cases of gastric carcinoma the stomach contents do show the power to hydrolyze the polypeptids as pepsin does not. But the possibility of a reflux of duodenal contents through the pylorus, carrying along the ereptic and tryptic enzymes from the intestine and pancreas, is an ever-threatening possibility, especially when, as in carcinomatous stomachs, the low gastric acidity favors such regurgitation.

A quite different source of error was brought out by Warfield in 1911. He discovered that saliva is capable of splitting glycyltryptophan so that it will give a reaction for tryptophan with bromin. If this is true — and it has been confirmed — there is no reason why the positive reactions obtained with the gastric contents in cancer, in which the acidity is notably low, should not be attributed to the admixture and "survival" of the peptid-splitting saliva swallowed. Thus the validity of the tryptophan test has been menaced from both ends of the stomach, by the entrance of intestinal contents at the pylorus and of saliva at the cardia.

Now, however, the further question has been raised whether in reality the reactions observed are due to a new enzyme in the saliva. Independent experimental investigations in the Mayo Clinic[2] and in the Sprague Institute for Medical Research[3] point to bacteria as the real source of the peptolytic reactions that have been described for saliva and consequently also for stomach contents containing the latter. Saliva suitably filtered and kept aseptic fails to exhibit this peptid-splitting behavior. Free tryptophan is occasionally met in saliva from dirty or infected oral cavities. The use of strong mouth-washes, such as the organic peroxids, results in a marked diminution of the peptid-splitting power ordinarily observed; while cultures of bacteria grown from saliva often readily produce the typical reaction of the test. These facts all point to microorganisms as the source of the cleavage power, which is accordingly due to the unfilterable agents. According to Jacque and Woodyatt, normal gastric juice, free from blood, pancreatic secretion and bacteria, has no peptolytic power. The same holds true for cases of benign subacidity. These authors state that in about 88 per cent. of developed cases, carcinomatous stomach contents show a peptolytic power decidedly greater than the maximum seen in benign conditions in general; so that the detection of this power may after all be of some value in the diagnosis of cancer. In any event it is essential to eliminate bacteria by the passage of the gastric specimen through an effective filter, with subsequent aseptic precautions. The newly described facts must nevertheless serve to diminish the confidence which has hitherto been bestowed on the tryptophan test.

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[1] The literature bearing on the tests, etc., will be found compiled in the Archives of Internal Medicine, December, 1912, pp. 575, 576; also April, 1912, pp. 445, ff.

[2] Smithies, Frank: The Glycyltryptophan (peptid) Splitting Agent in Human Saliva, Arch. Int. Med., December, 1912, p. 521.

[3] Jacque, J. L., and Woodyatt, R. T.: The Peptolytic Power of Gastric Juice and Saliva, with Special Reference to the Diagnosis of Cancer, Arch. Int. Med., December, 1912, p. 560.

EXAMINATION FOR FEEBLE-MINDEDNESS AMONG IMMIGRANTS

The problem of the feeble-minded is one that presses insistently for solution. Among the important phases of this problem not the least is that of the detection of the feeble-minded among immigrants. New York, being the portal of entrance of the greatest number of immigrants, is most immediately affected by this problem. The New York State Board of Charities, in a recent report to the governor, calls attention to the inadequate facilities for caring for the thirty thousand defectives in the state, among whom are many immigrants or the children of immigrants. There are facilities for taking care of only six thousand. The commissioner of immigration and many of the medical men and inspectors in the immigration service at the port of New York have laid stress on the inadequate force and appropriation for detecting and excluding the feeble-minded among immigrants reaching that port. It has also been asserted, as pointed out in a recent editorial,[1] that the training of many inspectors is not of such specialized character as to enable them to pick out, with the greatest possible degree of accuracy, the feeble-minded among immigrants.

J. G. Wilson of the United States Public Health Service,[2] located at Ellis Island, also calls attention to the lack of trained men and interpreters and a place for them to work, and the failure of Congress to provide adequate funds for these purposes. Wilson points out, moreover, the insufficiency of any particular method of determining feeble-mindedness among immigrants. He says that, even though the essential phenomena of feeble-mindedness be the same among all races, it does not follow that these can best be elicited in all cases by identical methods. The differentiation of the high-grade feeble-minded individual or moron from the person of average intellectual capacity is made more difficult by the fact that we have no entirely satisfactory understanding of what really constitutes a moron. To say that a moron is a person whose intellectual development is permanently arrested somewhere between the ages of 8 and 12 years seems definite, but when applied to immigrants is open to the objection that the standard of intelligence and of knowledge varies with the different races. To this difficulty are added those arising from the differences in language and the racial point of view as to life's problems, which make it hard to differentiate between the moron and the ignoramus among the immigrants.

Although Wilson believes that the Binet-Simon test is sufficiently accurate when applied to the diagnosis of feeble-mindedness in those who have been brought up in an environment similar to that of the persons among whom Binet's original experiments were conducted, and that as modified by Goddard it may be applied to Americans, he finds that it is not an infallible test for feeble-mindedness among immigrants. He believes that we should be extremely cautious not to confound dense ignorance with inherent mental incapacity. He cites as an instance a 20-year-old immigrant farm laborer with no schooling, who could not read or write and who failed in the 7-, 8- and 9-year-old Binet-Simon tests, but who, when asked a series of questions which came more nearly within the range of his experience, answered them all perfectly although many involved both intellectual and moral judgments. Wilson found that the man was normal but that his powers of observation and his constructive imagination had lacked opportunity for development. Wilson found also that Healey's rack test and Fernald's test, which are in the form of puzzles, designed to bring out the perception of the relationships of forms and of the individual's ability to profit by the experience of repeated trials, could not be relied on to differentiate between the normal and abnormal in all instances; many immigrants otherwise found to be normal failed in these tests.

Wilson therefore believes that every artificial aid to determine mental ability must be used with great caution and be considered only as an adjunct to a general examination which considers the reaction of the individual to his environment under all circumstances. Any tests applied should have an air of familiarity about them. The diagnosis of feeble-mindedness must be established by careful weighing of all the evidence which every reputable method of examination can furnish, such as the Binet-Simon tests, the Di Sanctis tests, the apparatus of Healy, Fernald, etc.; but the examiner should always bear in mind the fact that what he really desires to determine is whether or not the alien is lacking in one or more mental traits which will make it impossible for him to assume his normal relations to society. All of this emphasizes the importance of time, of adequate facilities and of a sufficient force of specially trained and experienced inspectors, if such effective showing is to be made in the detection of the feebleminded who seek to enter our country as the great importance of the question demands.

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[1] The Problem of the Feeble-Minded Among Immigrants, editorial, The Journal, Jan. 18, 1913, p. 209.

[2] Wilson, J. G.: The Diagnosis of Feeble-Mindedness Among Immigrants, Boston Med. and Surg. Jour., Feb. 13, 1913, p. 226.

Current Comment

CLEAN ADVERTISING—A HOPEFUL SIGN

The fight The Journal and some lay publications have made against fraudulent medical advertising seems to be making fair progress toward success. Each year additional newspapers and magazines have joined this campaign for decency and truthfulness. Now there has arisen a new power from which much may be expected. This force, to which we referred recently,[1] is an organization known as the Associated Advertising Clubs of America. It has over 10,000 individual members, and includes many advertisers who operate on a national scale. The organization has what it terms a National Vigilance Committee which was created "to wage war on dishonest advertising." This committee, through its chairman, Mr. H. D. Robbins of New York, has for some time past been in correspondence with The Journal office for the purpose of obtaining reliable information regarding medical frauds. Many individual advertising clubs in different parts of the country, component parts of the Associated Advertising Clubs of America, have their own local "vigilance committees" whose duties are similar to those of the national committee but applied to local rather than national problems. Readers of The Journal will, we believe, read with gratification the following resolutions, adopted by the National Vigilance Committee of the Associated Advertising Clubs of America:

> Whereas, The American Medical Association has rendered a great service not only to the medical and pharmaceutical professions, but particularly to the public at large in the investigation of fraudulent quacks and nostrums and in its publication of pamphlets exposing the unworthy; therefore be it
>
> *Resolved,* That the National Vigilance Committee of the Associated Advertising Clubs of America in convention assembled at Cleveland, November 23, hereby expresses its hearty appreciation and thanks to the American Medical Association and pledges to that Association the utmost measure of active assistance which lies within its power to render. In turn it asks, knowing that it will receive, the active cooperation of the American Medical Association in its particular task of eliminating from all decent publications or other means of reaching the public eye, all announcements of unworthy, dishonest or fraudulent medical advertising.

The power that such an organization as the Associated Advertising Clubs of America can wield is far greater than that possessed by any publication. Those of us who have been fighting for decency and truth in advertising have been able to bring to bear only the powers of moral suasion. We could say to the newspapers that are carrying fraudulent medical advertisements: "These things are frauds. They are frauds for reasons that we are able to give you. May we not suggest that you reject such advertisements?" But the national advertisers, naturally have greater influence. They can say to the newspapers: "We purchase thousands of dollars' worth of space in your paper every year. Our products are clean; are sold under no misrepresentation and are, in fact, in every sense legitimate merchandise. We protest against having our advertisements appear in company with advertisements of products that are vicious or fraudulent, or both. We believe that such a juxtaposition is to the detriment of the honest product. The public has become critical. In suspecting, or realizing, that certain advertisements in a given newspaper are fraudulent, doubts are likely to be raised as to the genuineness of all other advertisements in the same paper. We, therefore, have decided to place our advertising with such newspapers only as exclude all fraudulent matter." If this attitude is taken by the purchasers of large advertising space it will result in the segregation of objectionable advertisements. There will doubtless be some sheets that are willing to accept the offscourings, but in the nature of the case, the influence of such mediums will be self-limited.

PROFESSIONAL FEES AND WEALTHY PATIENTS

Fees for professional services are generally determined by the value of the services and the wealth of the patient. The justice of the first condition requires no argument. Various reasons have been given in defense of the second. Some are valid. Others are plainly subterfuges. It has remained for one of the best-known members of the New York bar to advance an explanation founded on both law and equity. Speaking at a medical dinner recently, Hon. W. Bourke Cochran said that the sea law of salvage should apply on land as well as on sea. The New York *Times* gives this extract from his remarks:

> Now you all know that when a mariner comes on a wrecked vessel and saves it he is entitled to a fee for salvage. And that fee is fixed not according to the trouble it was to him to make the salvage, but according to the value of the goods salvaged. That is the law to which we must look to judge the surgeon who performs a major operation on a rich man.

Whether Mr. Cochran's theory is good law or not is for his legal confrères to determine. It is, however, a new and ingenious justification for a practice which has long existed.

DANGEROUS GLUTEN FLOURS

The fraud and deception to which an unfortunate portion of the public is subjected in the purchase of so-called foods for diabetics has been commented on before. In the Propaganda for Reform Department this week we discuss a few of the most widely advertised of these products. In some cases, the manufacturers of these preparations are plainly to blame. They know that the stuff they sell is dangerous for the diabetic, and when national or state laws have forced them to modify their claims, they have done so in such a way as to continue to violate the spirit of the law while grudgingly obeying the letter. Other manufacturers, we believe, have been misled by those who should know better—physicians. As a large share of the responsibility for the proprietary evil rests, in its final analysis, on the medical profession, so, unfortunately, does much of the blame for the frauds perpetrated in the name of gluten and diabetic foods. We believe that it is no exaggeration to say that four physicians out of five conceive "gluten flour" to be a flour from which practically all the carbohydrates (starch, sugar, dextrin, etc.) have been removed. That such is not the case is due in part to the wretched standard promulgated by the federal government, but physicians can do much to offset the harm done by the government's low standard. Very few people purchase gluten flours or foods except on the recommendation of a physician. It thus becomes the duty of every medical man to make plain to his patient that in the present state of the law the term "gluten flour" means little or nothing to the diabetic and that the essential information to be sought before purchasing such flours is the carbohydrate percentage. The law should demand that every package of gluten flour should have printed on its label its carbohydrate percentage—a requirement no honest manufacturer could object to. If this were done it would be a great step toward the protection of sufferers from diabetes. No flour containing over 10 per cent. of carbohydrates is a safe flour in a well-marked case of this disease. There is possibly a place in commerce for flours containing 40 or 50 per cent. of carbohydrates, to be used by those whose starch-tolerance is below par or by those who are suffering from a transient glycosuria, but no flours containing such high proportions of carbohydrates should be sold as safe products for the use of diabetics.

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[1] A New Force Against Fraudulent Advertising, Current Comment, The Journal A. M. A., Jan. 25, 1913, p. 291.

THE PRACTICAL VALUE OF BIRTH-REGISTRATION

The practical value of a birth-certificate has often been commented on. A recent criminal trial in North Carolina shows the importance of such records. In the case of the State versus Goodlake, the question of the guilt or innocence of Goodlake depended on whether a girl was or was not 14 years old. It was admitted that she was over 13, but it was claimed that she was not yet 14. How was this point proved? In a state which had had modern birth-registration for fourteen years, this would have been easy. The court would have called for a certified copy of the girl's birth-record. But in North Carolina there has been no birth registration. How could the court ascertain the facts? An old family Bible was found with a record of the child's birth; the monthly report cards of her school-teacher were introduced, and the teacher identified her records, and an old negro nurse testified as to the age of the child. Family Bible records are known to be loosely kept, entries often being made months or even years after the events. The school-teacher's records were only corroborative, while the "black mammy's" recollections after thirteen years were practically worthless. But the jury decided that the girl was 14 years old and sent Goodlake to the penitentiary for eight years. We know nothing of the merits of the case, of the guilt or innocence of the accused, or of the justice or injustice of the verdict. But for a modern, civilized state to have to resort in court to such methods to prove the age of one of its wards is supremely absurd. Evidently the people of North Carolina have come to the same conclusion, as the state legislature has just passed the model bill for the registration of births and deaths. After this law is once fairly in working order, such occurrences as those which marked the Goodlake trial will be impossible. Illinois, Iowa and Tennessee have the same measure before their legislatures, and it is hoped it will become a law in each of these states.

VITAL STATISTICS AND HEALTH CONDITIONS AS AN ADVERTISING ASSET

It has been the custom in the past for resorts with a favorable climate to advertise their "pure air" as an inducement to tourists, invalids and settlers — making use, in so doing, of "hot air," or just ordinary "blowing." Now that the value of climatic conditions with reference to health can be more correctly estimated, mere statements as to natural advantages in the way of springs, air, sunshine, etc., do not carry such weight. Something more definite must be presented. Health conditions in city or resort, to be regarded as an asset for drawing visitors or permanent residents, must be based on actual figures, and many places now vie with each other in that respect. The Manitou Springs Hot Iron Club, a commercial organization, in order to attract visitors and residents, circulates a letter calling attention to the vital statistics and morbidity record of that city, as compiled by the city physician. This is a rather novel idea. As the health of its inhabitants is the best business asset which any place can have, it is good business and good advertising for business men's associations to call attention to the actual figures with reference to their city in this manner.

STATE SUPPORT OF MEDICAL EDUCATION

Slowly but surely state legislatures are coming to see the necessity of providing more generously for the support of medical education. In the twenty-seven states that have state medical schools all but two, or possibly three, have provided in some way for the support of those schools. In several states this support is by a specified per capita tax. In others, means are provided for the state university, the university being left free to expend that money as it likes for the medical as well as for the other departments of the university. Still other states make direct appropriations for the medical school. Two states which have recently made appropriations for medical education are Arkansas and South Carolina. The legislature of the former has just appropriated $36,000 for the medical department of the state university.[1] In the latter the legislature has recently converted the Medical College of South Carolina, Charleston, into a state institution and has appropriated $10,000 toward its maintenance. Other states are making more liberal appropriations than heretofore, as shown by reports from Indiana,[2] where the annual appropriation for the medical school has been increased to $75,000, and in Oregon, where a larger appropriation ($45,000) for the medical school has just been reported.[3] Two state medical schools which at present are not receiving support from their state legislatures are Georgia and Illinois. The medical department of the University of Georgia has recently undergone a remarkable development through funds provided by the citizens and city of Augusta. In order that it may continue that splendid development, however, it should receive generous support from the state. In Illinois, if the state university medical school is to be satisfactorily developed, it also must receive ample support from the state. In several other states medical education has reached a critical period, which makes it urgent that the state appropriations be generously increased. In Nebraska, for example, although the state has already provided for college buildings for the state university medical school on the new campus in Omaha, it is quite urgent that the state should immediately provide sufficient funds for the greatly needed university hospital. In West Virginia, if the state university is to conduct a medical department, appropriations for that purpose should be sufficiently large to permit that department to be developed in a worthy manner. In Kansas, although large sums have been appropriated in the past, additional sums are needed for the further development of the school. The time is past when a medical school can be properly conducted on the income derived from students' fees, even though they be exorbitant. The medical school which is to furnish a training in modern medicine must of necessity have a corps of full-time, thoroughly qualified teachers to whom salaries must be paid, and there must be four or more large extensively equipped laboratories which not only require an original outlay of thousands of dollars but also require large sums for their maintenance. The same is true also regarding the development and maintenance of the medical library and the medical museum, which are essential adjuncts to the modern medical school. Altogether this requires an income far in advance of that required only two or three decades ago when medical teaching was largely by didactic methods. It is because of this largely increased expense that private, unendowed medical schools are rapidly disappearing, leaving the responsibility for the training of physicians to state universities and to well-endowed institutions. In order that the state universities may have medical schools worthy of being called state institutions, it is essential that they receive generous support from the respective legislatures. The states which grant such support will thereby insure for those commonwealths better-trained physicians who can better cope with the complex problems of sanitation and public health and at the same time furnish more skilled care for those who have need of a physician's services.

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[1] News Department, this issue.
[2] News Department, Feb. 22, 1913, p. 606.

UNAPPRECIATED EFFORTS OF COMPETENT OFFICIALS

The rapid development of medical education brought about during the past several years has shown in marked contrast the great need for better laws regulating the licensing of physicians and of better methods in the enforcement of such laws as are already enacted. Those who are striving for such improvements, however, have a decidedly up-hill road to travel. This is particularly true regarding the work of efficient executive officers of state licensing boards. Too often this position is so interwoven with politics as to make effective work exceedingly difficult. On the other hand, there is much evidence of very efficient work, and in several instances this work has been done under exceedingly difficult and trying circumstances. Often the board is not getting ample funds with which to do effective work. Again, the efficient officer soon finds that the first fruits of his efforts are kicks, curses and abuse, not only from those whose questionable practices are curtailed by the enforcement of the law, but often also from some to whom he had looked for sympathy and moral support. Some of these officials have, with little or no salary, neglected their private practices and fought the people's fight against quacks, incompetents and frauds, sometimes carrying on the work almost single-handed. How discouraging it must be, therefore, for one of these officials to find that apparently his work has not been appreciated by the public or by many of the medical profession, and to learn also that some of the latter have even sided with his enemies! A year or so ago we referred in these columns to the persistent fight made for fair standards of licensure in Colorado[1] and again to the work in North Carolina.[2] During the last year or two an equally effective fight has been carried on in Kansas by Dr. H. A. Dykes, the able secretary of the licensing board, who successfully prosecuted several notorious quacks, even with the seriously limited funds at his disposal. It is a question whether he had the support which he should have had either from the medical profession or from the people of that state. Anyone who was not a persistent fighter like Dr. Dykes would long ago have said "What's the use?" It is very desirable that the medical profession, at least, should give efficient state officials its hearty and effective support, and that all forces should unite in the campaign for better safeguards against unprincipled and swindling quacks, as well as against incompetent and untrained practitioners of medicine.

Medical News

ARKANSAS

Little Rock

Medical School Gets Appropriation.—An official notice says that the Arkansas General Assembly has just appropriated $36.000 for the Medical Department of the University of Arkansas for the biennial period ending March 31, 1915.

ILLINOIS

Medical Block for Rockford.—The erection of a six-story building on North Main Street near State, to cost $150,000 and to be occupied by physicians and dentists, is being considered by the professional men of Rockford.

Dispensary for Elgin.—At the meeting of the advisory board of the United Charities of Elgin, March 4, Dr. A. L. Mann, city physician, was asked to bring to the attention of the city commission, the matter of establishing a free dispensary for the poor of Elgin.

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[3] News Department, March 8, 1913, p. 757

[1] Dec. 16, 1911, p. 2018.

[2] Jan. 13, 1912, p. 120.

Sanatorium Notes.—A tuberculosis sanatorium is to be established two miles west of Springfield where a ten acre tract of land has been purchased as the site. Dr. George T. Palmer and Hon. Thomas E. Lyon consummated the deal.——The National Sanatorium and Springs, Freeport, which succeeded to the property of the White Sanatorium Company a year ago, is reported to have made an assignment for the benefit of creditors, March 10.

Personal.—Dr. E. G. Wilson, Kankakee, has been appointed local surgeon for the Chicago, Indiana and Southern Railway.——Dr. Louis Ostrom has been elected president, Dr. G. L. Eyster, vice-president and Dr. J. C. Souders, secretary-treasurer of St. Anthony's Hospital, Rock Island.——Dr. J. De Silva, Rock Island, has resigned as a member of the State Penitentiary Board.——Dr. F. M. Ingalls, for eighteen years a practitioner of Highland Park, has disposed of his practice and expects to leave early in May for Sacramento Valley, Cal.——Dr. John Deal, Jr., Riverton, has returned from abroad and will open an office in Springfield.——Dr. Theodore S. Proxmire, Lake Forest, has been placed in charge of medical work at Fort Sheridan during the absence of the regular staff.

Chicago

Personal.—Dr. and Mrs. Emanuel J. Senn have returned after several weeks in New Orleans.——Dr. Haim I. Davis, recently appointed county physician, assumed charge, March 13.——Dr. Joseph Shanks has been elected chairman of a committee for the establishment of a free dispensary on the northwest side of the city.

Bequest to Mercy Hospital.—By the will of the late Ferris H. Thompson, New York City, who died in Paris, February 18, Mercy Hospital and Orphan Asylum, Chicago, receives a bequest of $100,000 and a contingent bequest of $200,000 on the death of the widow of the decedent. The bequest is to be used for the erection of a five-story, fire-proof building as a home for nurses.

Tuberculosis Study Circle.—The third meeting of the Tuberculosis Study Circle of the Chicago Tuberculosis Institute was held March 21 at the City Club. Dr. W. A. Gekler, superintendent of the Indiana State Tuberculosis Hospital, Rockville, spoke on "Treatment of Pulmonary Tuberculosis with Artificial Pneumothorax," and the discussion was opened by Dr. Ethan A. Gray.

IOWA

New Society Organized.—Eleven practitioners of Perry met in the office of Dr. S. P. Free, recently, and organized the Perry Medical Society.

Must Report Typhoid and Tuberculosis.—On March 1, the compulsory registration of cases of typhoid and tuberculosis began in Des Moines. Printed blanks for reports have been furnished physicians.

Personal.—Dr. E. H. Hazen, Des Moines, who was operated on recently at Mercy Hospital is making steady progress toward recovery.——Dr. H. A. Minassian, Des Moines, who was operated on recently at Mercy Hospital for appendicitis, is ill with pneumonia, but is reported to be doing well.——Dr. A. J. Hunter, Oskaloosa, has suspended practice and gone to Havre, Mont.—Dr. F. C. Mehler, New London, in honor of his semicentennial of practice, was given a banquet in Burlington, February 14. Dr. J. Fred Clark presided.

KANSAS

New Medical Society Organized.—The faculty and students of the University of Kansas Medical College, Rosedale, organized a medical society, February 21, with an initial membership of sixty and elected Dr. Arthur E. Hertzler, Kansas City, president, and Dr. C. A. Doty, secretary.

Appropriations for State Institutions.—The Kansas legislature has appropriated $49,500 for a tuberculosis sanatorium in the northwestern part of the state, and $55,000 for the new buildings for the Larned State Hospital in addition to the unexpended balance made by the last legislature.

Personal.—Dr. James A. Barker, National Home, has been appointed chief surgeon of the Mountain Branch Soldiers' Home, Johnson City, Tenn., vice Dr. J. C. Butler, resigned.——Dr. S. A. Bass, Wichita, fractured his right arm while cranking his automobile, March 7.——Dr. J. H. Guinn, Arkansas City, announces his intention of discontinuing practice and of removing to Long Beach, Cal.——Dr. W. L. Jacobus, Ottawa, was operated on for appendicitis in the University Hospital, Kansas City, recently.——Dr. B. F. Slusher, Hutchinson, fell from his buggy recently, fracturing his forearm.

KENTUCKY

New Officers.—Hart County Medical Society at Munfordville, March 4: president, Dr. J. W. Craddock, Bonnieville; secretary, Dr. Dodson, Rowletts.

Personal.—Dr. Henry C. Kehoe, Flemingsburg, has been elected secretary of the State Institution for the Feeble-Minded, vice Dr. G. W. Armes, Frankfort, resigned.——Dr. J. D. Clardy, Hopkinsville, is reported to be critically ill.

New Hospital.—Physicians of Pikeville have organized a stock company and let a contract for the building of a twenty-five room brick hospital. Drs. W. J. Walters, M. Pinson, W. A. Campbell, Z. A. Thompson and J. W. Viears are among the promoters.

MARYLAND

Senator Wires Hospital.—Senator William P. Jackson has authorized Dr. Bryce W. Goldsborough, chief of the staff of the Cambridge Hospital, to have the hospital wired for electric lights at his expense. He will also pay for improvements in the *x*-ray department of the hospital.

Personal.—Dr. and Mrs. Cecil Dabney, Sherwood, have started for China where Dr. Dabney is a medical missionary of the Protestant Episcopal Church.——Dr. G. Hampden Richards has been elected mayor of Port Deposit.——Dr. William H. Welch, Baltimore, is still ill with gout.

Baltimore

Hospital Asks Increased Endowment.—Johns Hopkins Hospital is asking increased endowment to meet increased demands and outlay. Additions to four public wards and a new building for eye, ear, throat and skin diseases are contemplated as well as enlarged dispensaries.

MICHIGAN

New Officers.—Dr. Sara T. Chase has been elected secretary-treasurer of the Traverse City Antituberculosis Society.——Dr. Herman Ostrander has been elected president; Dr. J. B. Jackson, a vice-president, and Dr. S. R. Light, treasurer, of the Kalamazoo Antituberculosis Association.——The Michigan Health Officers' Association at its recent meeting in Ann Arbor, elected Dr. Guy L. Kiefer, Detroit, president; Drs. T. J. Langois, Wyandotte; T. M. Koon, Grand Rapids; A. F. Fischer, Hancock, and Edward Goodwin, Bay City, vice-presidents, and Dr. R. L. Dixon, Lansing, secretary-treasurer.

Hospital Notes.—At a joint meeting of members of the Poor Commission of Detroit with representatives of the Detroit hospitals, March 1, it was decided to ask for $600,000 for the construction and equipment of units of the various existing hospitals for the care of the sick poor.——A new hospital is to be built in Jackson through the efforts of the Jackson County Medical Society. The building will be of brick construction, fire-proof, three stories in height and will cost $100,000.——At the Eloise Tuberculosis Hospital there are fifty men and four women being treated, the male section being overcrowded while there is much waste of space on the female side. It is proposed to take as many male patients from the Detroit Tuberculosis Hospital as that institution will take females from the Eloise Tuberculosis Hospital, thereby limiting the accommodation of the latter institution to men and increasing its capacity at least fourteen beds.——The new tuberculosis sanatorium for Flint County is ready for occupancy. The institution is for advanced, indigent cases only.

MINNESOTA

Personal.—Dr. George D. Haggard, Minneapolis, has been appointed assistant quarantine inspector.——Dr. J. E. Engstad, Minneapolis, who was operated on recently at the Deaconess Hospital in that city for the removal of gall-stones, is reported to be making satisfactory progress toward recovery.

New Members of State Boards.—Governor Eberhard has appointed the following members of the State Board of Health: Drs. O. J. Hagan, Moorhead; Charles Lyman Greene, St. Paul, and Frank Bailor, Minneapolis.——Drs. F. B. Hicks, Grand Marais; D. J. W. Andrews, Mankato, and Charles H. Bolsta, Ortonville, have been reappointed members of the State Board of Medical Examiners.——Dr. W. J. Mayo, Rochester, has been reappointed a member of the State Board of University Regents.

Wesbrook Accepts British Columbia Presidency.—Frank Fairchild Wesbrook, dean of the College of Medicine of the University of Minnesota, has announced his acceptance of the presidency of the University of British Columbia, Vancouver, and expects to assume active duties by the middle of May. The institution over which he is to preside does not yet exist, excepting in the endowment of two million acres of provincial land and the earnest efforts of the people of British Columbia. Its material embodiment is a campus, well wooded, at Port Gray, near Vancouver. No buildings as yet have been erected nor has a faculty been appointed.——Dr. Wesbrook was the guest of honor at a banquet, February 12, given by the senior class of the medical school at which Dr. W. A. Jones presided as toastmaster. In response to the toast "Graduation," Dr. Wesbrook said: "You should help to lead the movement in this country whereby the medical profession will change its relationship to society as a whole. To a knowledge of medicine should be added a knowledge of statesmanship. If you do not take this step voluntarily and map out your own plan, somebody will do it for you."

MONTANA

New Officers.—Fergus County Medical Society at Lewistown, March 4: president, Dr. A. C. Biddle, Lewistown; secretary-treasurer, Dr. A. W. Deal, Butte.

State Sanatorium Ready.—The Montana State Sanatorium for Tuberculosis, Warm Springs, recently completed at a cost of $45,000, is now ready to receive patients. The institution consists of an executive building with two wings, each accommodating eight patients, and six cottages, each of which is equipped for two patients, but can, if necessary, accommodate twice that number.

NEBRASKA

Personal.—Dr. Maul, pathologist at the Hastings State Hospital, has accepted a position in the University of Denver.——Dr. W. D. Guttery, Pilger, has been appointed first assistant physician at the Norfolk State Hospital.——Dr. W. S. Fast, St. Joseph, Mo., has been appointed superintendent of the State Institution for the Feeble-Minded, Beatrice.——Dr. M. W. Baxter, Hastings, has succeeded Dr. W. B. Kern, Hastings, as superintendent of the State Hospital, Ingleside.——Dr. L. B. Pilsbury has been appointed assistant superintendent of the Lincoln City Hospital.

New Officers.—Jefferson County Medical Society at Fairbury, February 27: president, Dr. J. S. Taylor, Steele City; secretary-treasurer, Dr. A. J. Coats, Fairbury.——Harland County Medical Society at Orleans: president, Dr. William L. Sucha, Orleans; secretary-treasurer, Dr. Samuel M. Baker, Alma.——Fair County Medical Society at Hebron: president, Dr. Rudolph F. Decker, Byron; secretary-treasurer, Dr. Henry Hebron (reelected).——Custer County Medical Society at Broken Bow: president, Dr. J. H. Morrow, Merna; secretary, Dr. H. B. Landis, Broken Bow.

NEW MEXICO

Personal.—Dr. D. H. Galloway, Roswell, is reported to be seriously ill with pneumonia.——Dr. Frank de la Vergne, Albuquerque, has been appointed surgeon for a gold mining company at Gallop.——Dr. Francis T. B. Fest, East Las Vegas, has been made physician in charge of the United States Fruit Company's Hospital, Port Limon, Costa Rico.

Tuberculosis Within City Limits.—The Bernalillo County Medical Association, at its last meeting adopted a resolution that the city council of Albuquerque was acting without clearly understanding conditions in prohibiting the erection of a sanatorium within a mile of the city limits, and that this action would be useless unless private rooming-houses were prohibited from receiving roomers suffering from tuberculosis.

NEW YORK

Pulmotors Given to Hospitals.—The Rochester Railway and Light Company has presented pulmotors to St. Mary's and the Rochester General hospitals, Rochester, and to St. Peter's and the Albany General hospitals, Albany.

Property for State Hospital Transferred.—About 130 acres of land in the town of Marcy have been transferred to the State of New York for $16,325. The property is to be used in connection with the new state hospital soon to be erected.

Clinical Meeting.—The first clinical meeting of the Tri-County Medical Clinic was held in Ellis and Mercy hospitals and the Children's Dispensary, Schenectady, March 6, when twenty-five operations were performed and many medical cases were presented, described and reviewed. The second clinic will be held in Troy in the fall.

Letchworth Needs New Buildings.—The annual report of the State Board of Charities has been transmitted to the legislature. It urges that an administration building be erected without delay and also an assembly hall and a service building for the Letchworth Colony. A number of smaller buildings are required, making the total appropriation $785,450.

The Accident Record.—The National Highways Protective Society has compiled figures giving the number of traffic accidents in the different cities of the state. For purposes of comparison the figures are reduced to a rate per 100,000 per annum and show for New York City 46, up-state 26, Buffalo 58, Syracuse 17, Rochester 66, Albany 36, Yonkers 85. These figures include accidents from all kinds of traffic. Of these automobiles furnish about 64 per cent. outside of New York City, street cars about 23 per cent. and wagons and miscellaneous the remainder. In New York City the proportion was about 50 per cent. for automobiles and 30 per cent. for street cars. The high rate for Yonkers is explained by its proximity to New York and because many highways out of New York pass through it, thus occasioning an automobile traffic greatly out of proportion to its population.

Hospital News.—Rev. Irwin Goddard has offered to contribute the $32,000 fund for St. Barnabas Hospital to Poughkeepsie for the building of a municipal hospital, provided $200,000 is raised in the city for that purpose.——Excavation for the buildings of the Winifred Masterson Burke Foundation Home for Convalescents, White Plains, has been begun. The total cost of the buildings will be about $1,000,000 and they are expected to be ready for occupancy about Jan. 1, 1915.——The new Saranac Lake General Hospital was formally opened March 11. The building is the gift of Miss Emily Dutton Proctor and her brother, Redfield Proctor, and is given in memory of Miss Jane Hopkins Fairchild and Dr. Norman McLeod Carter.——The new City Cancer Hospital, Buffalo, situated in the same block as the Buffalo General Hospital, will, it is expected, be completed in June.

Personal.—Dr. J. L. More, Pulaski, has been elected president and Dr. H. S. Albertson, Oswego, secretary-treasurer of the new Oswego County Tuberculosis Sanatorium, Orwell.——The residence of Dr. P. G. Borden, Chafee, was burned March 7 with a loss of $3,000.——Dr. R. A. Toms, Kenmore, who has been under treatment in New York City, has returned much improved.——Dr. Allan N. Moore, Lockport, fell on an icy step at his home, March 3, fracturing his right leg at the ankle.——Dr. Otto R. Eichel, superintendent of the J. N. Adam Memorial Hospital, Perrysburg, has resigned and has been succeeded by Dr. Clarence L. Hyde.——Dr. Charles J. Tucker, Rochester, while crossing the New York Central tracks recently, in his automobile, was struck by a freight train and painfully injured.——Dr. H. S. Liddle has been elected vice-president and Dr. George P. Harran, secretary-treasurer of the board of directors of Mercy Hospital, Schenectady.——Dr. Harold C. Goodwin has been continued as medical superintendent of the Albany Hospital.——Dr. Jacob Goldberg has been elected chairman of the board of medical examiners of Buffalo.

New York City

Fire in Physicians' Office Building.—A fire occurred on the morning of March 14 in the Sydenham Building which is devoted to offices for physicians. The sixth story of the building was gutted and the offices of Dr. Edmund Dill and Dr. Adolph Kaempfier were ruined.

Harvey Society Lectures.—The ninth lecture of the Harvey Society series, delivered March 22, at the New York Academy of Medicine was by Prof. Franz Knoop, University of Freiburg, Germany, on "Modern Problems of Nutrition." The tenth lecture will be delivered on March 29 by Prof. John Howland of Johns Hopkins University, on "The Scientific Basis for the Artificial Feeding of Infants."

Mary Putnam Jacobi Fellowship.—The Woman's Medical Association of New York offers this fellowship of $800 for post-graduate study. Applications for the year beginning Oct. 1, 1913, must be in the hands of the committee by April 1, and the award will be announced June 1, 1913. Further information may be obtained from Dr. Emily Lewi, 35 Mount Morris Park West, New York.

The Inwood Tuberculosis Hospital.—At a recent meeting of those interested in the Hospital and House of Rest for Consumptives, Inwood, Upper Manhattan, the reports of the officers showed a very gratifying year's work. The institution has at present sixty-five beds and will soon open ten additional beds for children. A woman's auxiliary has been formed to assist in the work of maintaining the institution.

Work of Hebrew Charities.—The United Hebrew Charities reports that during the past year it has aided 302 patients suffering from tuberculosis, and has in many instances given assistance that involved the living conditions of the family, the amount thus expended being $41,470. This institution has been discouraging congestion of population on the East Side and for the past thirty years has been giving pensions to widowed mothers.

Growing Interest in the Crippled.—The Conference on Industrial Education for Children which was held in the Metroplitan Building on March 8 gave a special session to the consideration of the needs of crippled children. It was shown that primary teaching was the special need of the younger children, while there was a great field for industrial training among the older crippled children. The meeting created so much interest that a resolution was adopted making this section a permanent feature of the conference.

Clinical Lectures and Demonstrations.—The governors of the New York Skin and Cancer Hospital announce a course of clinical lectures and demonstrations in the outpatient hall of the hospital on Wednesday afternoons from April 2 to 27, inclusive, by Dr. L. Duncan Bulkley on "Surgical Diseases of the Skin," and on May 14 by Dr. Bainbridge on "Surgical Treatment of Malignant Diseases." Each lecture will be illustrated by cases, models, colored plates, photographs, etc. The lectures will be open to the medical profession on presentation of cards.

New York Wasteful of Human Life.—E. E. Rittenhouse, conservation commissioner of the Equitable Life Assurance Society, at a meeting of the finance forum of the West Side Y. M. C. A., recently arraigned the city authorities for their neglect to provide enough money for disease prevention and health education. He stated that 30,000 lives a year were sacrificed unnecessarily. He pointed out that there are insufficient hospital facilities and that those provided are not properly equipped as to the number of physicians and attendants; that there are too few milk inspectors; no proper facilities for checking the spread of tuberculosis, and that there is not even sufficient provision for the prevention of the spread of contagious diseases. The city fathers spend $26 per capita to run the city, but only 65 cents of that sum is expended for health.

Personal.—Dr. Frank Schneider, instructor in the department of biology and public health in the Massachusetts Institute of Technology and research associate in the Sanitary Research Laboratories, has become sanitarian of the department of surveys and exhibits of the Russell Sage Foundation. ——Dr. Robert Abrahams has been appointed manager of the Manhattan State Hospital.——A banquet was tendered Dr. William J. Robinson, editor of the *Critic and Guide*, March 7, at the Hotel St. Denis, at which Dr. Abraham Jacobi acted as toastmaster.——Dr. Alexis Carrel delivered an address before the Scientific Association of Johns Hopkins University, Baltimore, March 5.——Dr. Irwin E. Liss, an ambulance surgeon of the Lebanon Hospital, while endeavoring to protect a patient from injuries in an ambulance accident, sustained serious injuries and is in a critical condition.

Crocker Laboratory Assured.—The bequest of $1,566,635 to Columbia University for research work in cancer under the will of the donor, George Crocker, provided that the income from this fund was to be expended on research work alone and that no part of it was to be used for buildings. As a result the work has thus far been carried on in the laboratories of the College of Physicians and Surgeons. It is now announced that funds have been provided for the construction of a separate laboratory for cancer research work. The building will be erected on the property of the university known as East Field at Amsterdam Avenue and One Hundred and Sixteenth Street and will be 100 by 40 feet and three stories high. It is expected that the building will be ready for occupancy by the beginning of the summer. Dr. Francis Carter Wood was appointed director of the laboratory last summer.

The City's Spring Cleaning.—New York is in the throes of her first spring house cleaning. Commissioner Lederle had appointed Dr. M. B. McMillan, assistant sanitary superintendent, who formerly had charge of the sanitary campaign in Cuba, to take charge of the present task. Dr. McMillan says that the task of cleaning New York will be more difficult than that of cleaning Cuba because of the red tape by which everything is hedged about. The only way by which success can be attained, he states, is by the cooperation of the individual citizen. The city departments will each give active support to the work and many organizations have volunteered to lend their assistance, among them the Babies' Welfare Association, which includes a number of other organizations, the Tuberculosis Committee of the Charity Organization Society, the North Side Board of Trade, the Brooklyn Bureau of Charities and a number of lesser organizations. Dr. McMillan has asked the clergy of the city to devote a Sunday sermon to the movement.

NORTH CAROLINA

District Society Meetings.—Fourth Councilor District Medical Society at Rocky Mount: president, Dr. William H. Smith, Goldsboro; secretary-treasurer, Dr. M. M. Saliba, Wilson.—— The annual meeting of the Seventh District Medical Society in Charlotte, March 11-12, was devoted entirely to clinical conferences.

Hospital Notes.—The legislature has granted a special charter for the Cone Memorial Hospital to be located in two divisions, one at Greensboro and the other at Blowing Rock. The institution possesses an endowment of $2,000,000.——Drs. Fred C. Hyatt, Charles E. Moore and Parran Jarboe announce the opening of the Greensboro Private Infirmary.

Personal.—Dr. Harry Q. Alexander, Matthews, has been appointed a member of the Constitutional Revision Committee of the State.——Drs. J. B. Golding, Greensboro, and William C. Horton, Raleigh, are reported seriously ill.——Dr. H. A. Royster, Raleigh, will deliver the address on surgery before the South Carolina State Medical Association at Rockhill, next month.

New State Appointees.—The following nominations were confirmed by the senate, just before adjournment: Drs. R. H. Lewis, Raleigh, and Edward J. Wood, Wilmington, members of the State Board of Health; Dr. Lewis B. McBrayer, Asheville, a member of the board of the State School for Feeble-Minded, Kingston; Dr. A. B. Croom, Jr., Maxton, member of the board of the State Hospital for the Insane, Raleigh; Drs. R. H. Lewis, Raleigh, and J. R. Gordon, Jamestown, members of the board of the State Sanitarium for Tuberculosis.

PENNSYLVANIA

Crawford County Publishes Bulletin.—The latest publication is the *Crawford County Medical Society Bulletin*, printed at Meadville.

Appeal of State Hospital.—The State Hospital, Fountain Springs, has made an appeal for an increased appropriation to make the needed improvements at the hospital. The chief requirements are a waiting-room, an increase in the size of the dispensaries, the establishment of a receiving ward and of an isolation ward for contagious diseases.

Personal.—Dr. James R. Montgomery, Bloomsburg, was operated on for the removal of gall-stones in the Bloomsburg Hospital on February 22, and is making a satisfactory recovery.——Dr. Thomas J. Goodfellow, Warren, for four years a member of the staff of the State Hospital for the Insane, North Warren, has resigned and will practice in New York City.——Dr. C. E. Rutter, Northumberland, was operated on for appendicitis at the Medico-Chirurgical Hospital, Philadelphia, March 4, and is reported to be doing well.

Philadelphia

Hospitals to Reduce Nurses' Hours.—Steps are being taken in Philadelphia hospitals to reduce the hours of the nurses to conform to the bill before the legislature, calling for an eight-hour day.

Medicine in Siam.—On March 21, the first of the lectures of the Philadelphia College of Pharmacy was held, when Dr. Charles S. Braddock, formerly chief medical inspector to the Royal Siamese government, spoke on "Pharmacy and Medicine in Siam."

Alumni Clinics at Jefferson Hospital.—The staff of Jefferson Hospital arranged for two days of special clinics and demonstrations March 21-22, to be attended by alumni and their medical friends. Seven clinics were given on the first day and six on the second.

Jefferson Buys Sanatorium.—On March 11, the Board of Trustees of the Jefferson Medical College decided to purchase the property at Fifth and Pine streets owned by Henry Phipps and adapt it to the needs of a new Jefferson Institute for the treatment of diseases of the chest. This institution will be operated as one of the departments of Jefferson Hospital and will provide for the care of fifty-two bed patients, the greater portion being devoted to the care of advanced cases of tuberculosis. Large dispensary facilities will be available for the advice and treatment of all walking cases. Cases of pulmonary tuberculosis will be excluded from Jefferson Hospital. The management will be placed directly in charge of the medical department of the college with Dr. Thomas McCrae as medical director. The new department will greatly increase the dispensary service of the hospital, which totaled for the year ending May 31, 1911, 123,925 dispensary visits, an average of 340 walking patients treated a day, which does not include nearly 10,000 accident cases treated during the year.

TEXAS

Red Cross Classes Formed.—Two volunteer classes for Red Cross nursing and first-aid treatment have been organized among the women of El Paso. Dr. Alice P. Merchant has been elected president of the classes.

Pace Memorial to be Established.—Dr. John O. McReynolds has announced that plans will be undertaken immediately toward the establishment of the Pace Memorial Clinical Laboratory for Sick Children, Dallas, in memory of the late Dr. Jesse M. Pace, for many years a member of the faculty of the medical department.

Personal.—Fire in Grapeland damaged the office of Dr. P. H. Stafford to the extent of $1,000.——Dr. J. D. Magee, Abilene, who has been seriously ill, is reported to be out of danger.——Dr. H. C. Brownlee has resigned from the staff of the Austin State Hospital to accept the field directorship of the State Hookworm Commission, succeeding Dr. C. M. Hoch, resigned, to enter private practice at La Grange.

Commends Alsberg and American Medical Association.—Grayson County Medical Society at its meeting, March 4, adopted resolutions endorsing the course of Dr. Carl Alsberg in the enforcement of the Food and Drugs Act, promising its cooperation and support especially in the suppression of patent and proprietary frauds, commending The Journal of the American Medical Association for its fight against fraud, and calling on the medical profession throughout the country to join in this great fight for reform.

Medical Examiners Named.—The governor has nominated the following members of the State Board of Medical Examiners: Drs. W. B. Collins, Lovelady; W. L. Crosthwaite, Waco; George L. Baber, Winnsboro; J. H. Evans, Palestine, and E. B. Osborn, Cleburne; homeopathic representatives—Drs. T. J. Crowe, Dallas, and Dr. H. C. Morrow, Austin; eclectic representatives—Drs. M. E. Daniel, Honey Grove, and George W. Johnson, San Antonio; osteopathic representatives—J. F. Bailey, McLennan County, and Paul M. Beck, Bexar County.

State Association Meeting.—Elaborate arrangements are being made for the annual meeting of the State Medical Association of Texas at San Antonio, May 6-8. On the evening before the meeting, public health services are to be held in all the churches in San Antonio. On Tuesday night the memorial meeting will be held and on the following afternoon, the visiting ladies will be taken for an automobile ride about the city. On Wednesday evening a ball will be held, and for the delegates who do not dance, a dinner will be given at the Travis Club.

GENERAL

Bequests and Donations.—The following bequests and donations have been announced recently:

German Hospital and St. Catherine's Hospital, Brooklyn, each $5,000, in the will of Louis Bossert, Brooklyn.

Tuberculosis Prevention for Children, Farmingdale, N. J., $10,000, from an anonymous benefactor.

Maine State Sanatorium, Hebron, $75,000, to be known as the Levi M. Stewart fund, the interest to be used for the benefit of the institution, by the will of Levi M. Stewart.

Methodist Episcopal Hospital, Philadelphia, $5,000, for a free bed, to be known as the George W. Young bed, by Mrs. E. McCouley

Bryn Mawr (Pa.) Hospital, $50,000 for the establishment of a free bed in the children's ward in memory of her brother and $5,000 for a free bed in memory of her parents, by the will of Miss Kate Clevenger, Lower Merion.

Charity, Lakeside, St. John's and St. Alexis hospitals, Cleveland, $35,000, the first installment by the will of Calvary Morris.

Sanatorium for Hebrew Children, Rockaway Park, N. Y., $20,000, by the will of Caroline Neustadter.

German Charity Ball, New York City, $10,000, distributed among nine institutions.

Report of Board of Health of Hawaii.—The report of the president of the Board of Health of the territory of Hawaii for the year ending June 30, 1912, is a book of over two hundred pages, and contains much interesting information concerning the health and sanitary condition of the islands. The work of the health department involves practically the same problems as those found in other tropical or semitropical countries, the mosquito problem as relating to yellow fever being one of the prominent ones. During the year covered by the report, however, yellow fever was not present to any great extent. Leprosy is perhaps the greatest problem peculiar to the islands, the total number under care in the different institutions being 686. There were 64 deaths from leprosy during the year. During the year there were small epidemics of plague, scarlet fever and diphtheria. Pneumonia caused 342 deaths and tuberculosis 363. Under the territorial laws tuberculosis is well reported, and except in the instance of cases under care of private physicians, complete records of cases of tuberculosis are kept, so that any case may be followed from the time it is first reported to its outcome. Six cases of plague occurred in the island of Hawaii. A systematic rat campaign is being conducted, and many thousands of rats were examined for plague during the year. On the basis of a population of about 200,000 the death-rate was 16 per thousand, as compared with 17 the previous year. About two hundred deaths were due to accident, violence and suicide; deducting these, the death-rate would compare favorably with any of the states or municipalities in this country. The report shows that well-directed efforts are being made to improve housing conditions in the cities and on the plantations, and to improve the methods of preparing and handling food-supplies. As elsewhere the health department is handicapped by insufficient financial support. Much work in this line is being done by the proprietors of plantations, and donations of money and materials are made to the health department by private persons and corporations. The report is illustrated by numerous pictures of conditions on the islands, and much statistical information is contained in the large number of tables included in the pamphlet.

FOREIGN

Other Deaths Abroad.—Sir Thomas Frederick Chavasse, Kt., J.P., M.D., Edinburgh, 1876; F.R.C.S. England and Edinburgh; eminent as a surgeon; consulting surgeon to the Birmingham General Hospital and a member of its staff for thirty-one years; died suddenly from pulmonary embolism at his home in Birmingham, February 17, aged 58.——Alfred Baynard Duffin, M.D., Edinburgh, 1858; emeritus professor of medicine in Kings College Medical School, London, and consulting physician to Kings College Hospital; died at his home in Wallington, Surrey, England, February 10, aged 79.——Ernest Maynard Paine, B.A., M.B., Ch.M., Sidney, Australia; a missionary of the New South Wales Church Missionary Association in old Cairo, Egypt; died February 12, in Cairo, from cerebrospinal meningitis.——Surgeon-General George Bidie, C.I.E., Indian Medical Service, retired; M.D. Aberdeen and L.R.C.S. Edinburgh, 1853; for thirty years a member of the Indian Medical Service, retiring in 1890; honorary surgeon to Queen Victoria, King Edward VII. and King George V.; who served with the Hyderabad contingent during the Indian mutiny; died at Bridge of Allan, Scotland, February 19, aged 81.——Prof. A. Podvyssotzky, director of the institute for experimental medicine at St. Petersburg.——F. Fede, professor of children's diseases at the University of Naples, and one of the leading pediatrists of Europe, died February 11, aged 81. He had long been a member of parliament and his voice was often raised on behalf of the necessity for a chair of pediatrics at every medical school and the necessity for a thorough examination in this branch for a medical degree. This is said to have been his "delenda Carthago" whenever he had occasion to speak on the floor. The contributions to pediatrics from him and his pupils are numerous and important.

LONDON LETTER

(From Our Regular Correspondent)

London, March 8, 1913.

A Surgical Innovation

The multiplicity of medical schools in London, each complete in itself with its own staff and its own students, has always been one of the difficulties for any one wishing to pursue medical studies here. There are a dozen medical schools attached to one of the great hospitals and leading an existence so isolated from all the others that they might as well be hundreds of miles apart. No system of intercommunication of any kind has existed among them. At last the idea occurred to some prominent surgeons that the loss from practically never seeing the work of the colleagues in other hospitals might be remedied. It seemed to them somewhat invidious to go masked into each others' theaters. A movement was therefore set on foot to approach a prominent member of the surgical staff of each of the hospitals in London with a medical school attached, who in turn should consult his colleagues with view to some arrangement to advance the study of the practice of surgery. The suggestion was received with favor, a committee was formed, and it was decided that each hospital should once in the year issue invitations to all the members of the surgical staffs of the London medical schools. This is to be done by the hospitals in the order of seniority. Bartholomew's, being the oldest, took the lead. Four surgeons operated at 2 p. m. and the remainder of the surgical staff at 2:45. The visitors, who consisted entirely of surgeons from the other hospitals, occupied the floors of the theaters. Though only thirty surgeons attended out of a possible eighty, the function was a most successful one, and great interest was shown in the operative procedures and in the theater and nursing arrangements.

The Working of the Insurance Act

The harassing and unnecessary clerical work thrown on physicians by the insurance act has been referred to in previous letters to The Journal. The not inconsiderable amount of labor in signing the medical tickets is now practically over. It is unfortunate that the act came into force at the time of the year when practitioners are busiest. In spite of this and the fact that a number of insured persons call on physicians out of curiosity, however, the Medical Committee for London is able to state that the average number of patients seen by doctors on the panels in some of the most densely populated areas is only about 2 per cent. of those on their lists. The large proportion is seen at the offices and comparatively few in the patients' homes. The burdensome clerical work is being replaced by a system which it is said will give less trouble than the bookkeeping of private practice. A pharmacopeia is also being prepared.

New Roentgenotherapeutic Department at the Cancer Hospital

At the annual general meeting of the governors of the Cancer Hospital the Medical Committee reported that 535 operations were performed during the year, the mortality being 4.48 per cent. The new roentgenotherapeutic department had enormously increased the usefulness of the hospital, and the enhanced facilities for the diagnosis and treatment of the disease afforded by the modern apparatus and appliances has resulted in greatly increasing the number of patients relieved or cured. Dr. Knox, the director, reported that he was working out a complete system of Roentgen-ray dosage with the assistance of Dr. Salmond, and he hoped in the near future to elaborate a technic which should materially assist in the relief of patients suffering from cancer. The changes which had occurred in the blood of patients undergoing treatment were also being investigated with the object of obtaining, if possible, some data on which statistics could be based as to why some cases responded to the treatment and others did not. An appeal was made for the sum of $5,000 for the purpose of starting a much-needed cancer library.

Lowest Death-Rate on Record; Great Fall in Infant Mortality

Statistics of births and deaths for the last quarter of 1912 have just been issued by the registrar-general, and show that the records have again been equaled or beaten. Deaths registered in England and Wales numbered 124,861, an annual rate of 13.6 per thousand persons living. This is 1.5 per thousand below the mean rate in the ten preceding fourth quarters, and is equal to the rate recorded in the corresponding period of 1911, which was the lowest death-rate recorded in any quarter since the establishment of civil registration. Of the deaths, 20,884 were of infants under 1 year of age. This was equal to 98 per thousand, or 33 per thousand below the average in the ten preceding fourth quarters.

The rate is the lowest recorded in any corresponding quarter since 1870, the first year in which records of this kind were kept, the next lowest having been 113 per thousand in the fourth quarter of 1911. A total of 212,856 births were registered, equal to a rate of 23.1 annually per thousand of the population. This was 2.4 per thousand below the mean rate in the ten preceding fourth quarters, but 0.1 per thousand above the rate in the corresponding period of 1911, which was the lowest birth-rate recorded in any fourth quarter. The natural increase in the population during the year was 385,818, as against the quinquennial average of 395,462.

The Street Perils of London: Want of Ambulance Provision

The alarming increase of accidents in London since the development of motor traffic has been referred to in previous letters to The Journal. The returns of the board of trade for 1911, which have just been published, show that the number of accidents is greater than ever. They amounted to 20,589, of which 435 were fatal.

This alarming increase is attributed to increasing congestion of traffic and to the indiscriminate mingling of vehicles proceeding at various speeds. The motor omnibus appears to be responsible for more deaths than the street-car. Not long ago a motor bus knocked down and killed a policeman who was regulating the traffic. In spite of the increased number of accidents there is still no proper and efficient ambulance service outside the city, where there is a motor service. In other parts of London the only service consists of stretchers on wheels, which are under the management of the police.

The Workmen's Compensation Act

As shown in previous letters, the workmen's compensation act is constantly giving rise to fresh legal problems. In the following case a point occurred which has never been raised before: A workman sustained an accident causing partial incapacity, and his employers were paying him his full wages for light work, without any agreement being recorded or any award being made, when heart disease supervened, rendering him unfit for any kind of work. The heart disease was not in any way due to the accident. The employers then desired to discontinue the arrangement.

In proceedings taken at this point a judge made an award refusing to order the continuance of any compensation on the ground that the man's incapacity was due to the heart disease, which would have rendered him unable to work in any case if there had been no accident. The case was then carried to the court of appeal, which reversed the decision of the lower court and held that a workman in such circumstances was entitled to compensation until it was proved that he had completely recovered from the effects of the accident. A supervening infirmity, which might be heart disease or paralysis, or which might be mere failure of powers through old age, did not affect this. The case was accordingly remitted to the lower court to fix the rate of compensation.

Polluted Oysters and Typhoid

Owing to the occurrence of typhoid fever in a man who had been in the habit of eating oysters, an investigation was undertaken by the London health department. The oysters were relaid Portuguese taken from a laying in the Medway, and were found to be contaminated with sewage. Their further sale has been prohibited. Dr. Collingridge, health officer of London, says that the only way to prevent the danger of typhoid fever from recurring is to empower local authorities to close all contaminated beds, pits and layings within their jurisdiction until they are free from pollution, subject to the control of the local government board.

The Tropical Diseases Exhibition at Ghent

The British government has made arrangements for taking part in the tropical diseases exhibition to be held at Ghent this year. The London School of Tropical Medicine, the Liverpool School of Tropical Medicine, the Cairo and Khartum schools, the navy and the army will be represented. Each of these organizations has been given certain diseases to illustrate in a popular manner, so that people may realize what is being done to make the tropics habitable to mankind. The cases will contain specimens of the insect pests which are the cause of the spread of disease in the tropics, with examples of the culture of bacteria taken from their blood, and numerous microscopic and photographic views of the development of the different stages. In all, thirteen diseases will be illustrated. The London School of Tropical Medicine will make a complete display of the work in progress in connection with cholera, beriberi and elephantiasis, including any fresh information available consequent on the outbreak of cholera among the Balkan troops. The Liverpool school will set out the work that is being carried on against yellow fever and sleeping-sickness, diseases in which the school has specialized for a long time. The admiralty will exhibit what has been done by the fleet surgeons in the matter of undulant fever, more commonly known as Malta fever, and due to the goats of the island. The war office will take up that scourge of all armies, typhoid fever, and will depict the results of the study in the prevention and cure of the disease. Plague comes under the direction of the India office, and Dr. Andrew Balfour of the Egyptian service will make a special exhibit dealing with leprosy and other Eastern diseases. Most, if not all, of the exhibits will make an important feature of the part played by flies, mosquitoes, fleas and rats in the distribution of disease.

Part of the display is intended to inform the public how best to guard against these insect pests. Mosquito-proof houses, mosquito-proof clothing, and even mosquito-proof books are to be on view. A rat-proof house will be included in the departmental exhibits. There will be several examples of foods which have been deprived of their nutritive qualities, such as polished rice, which causes beriberi. The Liverpool school, which deals with this subject, will exhibit tinned foods from which the nutritive properties have been withdrawn in the process of preserving.

PARIS LETTER

(From Our Regular Correspondent)

Paris, Feb. 28, 1913.

Treatment of Amebic Abscess of the Liver by Emetin

Subcutaneous injections of soluble salts of emetin have recently been proposed by Rogers as a method of treatment in amebic dysentery and in abscess of the liver of the same origin (The Journal, July 20, 1912, p. 226, and Sept. 21, 1912, p. 971). At the meeting of the Académie de médecine, February 25, Dr. Chauffard, professor of clinical medicine at the Faculté de médecine de Paris, reported a case of amebic abscess of the liver opening into the bronchial tubes which was quickly healed by emetin hydrochlorid. When the treatment was begun the fistula had persisted for five months and the amount of reddish pus raised each day was from 200 to 250 c.c.; an ulceration existed in the rectum; the temperature varied between 35 and 38 C. (95 and 100.4 F.); the general health was poor, and the roentgenographic examination showed an opacity extending from the base of the right lung and blending with the shadow of the liver. From December 21 to 25 six injections of emetin hydrochlorid, each 0.04 gm., were given and were supported perfectly, with hardly any pain and without producing any nodules of local induration. The expectoration was reduced on the second day from 200 c.c. to 150 c.c., on the third to 60 and on the fourth to 45; on the fifth day sputum was raised only three times and after that not at all. At the same time the temperature dropped permanently to normal. The leukocyte count fell from 49,000 to 19,800 and the polynuclears from 77 to 63. The rectal ulcerations healed and the base of the right lung became clear. The patient has recovered completely since and has increased in weight 6 kg. (13 pounds).

Statistics of Physicians, Pharmacists, Midwives and Dentists

The following are the official statistics for the year 1911:

Physicians	20,809
Pharmacists	11,589
Midwives	13,066
Dentists	2,848

Chair of Hygiene and Clinical Medicine for Diseases of Early Childhood

A chair for the theoretical and practical teaching of this subject, which has not heretofore been on the program of the Faculté de médecine de Paris, has been established at the suggestion of the dean, Professor Landouzy.

Increased Cost of a Medical Degree

The Conseil supérieur de l'instruction publique has voted to raise the cost of obtaining a diploma as doctor of medicine. Since 1893 the cost has been 1,395 francs ($275), but will now be 1,640 francs ($325). The increase of 245 francs ($50) has been made necessary by additions to the course together with the increased number of examinations required. Of the new total, the universities will receive 950 francs ($190) and the treasury 690 francs ($135).

Reform in Examinations

The Commission supérieur de l'enseignement médical, at its recent session, made a new rule. At the suggestion of Professor Teissier of Lyons, approved by Professor Debove and Dr. Lucas-Championnière, the examining boards hereafter will have one member chosen by the Académie de médecine. It is hoped in this way to combat the tendency toward favoritism which has often shown itself at examinations.

It is of interest to note that in the preliminary discussion the commission found itself divided into two factions. One faction emphasized the desirability in the preliminary training of teachers of extended theoretical knowledge. This was the view of Dr. Weiss, professor at the Faculté de médecine de Paris, and Dr. Lucas-Championnière. The other faction, among whom was Dr. Widal, believed that practical training and individual research should take precedence.

The Paul Segond Foundation

A number of friends, colleagues and pupils of the late Paul Segond have planned a memorial fund in honor of the memory of this eminent surgeon. The income will be used to help interns approved by the council of the Faculté de médecine de Paris to pursue research work and to prepare for their examinations.

A Priest-Healer in Court

The court at Pennes has fined Abbé Champitre 1,000 francs ($200) and awarded damages against him in favor of the Syndicat des médecins d'Ille-de-Vilaine and the Syndicat des pharmaciens of the same department, of 3,000 francs ($600) each. This is the third time that the abbé, who is known througnout the region as the priest-healer, has been in the police court. His defense was that he practiced homeopathy, and that as this system is not recognized by law, he was not amenable to the law. The court did not fall in with this view.

Personal

The Académie de médecine has elected Alexis Carrel of New York and Arnozan of Bordeaux national correspondents.

Following the death of V. Podvyssotzky, director of the Institut de médecine expérimentelle at St. Petersburg, this post was offered to Metchnikoff, assistant director of the Institut Pasteur de Paris. Metchnikoff declined, giving as one reason the fact that in Russia he would not have at his command so important a bacteriologic laboratory as the one at the Institut Pasteur.

BERLIN LETTER

(From Our Regular Correspondent)

Berlin, Feb. 28, 1913.

Personal

Professor Lubarsch of Düsseldorf has succeeded the deceased Professor Heller as director of the institute of pathology at Kiel.

Professor Jores of Cologne has been appointed director of the institute of pathology at Marburg.

Professor Henkel of Königsberg has been appointed director of the institute of pathology at Breslau, as successor to Professor Ponfick.

Professor Hoffman of Prague has been appointed in place of Prof. L. Hermann as director of the institute of physiology at Königsberg.

February 21, the widow of Rudolph Virchow died at the age of almost 81. She was a sister of the Berlin gynecologist Mayer. Until her death she enjoyed a rare activity of mind, of which I received several proofs during the last year through letters from her. Although, in accordance with her modesty of character, she never courted publicity, she was a splendid companion to the gifted investigator. His high regard and respect for her will be seen on reading the "Letters of Rudolph Virchow to his Parents," which were published several years ago.

Friedmann's Tuberculosis Remedy

I notice that the puffs for the Friedmann remedy in the American newspapers continue without restraint. It seems as if there must be some organized agency working systematically for this propaganda.

Bavarian Research on Effects of Athletics

The Bavarian department of education has approved the addition of an experimental laboratory for the Royal National Institute for Gymnastic Exercises at Munich, for the investigation and measurements of the effects of individual gymnastic exercises, plays and sports. The medical work in connection with this laboratory will be carried on under the direction of Dr. Hans von Baeyer, privat-docent for surgery at the University of Munich. The influence of physical exercise on the human organism, on the breathing, heart-action, etc., is to be determined on scientific principles and with the help of physiologic methods, so as to discover their temporary and permanent beneficial and harmful effects. Further, those pursuing the present two-year course for the training of physical directors will be instructed in making such measurements on the pupils, so that in cooperation with the future school-physicians satisfactory material for a more thorough scientific foundation for athletics in general may be available.

Admission of Foreigners to the Prussian Universities

The minister of education recently stated to a committee of the Prussian parliament that foreigners have always enjoyed an extensive right of hospitality in the German universities, which fact is also of value to Germany, as in this way advantageous connections between foreign countries and Germany are cultivated. Of course, the foreigners must appreciate the hospitality and should not interfere with the studies of the native students. In order to limit the number of foreign students, the minister has doubled the admission fees of foreigners to the institutes; further, the same preliminary requirements will be exacted, as far as possible, as from the native students, and Russian students, in particular, must be graduates of Russian gymnasiums. The foreigners are crowding the universities at Königsberg, Breslau, Berlin and Halle especially. The strike of the students at Halle was caused by tactless administration of a ministerial decree; the minister has now remedied the cause, and hereafter admission to the clinics will be conditioned on the preliminary education. Further measures for the limitation of the number of foreign students were considered. It was recommended in this committee to admit only a certain percentage of foreigners, as for instance in Munich, where only three out of a hundred are admitted.

VIENNA LETTER

(From Our Regular Correspondent)

Vienna, March 2, 1913.

Death of Professor Frank

Vienna lost recently one of its most prominent surgeons, Prof. Rudolph Frank, who died from the consequences of a septic angina (tonsillitis). The deceased professor, who was only 50 years old, had been one of the favorite pupils of the late Albert, famous for his keen observation and diagnostic acumen. Frank was chiefly a surgeon who regarded the human body as an artistic structure, and he was very fertile in designing clever plastic operations. He was also an expert abdominal surgeon, and his many pupils were well trained, especially in the two lines of surgery mentioned above. The kind-hearted professor will be sorely missed by his large clientele.

Austrian Sanitary Preparations in the Event of War

The experience gained in the recent Balkan War has shown that none of the belligerents was really prepared, from the sanitary point of view, for the tasks imposed by the exigencies of war. The various European branches of the Red Cross had to give assistance extensively; otherwise the wounded men would have simply perished from sheer want of medical aid. The knowledge thus gained on the battle-field was embodied in a series of lectures and discussions before the Vienna Gesellschaft der Aerzte. One of the most interesting of these was delivered by Professor Hochenegg, the director of the state surgical clinic at Vienna. He reviewed the whole military and sanitary problem which Austria would have to face in case of a war—a probability by no means unlikely just now. Three points are important: the medical assistance, the system of nursing and the materials used for sanitary purposes.

MEDICAL ASSISTANCE

Exact calculations seem to show that a minimum of about 100,000 wounded soldiers would have to be cared for at one time in case of war, which our country may be obliged to wage in the near future. Of these, 80,000 would be the lot of Austria, 40,000 of Hungary. The Austrian Red Cross will accommodate 10,000 men in its hospitals. The rest of the 50,000 would have to be made fit for transport in the field hospitals and then be sent to the rear into surgical wards. For this purpose 250 wards, each containing 200 beds, would be required (twenty beds in one room). Each ward would require the services of one head surgeon and two surgical assistants. In this respect Austria would have to depend quite on herself, as no help from the outside would be forthcoming. In distributing the reserve physicians among the regiments little attention is at present paid to their surgical abilities.

THE SYSTEM OF NURSING

We have too few nurses fit and trained for service in war. We are not well equipped in this. For 50,000 wounded, a minimum of two thoroughly competent nurses per ward is indispensable, making 500 head nurses. The second class of nurses is derived from those who are trained to assist in the hospitals; these need not be completely trained for independent surgical nursing. Of these, three nurses per room with twenty beds would probably be sufficient, making a total of 7,500. We do not possess so many "sisters," and therefore would have to rely on volunteer nurses. Since a large number of such nurses would also be required for the convalescent houses, the contagious hospitals, and for substitution in the civil hospitals, from which the regular nurses would be called to serve in the war, at least 25,000 female nurses would be necessary.

MATERIALS FOR SANITARY PURPOSES

An interesting study deals with the enormous amount of dressings, etc., required in case of war. No less than 10,500,000 meters (12,000,000 yards) of cotton dressings and roll bandages would be needed for 50,000 wounded, as such bandages and dressings would have to be constantly renewed. At times we have already had difficulty in buying such material in the open market because enormous quantities have been sent to the Balkan battle-fields, and the factories could not produce enough to meet all the demands. Therefore in time of peace the supply depots must be well stocked with this kind of material.

OTHER CONSIDERATIONS

An important point for medical preparation deals with the care of war-epidemics. Professor Kraus has recently organized a method for this purpose in Bulgaria, and the work begun by him there will be continued here. Easily transportable laboratories have been established, and a staff of nurses is being formed.

It is important to develop the Austrian Red Cross, for in this country it has only 60,000 members, against 600,000 in Germany and over 2,000,000 in Japan. In the discussion, Professor Clairmont declared that private nursing in the Balkans has simply been a farce, and Professor Fränkel also declared that the present method is absolutely inadequate. He said that if women want the rights of men they must also submit to the duties of men; and since men are enlisted in the army of fighters women ought to be recruited for the army of nurses. Interesting data were given by Head-Staff-Surgeon Steiner. He said that the military authorities were prepared to deal with more than double the number of beds mentioned by Professor Hochenegg. The problem of replenishing the materials used for dressings is solved by the letting of large contracts. The sanitary service is also guaranteed. Only the nursing is not yet quite up to date as regards numbers. It may be added that as regards india-rubber material, which deteriorates by keeping and non-usage, only a small stock is kept because in case of need it can be had at once from the factories under contract to furnish it. A final plan for the regulation of the burning problem of nursing is just now being worked out, and will be brought to the public notice within a short time.

Jubilee of Professor Chiari

Otto Chiari, the well-known rhinolaryngologist, celebrated his sixtieth birthday a short time ago, when the esteem and love of his pupils and friends were impressively shown. Apart from more personal honors, like banquets and congratulations, a *Festschrift* was published in honor of the scientific achievements of the professor. Numerous Anglo-American surgeons are just now staying at the Chiari Clinic, and they too took the opportunity of paying their respects to the senior of this branch of medicine in Austria.

Statistical Data for 1912

An interesting report dealing with vital statistics of Vienna for 1912 was recently prepared and read by Dr. Böhm, the head physician of the Vienna Board of Health. Chief attention is centered around the figures dealing with the mortality of the city: In 1912 Vienna not only reached but even surpassed all other European capitals in the low rate of mortality. It stood as low as 14.6 per thousand inhabitants; even the healthiest English and German cities show no lower figures. Altogether 32,131 persons died in Vienna last year against 33,684 in the previous year (14.6, representing 15.68 per thousand). Ten years ago the figure was 17.89 per thousand. The drop in mortality means a saving of over 30,000 lives within the last decade. The real significance of this welcome fact is not apparent until the deaths are grouped according to the age incidence. Here it becomes manifest that the drop in the number of deaths is due chiefly to improved hygienic conditions and the increased expectancy of life of infants. While ten years ago nearly 9,000 infants and 7,200 persons over 60 years of age died, last year a complete reversal of these figures took place: only 6,000 infants died in 1912 and nearly 10,000 persons over 60 years old; among the latter were 1,434 octogenarians, against 1,180 in 1903. Consequently a decided change of morbidity also was found. All diseases peculiar to infancy and childhood have diminished in frequency and fatality, while such diseases as may be called exhaustion diseases, or those caused by the wear and tear of life, are on the ascending line. For instance, diseases of the respiratory organs were reported as fatal in 4,174 instances against 5,290 in 1903 (tuberculosis excluded; this has gone down from 7,748 to 6,298 in spite of increase of population). The alimentary canal claimed 2,911 victims against 3,865, while the circulatory system was fatally diseased in 4,835 cases (in 1903 3,302 cases), and malignant growths claimed 2,753 (2,137) persons. The preventable, accidental diseases had become less frequent; arteriosclerosis, cancer, myocarditis more frequent, and more of old age appeared in the death-roll. The consideration of these figures leads to the conclusion that while the duration of life is much prolonged in Vienna now, a distinct drop in the number of births is not less conspicuous (Vienna Letter, THE JOURNAL, Jan. 25, 1913, page 300). In Vienna alone, only 40,503 living children were born in 1912, while ten years ago the figure was 45,930, and twenty years ago 50,327, when the population was 500,000 less. The lessened fertility is a general fact in all European countries except three or four, and cannot altogether be accounted for by economic reasons. It has already become a problem of the utmost importance in England, France and Germany, and appears here too. Therefore strenuous efforts are being made to lessen at least infant mortality, and all the measures adopted for this purpose by the various societies for the care of infants, by the hygienic societies, the school boards and the like, aim at the same goal. The fact remains that in Vienna alone the birth of infants has been 100,000 less within the last twenty years than one would have been justified in expecting.

Miscellany

Small-Pox

For small-pox as a community disease there are two methods of treatment—vaccination and hospitalization.

For fires as a community ailment there are two methods of treatment—fire-proof construction and fire engines.

To prevent small-pox, most states use both methods. Minnesota and a few neighboring states say, If everybody is vaccinated there will be no small-pox. It is unjust to make the vaccinated pay for expensive small-pox hospitals. The quickest way to get everybody vaccinated is to make it impossible for the unvaccinated to impose on the vaccinated.

"We will not support small-pox hospitals." A thoroughly logical position—one that will be tenable when knowledge is better diffused and human judgment is better. But as yet we have not reached the stage where all men are judgmatical enough to make it fit. The peculiarly minded minority so tyrannize the majority that few health officers deem the Minnesota policy best.

No one has yet proposed to do away with fire engines and thus force everybody to fire-proof construction.

Compulsory vaccination laws have been enforced in every European country for about a quarter of a century. With them this question has not been open for debate for about a generation, except in England. In Cuba, Porto Rico, Panama and the Philippines it is also demonstrated, proved, accepted and no longer discussed. When, however, it is proposed to do as much for the children of Louisville as we have done for the Filipino, there rises up a small but noisy group, shrewd enough to cry out in the name of liberty. License would be a better term, but it is not catchy, and Bellamy has termed this a phrase-catching age.

In this group there are no men who have had any practical experience in controlling small-pox. That all of those, whether engineers, nurses, or doctors of the different schools, who have been charged with the responsibility of handling small-pox are firm believers in the efficacy of vaccination is a source of great concern to the antivaccinationists, and, in consequence, they seek to borrow some names to conjure with. Their prize package is Sir Alfred Wallace.

Now, what are the facts about Sir Alfred that would lead any one to think his judgment on this point can be safely followed? He was born in 1823. In 1858 he dreamed out the theory of natural selection almost simultaneously with Darwin. As soon as he got over the chills he went to England, got into close touch with Darwin, and, for fifteen years, fought the battle of Darwinism.

In the middle seventies he renounced religion and in 1881 became a spiritualist and aligned himself against the material and in favor of spirit direction soon thereafter. In 1885 he wrote "Forty-Five Years of Registration Statistics," in which he sought to prove that the statistics showed that small-pox was not on the decrease from 1840 to 1885.

He never had any experience with small-pox or vaccination, disease prevention, hygiene or sanitation, and therefore the conclusions of this old man, honored though he justly was, represent nothing except the conclusions of an antimaterialist drawn from the somewhat imperfect statistics of a period when vaccination was quite imperfect. It would take more than Wallace to convince the man of the street that there is as much harm from small-pox as there used to be.—Dr. W. A. Evans, in the Chicago *Tribune*.

Intelligence and Wealth.—The village of Greenwich, Conn., boasts fifty-seven millionaires. These millionaires have children and wives. The estates they own are valued at around $10,000 per acre. It is perhaps the highest-priced suburban property in the world. Greenwich has also mosquitoes, and a special brand—anopheles. In consequence, last year this village had 900 cases of malaria. Some of these probably meant neurasthenia or other ills for the rest of their victims' lives. There is no finer foundation for chronic invalidism. In this epidemic, for such it was, were included the children and the wives of the rich. Malaria is not, like tuberculosis and many other maladies, a luxury of the poor. Nor is it a filth disease. It has one, and only one, cause: the anopheles mosquito. This discovery is now twelve or fifteen years old. No educated physician in the world any longer questions it. Panama is the everlasting monument to this discovery. But for this discovery we should have failed in building the canal, as the French failed, and for the same reason: anopheles. With all this in mind (the regular health officer having done nothing), one or two intelligent physicians of Greenwich asked the town committee for an extermination fund—$5,400. The committee refused. Then the fifty-seven millionaires were appealed to and they royally subscribed $280.—*Collier's Weekly.*

By-Effects of Neosalvarsan.—A. Bayet of Brussels says that the necessity for retracting early statements follows premature publications as the shadow follows the solid body. But he yields to the request of the *Presse médicale belge* (1912, lxiv 755), and reviews his experience with neosalvarsan. He has found that the immediate disturbances following injection of neosalvarsan are less than with salvarsan, but the phenomena later show that there is little if any difference in the actual toxic action of the two drugs. Even in his brief experience (April to September) he has had two severe cases showing this toxic action. One was in a man of 24 with syphilis of three months' standing; 0.07 gm. of neosalvarsan was injected and eleven days later 0.08 gm. Immediately fever and a scarlatinal eruption developed and he vomited for two days, but there was no headache. The fourth day these symptoms had subsided but both legs and the bladder then became totally paralyzed, with other signs of profound injury of the nerve centers in the lumbar region, but nothing to indicate meningitis or polyneuritis, syphilitic paraplegia or a nerve relapse. The Wassermann test was negative. In the second case bilateral neuritis of the nerves of the forearm with atrophy of one interosseus muscle followed five injections in two weeks, amounting to a total of 2.5 gm. of neosalvarsan.

Another Father Damien.—The English King has done a good deed. He has made Dr. George Turner a knight. Who is Sir George Turner? Few, in America at least, except medical specialists know him, but those specialists know him as one of the greatest authorities on the subject of leprosy. When he was practicing as a physician and medical officer in South Africa, the leper hospital at Pretoria made a great appeal to him; such a great appeal, indeed, that he gave up all his spare time to work among the lepers. He would go to their hospital morning and night, and devoted all of his Saturdays and Sundays to them. For years he labored among them without pay of any sort, investigating the nature of the terrible disease, and doing all he could to ease the lot of the sufferers. On reaching the age limit Dr. Turner retired from his official duties and went to England to pursue further his studies into the source of leprosy. After several years of work the disease attacked him. But he still labored on in his investigations, though life now meant ever-increasing pain, disfigurement, and consequent seclusion. He has now, it is reported, lost his left arm. The story goes that he was recently asked to dinner by some admirer, to whom he replied: "I should be glad to go, but I am a leper, you know." It is a pleasure to learn that Dr. Turner's name was included on the King's own initiative.—*Outlook.*

One Danger From Incompetent Practitioners.—Our community was shocked in the extreme when a young man of our town (Sunbury) shot the chief of police, who never regained consciousness and died about twelve hours afterward. A stray shot also injured the young man's father but not seriously. The history of the case shows that the mental condition of the young man had been below par for more than three years and that he became serious about one year ago, when under the care of two local physicians. They made a diagnosis of dementia praecox, which was sustained by Dr. Mills of Philadelphia, and Dr. Meredith of Danville. Not improving at home, he was placed under treatment as a private patient at Danville for some time, after which his father (not by the advice of his physicians) brought him home. He was then placed under the care of an osteopath from Harrisburg. The father was assured that he could expect great improvement by this treatment and was beguiled into believing that his son was decidedly better. Ten days before the homicide the boy refused to take his treatment and could not be induced by appeal or reason to continue the treatments. The father then determined to compel him to take the treatment and then take him to a sanitarium for further treatment. The father asked the chief of police to assist him in taking the young man to Harrisburg and then to the sanatorium. It seems the young man anticipated this move for he had procured a revolver and the moment his father and the chief of police entered his room he began the deadly shooting. Reflecting on this case and two other cases in the experience of the editor, we wondered if it would not be wise to have the law prohibit the removal of a patient suffering from so grave a disease as dementia praecox even if he were a private patient. Is an osteopath competent to diagnose so grave a malady, and is it not nearly so great a crime to hold out false hopes of recovery against the judgment of superior physicians, as the homicide itself? Is not this a strong plea that osteopaths should be trained in diagnosis and prognosis as well as the regulars?—Northumberland County (Pa.) *Medical Society Notes.*

Marriages

Frederick George Hubbard, M.D., to Miss Olga L. Johnson, both of Cayuga, N. Dak., at St. Paul, Minn., March 7.

Harry F. Hoffmann, M.D., Rittersville, Pa., to Miss Ruth Virginia Peabody of Westerly, R. I., March 4.

Vernon C. Morton, M.D., Rantoul, Ill., to Mrs. Ella Oakman of Peoria, Ill., in Chicago, March 5.

Harris A. Bolton, M.D., Warm Springs, Mont., to Miss Maud Smith of Racine, Wis., March 8.

Alva Curtis Foster, M.D., to Mrs. M. E. Phillis, both of Decatur, Ill., March 1.

Benjamin H. Matthews, M.D., to Miss Anna Lyman, both of Denver, recently.

Louis Daniel Smith, M.D., to Miss Rose Robbins, both of Chicago, March 9.

Elias Bruce Moss, M.D., to Miss Ethel Marie Davis, both of Chicago, March 1.

Deaths

Roland Gideon Curtin, M.D. a prominent practitioner of Philadelphia; died at his home, March 14, aged 73. Dr. Curtin was a native of Bellefonte, Pa.; was naval store keeper at the Philadelphia Navy Yard during the Civil War and was graduated from the University of Pennsylvania, Philadelphia, in 1866. He was a member of the American Medical Association; a member and president in 1892 of the American Climatological Association; president of the Philadelphia Medical Club in 1905; of the Philadelphia County Medical Society in 1904 and of the American Society of Tropical Medicine in 1905. He was assistant physician to the Philadelphia Lying-In Charity Hospital for eleven years; chief of staff of the medical dispensary of the University Hospital for ten years; physician to the throat and chest department of the Howard Hospital for six years; once president of the medical board of the Philadelphia Hospital; visiting physician to the University and Presbyterian hospitals; and consulting physician to the Rush Hospital for Consumptives, Jewish, Frederick Douglass and St. Timothy hospitals.

In 1868 he served as surgeon to the United States Geological Survey; he was lecturer on physical diagnosis in his alma mater from 1875 to 1895 and contributed more than one hundred articles to the medical literature. During the centennial at Philadelphia he was assistant medical director; in 1871 he was given the degree of Ph.D. by the University of Pennsylvania and in 1883 the degree of A.M. by Lafayette College.

James Livingston Thompson, M.D. Rush Medical College, 1860; emeritus professor of ophthalmology in the Indiana University School of Medicine, Indianapolis; a member of the American Medical Association; assistant surgeon and surgeon of Volunteers and finally medical director for the western district of Kentucky during the Civil War; an ophthalmologist well known throughout the Middle West; died at his home in Indianapolis, March 5, from pneumonia, aged 80.

Frederick Charles Johnson, M.D. University of Pennsylvania, Philadelphia, 1883; president of the Wilkes-Barre *Record* Company; formerly a member of the American Medical Association, the Pennsylvania State Board of Charities and a member of the Medical Society of the State of Pennsylvania; a historiographer of more than local prominence; died at his summer home near Dallas, Pa., March 5, aged 54.

Patrick Frederick Gildea, M.D. College of Physicians and Surgeons, New York City, 1889; of Colorado Springs, Colo.; a member of the American Medical Association, American Association for the Study and Prevention of Tuberculosis and American Laryngological, Rhinological and Otological Society; died in Coronado, Cal., March 6, from heart disease, aged 47.

Michael Henry Foy, M.D. New York University, New York City, 1898; a member of the surgical staff of St. Joseph's Hospital, Yonkers, N. Y.; examining physician for the New York Central and the Yonkers Railway Company; died in St. Joseph's Hospital, March 5, from septicemia, three days after an operation for appendicitis, aged 39.

Scott Culbertson, M.D. University of Louisville, Ky., 1876; Bellevue Hospital Medical College, 1879; a member of the Indiana State Medical Association; a specialist on diseases of the eye, ear, nose and throat of Vevay, Ind.; auditor of Switzerland County from 1909 to 1913; died at his home in Vevay, February 13, aged 60.

Robert Shuter Macrum, M.D. University of Pennsylvania, Philadelphia, 1897; a member of the American Medical Association; president of the Board of Health of Sewickley, Pa., and the head of the electro-therapeutic department of the Sewickley Valley Hospital; died at his home, March 4, aged 44.

James Barclay, M.D. McGill University, Montreal, 1897; of Montreal; demonstrator of obstetrics in his alma mater; later a surgeon on the Elder-Dempster Steamship Line; medical inspector for the United States Immigration Bureau in Montreal; died in Cowansville, P. Q., February 24, aged 38.

Thomas Moody, M.D. Tulane University, New Orleans, 1880; one of the oldest practitioners of Paris, Tex.; for forty-five years a practitioner of Lemar County and for several years county physician; a Confederate Veteran; died at his home in Paris, Tex., March 3, from senile debility, aged 80.

James Daniel Cox, M.D. College of Physicians and Surgeons, Baltimore, Md., 1892; a member of the Medical Society of the State of Pennsylvania; vice-president of the First National Bank of New Salem and for thirteen years a school director; died at his home in New Salem, March 9, aged 51.

John W. McDonald, M.D. University of Edinburgh, Scotland, 1871; L.R.C.S., Edinburgh, 1896; a member of the American Medical Association; at one time secretary of the Hennepin County Medical Society; professor emeritus of surgery in Hamline University; died at his home, in Minneapolis, March 4, from heart disease, aged 68.

Louis E. Norris, M.D. Berkshire Medical College, Pittsfield, Mass., 1861; assistant surgeon of the Seventeenth Maine Infantry and Second Maine Cavalry throughout the Civil War; for half a century a practitioner of Hampden Highlands, Me.; died in the Paine Hospital, Bangor, Me., March 2, from pneumonia, aged 76.

Alexander Taylor Bell, M.D. College of Physicians and Surgeons, New York City, 1858; a surgeon in the Confederate service during the Civil War, serving with Stuart's Horse Artillery; died at the Maryland Line Confederate Soldiers' Home, Pikesville, February 24, aged 77.

Roger Burns Gladden, M.D. University of Arkansas, Little Rock, 1888; of Purdy, Mo.; formerly a member of the Missouri State Medical Association and a representative in the state legislature from Barry County; died in State Hospital No. 3, Nevada, March 5, aged 59.

Walter Kendall Jewett, M.D. Harvard Medical School, 1895; librarian of the University of Nebraska, Lincoln; for several years a practitioner of Fitchburg, Mass.; died in St. Elizabeth's Hospital, Lincoln, March 3, four weeks after an operation for appendicitis, aged 42.

James N. Powell, M.D. University of Louisville, Ky., 1852; for more than forty years a practitioner of Henderson County, Ky.; one of the founders, and for many years a member of the Corydon School Board; died at his home in Corydon, March 8, from senile debility, aged 74.

Rush H. Dew (license, West Virginia, years of practice, 1881); a member of the Harrison County Medical Society; for nearly fifty years a practitioner and for thirty-three years a resident of Salem; died, February 21, from carcinoma of the throat, involving the larynx.

James F. Robertson, M.D. Detroit (Mich.) Medical College, 1877; a member of the Kansas Medical Society; mayor of Caldwell, Kan., for one term; died at his home, March 5, as the result of injuries received in an automobile accident three months before, aged 57.

John Davies Trezise, M.D. Long Island College Hospital, Brooklyn, 1901; a member of the Medical Society of the State of New York; for many years connected with the health department of Brooklyn; died at his home, March 4, from pneumonia, aged 50.

James Edwin Clemens, M.D. University of Louisville, Ky., 1881; surgeon for the Texas and Pacific Railroad at Marshall, Tex., from 1884 to 1886; for several years a practitioner of Washington, D. C.; died at his home in New Orleans, February 27, from uremia.

Ephraim Winnie, M.D. University of Michigan, Ann Arbor, 1857; a member of the Medical Society of the State of New York; for fifty-five years a practitioner of Steuben County; died at the home of his daughter in Hornell, February 19, aged 77.

James M. Amis, M.D. Kansas Medical College, Topeka, 1898; of Topeka; formerly assistant coroner of Shawnee County; died in the Cottage Hospital, Galesburg, Ill., March 3, from disease of the kidneys and heart, aged 40.

Arthur G. Six, M.D. Starling Medical College, Columbus, O., 1897; died at his office in Lawrence, Mich., March 11, from the effects of gunshot wounds, believed to have been self-inflicted with suicidal intent while despondent.

James Marshall Kent, M.D. Lincoln (Neb.) Medical College, 1906; Nebraska College of Medicine, Lincoln, 1907; formerly of Kenesaw, Neb.; died at his home in Encampment, Wyo., February 28, from uremia, aged 30.

Merritt Allen Long, M.D. Tufts College Medical School, Boston, 1905; of Lowell, Mass.; a member of the Massachusetts Medical Society; died in the Lowell General Hospital, March 4, from pneumonia, aged 37.

Peter Borland, M.D. Cooper Medical College, San Francisco, 1897; of Tomales, Cal.; a surgeon on the Panama Line of the Pacific Mail Steamship Company; died in Acapulco, Mex., January 5, from pneumonia.

Charles Francis Storrs, M.D. University of Vermont, Burlington, 1853; the oldest practitioner of DuPage, County, Ill.; died at his home in Warrenville, from carcinoma of the prostate, March 3, aged 80.

Herbert L. Townsend, M.D. University of Vermont, Burlington, 1881; a member of the Vermont State Medical Society; died at his home in Bridport, February 27, from anemia, aged 52.

David N. Finley, M.D. Hahnemann Medical College, Chicago, 1895; a member of the staff of Agatha Hospital, Clinton, Ia.; died at his home in that city, March 6, from senile debility, aged 82.

Peter Breadalbane Stewart, M.D. University of Vermont, Burlington, 1898; formerly of Iron River, Wis.; died at his home in Chetek, Wis., March 3, from heart disease, aged 46.

Samuel S. H. Washington, M.D. Howard University, Washington, D. C.; a colored practitioner of Alabama since 1887; died at his home in Montgomery, February 24, aged 54.

Albert Job Evans, M.D. Hahnemann Medical College, Philadelphia, 1871; formerly of Lockport and Fredonia, N. Y.; died at his home in Pasadena, Cal., February 26, aged 67.

Price W. Atkins, M.D. College of Physicians and Surgeons, Baltimore, Md., 1878; a member of the Medical Society of Virginia; died at his home in Marion, March 2, aged 57.

Eben Riley Rice, M.D. Miami Medical College, Cincinnati, 1876; of Monticello, Ky.; died March 1, from cerebral hemorrhage, while making a professional call, aged 77.

Daniel I. McMillan, M.D. Northwestern University Medical School, Chicago, 1869; died at his home in Sunbeam, Ill., February 25, from cerebral hemorrhage, aged 75.

Stephen Howard, M.D. University of Pennsylvania, Philadelphia, 1866; of Bottineau, N. Dak.; died in a hospital in Brandon, Man., March 1, from heart disease, aged 70.

Warren Franklin Roberts, M.D. Hahnemann Medical College, Chicago, 1884; of Marshall, Mich.; died suddenly in that place, March 3, from heart disease, aged 51.

Ephraim Welty (license, years of practice, Iowa, 1886); for nearly fifty years a practitioner of Norwalk; died at his home in that place, February 1, aged 72.

Robert D. Darnell, M.D. American Medical College, Eclectic, St. Louis, 1882; a pioneer practitioner of Kalama, Wash.; died at his home, February 18, aged 57.

Owen F. Hildebrandt, M.D. Medical College of Ohio, Cincinnati, 1902; formerly of Cincinnati; died at his home in Owensville, O., March 3, aged 37.

Alfred Henry Savard, M.D. Laval University, Montreal, 1881; died at his home in Northampton, Mass., February 12, from peritonitis, aged 50.

Royal Gray Hamilton, M.D. Rush Medical College, Chicago, 1876; died at his home in Ocheyedan, Ia., January 14, from senile debility, aged 84.

Edgar J. Washington, M.D. Marion-Sims College of Medicine, St. Louis, 1896; died at the home of his father in St. Louis, February 25, aged 36.

Robert J. May, M.D. Detroit (Mich.) College of Medicine, 1892; died at his home in Matamora, Mich., March 2, from pneumonia, aged 42.

James H. Millikin, M.D. University of Nashville, Tenn., 1869; died at his home in Franklin, Ky., March 1, from senile debility, aged 82.

George W. Evans, M.D. Jefferson Medical College, 1865; of Richmond, Ky.; died suddenly, February 27, from heart disease, aged 70.

Hamilton Graham, M.D. Hahnemann Medical College, Philadelphia, 1892; died at his home in Kennett Square, Pa., February 22.

A. J. Scofield, M.D. Ensworth Medical College, St. Joseph, Mo., 1893; died at his home in Quenemo, Kan., February 10, aged 60.

Hiram D. Brown, M.D. Berkshire Medical College, Pittsfield, Mass., 1854; died at his home in Potsdam, N. Y., February 18, aged 77.

Walter Hardy Ramsey, M.D. Memphis (Tenn.) Medical College, 1873; died at his home in Memphis, February 22, aged 60

Alexander McKelvey, M.D. Trinity Medical College, Toronto, Ont., 1878; died at his home in Brussels, Ont., Dec. 29, 1912.

George C. Way, M.D. Jefferson Medical College, 1875; died at his home in Altoona, Pa., about February 26, aged 65.

C. E. Smith, M.D. Memphis Hospital Medical College, 1904; of Baxterville, Miss.; died at his home, February 22.

James A. Smith, M.D. Rush Medical College, 1872; died at his home in Norway, Ia., March 1.

The Propaganda for Reform

FLOURS AND FOODS FOR DIABETICS

Dangerous Products Sold Under Misleading Claims

We have at different times called attention to the misconceptions which exist in the minds not only of the public but also, unfortunately, of many physicians regarding so-called gluten flours and diabetic foods. The most dangerous error is the assumption that gluten flours are practically free from starch. Curiously enough—and yet not so curiously, if one remembers the evil forces that have attempted to cripple the pure food law—this danger has increased rather than decreased since the advent of the federal Food and Drugs Act.

"Gluten Flour: Guaranteed to Conform to the Government Standard" sounds well, but means little. It means little because the government standard makes no requirements regarding the starch-content, which is the item of importance from the point of view of the diabetic, but merely prescribes that it shall contain at least 35 per cent. protein. Nor is this all. Under the ruling that has been in force for some time in the department—a ruling, by the way, that was promulgated by Solicitor McCabe and "Me-Too" Dunlap and strongly opposed by Dr. Wiley—a flour containing 17.5 per cent. protein may be legally labeled "Gluten Flour ½ Standard." The absurdity of this is apparent when it is realized that, under it, ordinary flour (which contains about 10 or 11 per cent. protein) might legally be labeled "Gluten Flour ⅓ Standard." Dr. Wiley fought against this idiotic and dangerous ruling but was voted down by those who, during their administration, showed such solicitude for the food sophisticators.

Gluten flours are as a rule prescribed only for diabetics to whom the starch-content is of the utmost importance. A physician tells his patient to use a gluten flour not because that product is rich in protein but because it is (supposedly) poor in carbohydrates. The great majority of so-called gluten flours and gluten foods sold in this country contain dangerously high percentages of carbohydrates, and the manufacturers do their best to keep both physician and patient in ignorance of this fact. In the case of gluten flours of legal standard, the protein-content is emphasized and made the main selling point. The subject of starch-content is studiously avoided, and it becomes necessary to write letters to the manufacturers specifically asking for the carbohydrate-content of their products, which may then be grudgingly—and not always truthfully—given.

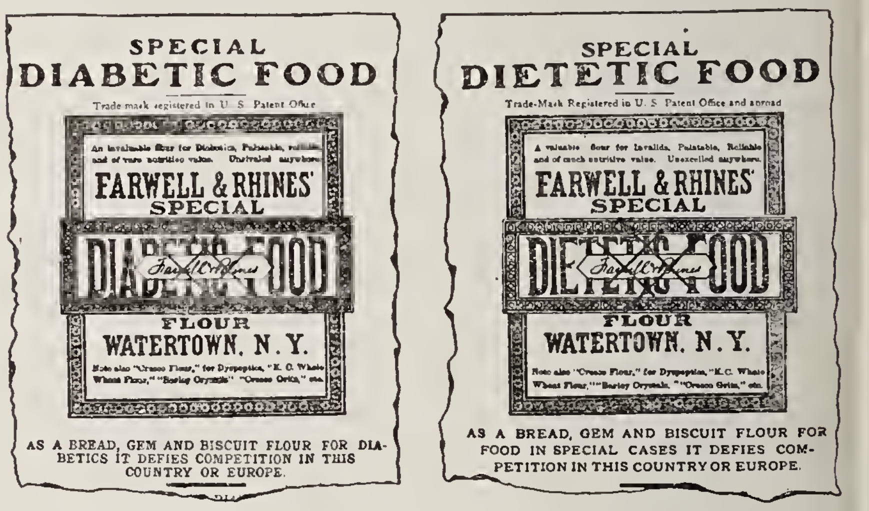
For the purpose of determining the status of some of the most widely advertised flours and foods for diabetics, a Chicago physician wrote to the manufacturers of these preparations asking for their advertising matter and specifically requesting that he be told the carbohydrate-content of the different products. The result of the investigation follows. It must be remembered that in every instance, unless otherwise stated, the figures are the manufacturers' own. It will be seen that, even accepting the exploiters' own statements regarding the starch-content, the preparations are as a class viciously dangerous as foods for diabetics.

BRUSSON GLUTEN BREAD

This product is put out by Brusson Jeune, Villemur, France, and it is handled in this country by Gustav Muller & Co., New York. So far as we can learn the advertising matter sent out by this concern gives the purchaser no information regarding the starch-content of Brusson Gluten Bread. As in the case of most products for diabetics dangerously high in starch, an attempt is made to give the impression that starches are not so deadly for diabetics as physicians believe. This attitude on the part of the company will not be wondered at when it is known that according to its own admission—made when asked point blank—Brusson Gluten Bread contains 49.77 per cent. of starch! Within the last few months, the American agent for Brusson Jeune has been sending out, with other advertising matter, a testimonial letter by Willard H. Morse, M.D., Hartford, Conn. If anything further were needed to condemn these products a testimonial in their favor from Willard H. Morse supplies that need. As most of our readers know, Morse makes a practice of supplying testimonials and fake analytical reports on various medical and medicinal frauds. He has endorsed such humbugs as the Ideal Sight Restorer, Towns' Epilepsy Cure, the Oxydonor, Duffy's Malt Whisky, L. Q. Lloyd's consumption cure, E. J. Woods' cure for drunkenness, Oleozone consumption Cure, Manola, Daniel's Passiflora Incarnata and numerous others.

FARWELL & RHINES' GLUTEN FLOUR

Farwell & Rhines' methods have been the subject of criticism in The Journal before. Their product is dangerously high in carbohydrates (46.05 per cent.), and the methods of advertising are particularly vicious. In their circulars and other advertising matter they refer to the protein-content of their product but avoid giving any information regarding the amount of starch. If, however, a physician will write asking for an analysis of the Farwell & Rhines' Gluten Flour, they send a small sticker on which the analysis is printed. If the company's pronouncement that this is "a flour for diabetics" means that it is a safe flour for diabetics, the statement is not only false but also dangerous. Time was, and not so long ago, when Farwell & Rhines advertised their "Special Diabetic Food," which they said was "an invaluable flour for diabetics." As the standards of commercial honesty rose, the company was apparently forced to change the name of this preparation, and it became "Special Dietetic Food." A comparison of the older label with the newer shows how it is possible to violate the spirit of a law while grudgingly conforming to its letter.


SPECIAL
DIABETIC FOOD
Trade-mark registered in U. S. Patent Office
An invaluable flour for Diabetics, Palatable, reliable and of rare nutritive value. Unrivaled anywhere.
FARWELL & RHINES'
SPECIAL
DIABETIC FOOD
FLOUR
WATERTOWN, N. Y.
Note also "Cresco Flour," for Dyspeptics, "K. C. Whole Wheat Flour," "Barley Crystals" "Cresco Grits," etc.
AS A BREAD, GEM AND BISCUIT FLOUR FOR DIABETICS IT DEFIES COMPETITION IN THIS COUNTRY OR EUROPE.
SPECIAL
DIETETIC FOOD
Trade-Mark Registered in U. S. Patent Office and abroad
A valuable flour for Invalids, Palatable, Reliable and of much nutritive value. Unexcelled anywhere.
FARWELL & RHINES'
SPECIAL
DIETETIC FOOD
FLOUR
WATERTOWN, N. Y.
Note also "Cresco Flour," for Dyspeptics, "K. C. Whole Wheat Flour," "Barley Crystals," "Cresco Grits," etc.
AS A BREAD, GEM AND BISCUIT FLOUR FOR FOOD IN SPECIAL CASES IT DEFIES COMPETITION IN THIS COUNTRY OR EUROPE.

BEFORE AND AFTER
THE PASSAGE OF THE FOOD AND DRUGS ACT

Fig. 1.—Farwell & Rhines' "Special Diabetic Food" contains a dangerously high percentage of carbohydrates. When the Food and Drugs Act went into effect, it would have been difficult to sell this stuff under its old name and escape prosecution. The problem then became: How can we fool the people and at the same time obey the letter of the law? The answer appears in the photographic reproduction of the labels given above. On the left is the old label; on the right, the new one. The "Diabetic" food became a "Dietetic" food; the "flour for diabetics" became a "flour for food in special cases."

HEINTZ FOOD COMPANY

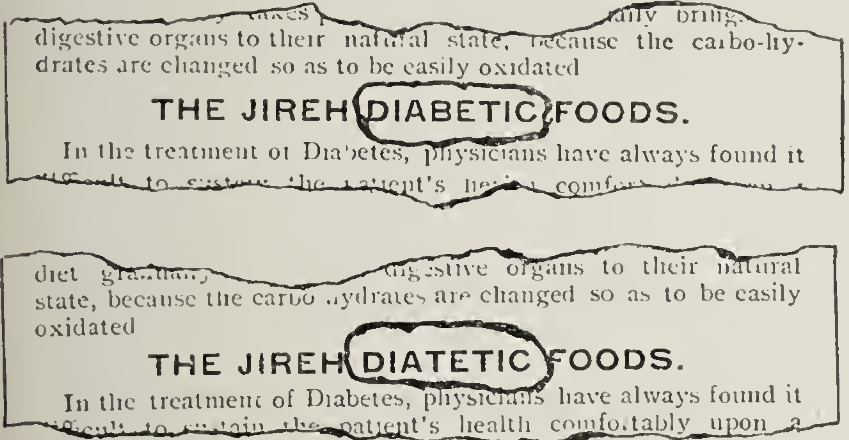
This concern, located in Chicago, manufactures a product which used to be called "Heintz Diabetic Biscuits," but which is now sometimes called the "Heintz Gluten Biscuits," and again "Heintz Glutin Biscuits." To call them diabetic biscuits was such an evident fraud that it became necessary to change the name. It seems to be difficult at present to get the Heintz Food Co. to say just how much carbohydrates their gluten biscuits contain. Two years ago they stated glibly in answer to an inquiry: "There is less than 5 per cent. of carbohydrates in the diabetic biscuit." This was a falsehood. When written to within the past few weeks, the company stated regarding its gluten or "glutin" (*née* diabetic) biscuit that it "contains a small percentage of carbohydrates." They said further:

> "We use for its manufacture a gluten flour which contains about 10 per cent. of starch; this we dilute with a certain percentage of bran, which has been deprived of its starch."

The reader is led to infer, of course, from this statement that Heintz Gluten (or "glutin") Biscuits contain only about 10 per cent. of carbohydrate. This we doubted, and we doubted because we knew that two years ago when they claimed that their "Diabetic Biscuit" contained less than 5 per cent. of carbohydrates, it actually contained about 50 per cent. Their later product, therefore, was submitted to the chemical laboratory of the American Medical Association for the determination of the carbohydrate content. The Association's chemists reported that instead of finding "about 10 per cent. of starch" they actually found 51.64 per cent. of carbohydrates.[1]

JIREH DIABETIC FOOD CO.

Recently[2] we had something to say regarding this concern and its so-called diabetic products. The selling point of the Jireh concern is not that their foods are starchless—a claim they could hardly make and "get away with"—but that the starch has been "changed" or, as they have put it more recently, "treated." The claim that the starch had been "changed" was fraudulent, and the later modification—that it has been "treated"—should not be taken seriously. Like the razors in the story, the Jireh Diabetic foods and flour are "made to sell." Two years ago the manufacturers admitted that the Jireh Flour contained 73.02 per cent. carbohydrates—practically the same amount found in ordinary flour. The more recent circulars do not give the carbohydrate percentage, but contain what purport to be the results of analyses to determine the *starch* percentage—the amount of dextrin, sugar, etc., is not mentioned. According to this later list, Jireh Flour contains 58.59 per cent. of starch which, even admitting it to be no understatement of the facts, is sufficient to condemn the product. The "Jireh Diabetic Biscuit" contains over 60 per cent. (64.52) of carbohydrates and, evidently to escape prosecution, the firm has changed the name of this product to "Jireh Diatetic Biscuit." This seems to be the keynote of the Jireh concern in its attempt to "get around" the federal Food and Drugs Act. Of course, there is no such word as "diatetic," but it is sufficiently like the word "diabetic" to mislead the average person. Apparently it is the intention of the Jireh Diabetic Food Company to invade the medical journal advertising field. This, at least, is what one would infer from the appearance in the *Southern Practitioner*—a sheet that offers an advertising haven for many of the widely advertised therapeutic frauds on the market—of what purports to be an original article by one Dr. George Morse Norton. The "article" is entitled "The Value of Starch-Treated Foods in the Dieto-Therapy of Diabetes Mellitus." It is typical of a class of articles, fortunately seldom seen to-day in the pages of decent medical journals, but once a common method of advertising proprietary preparations. It has the outward semblance of a scientific article and discusses the history, definition, pathology, etiology, etc., of the disease—all of the matter, apparently, having been obtained from ordinary text-books. The joker appears when the reader reaches the part of the article devoted to the "treatment"; this section is practically nothing but a rehash of the Jireh Diabetic Food Company's advertising matter.



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In the treatment of Diabetes, physicians have always found it

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THE JIREH DIATETIC FOODS.

In the treatment of Diabetes, physicians have always found it patient's health comfortably upon a

Fig. 2.—The "Jireh Diabetic Foods" are no more suited for diabetics than is ordinary bread. Hence, under the Food and Drugs Act, to label such products "diabetic foods" would constitute misbranding. The Jireh concern evades the law by changing one letter, the "b" in diabetic to "t," and the coined and meaningless word "diatetic" is the result. It is the letter of the law that kills. Here are photographic reproductions of portions of pamphlets sent out before and after the Food and Drugs Act went into effect.

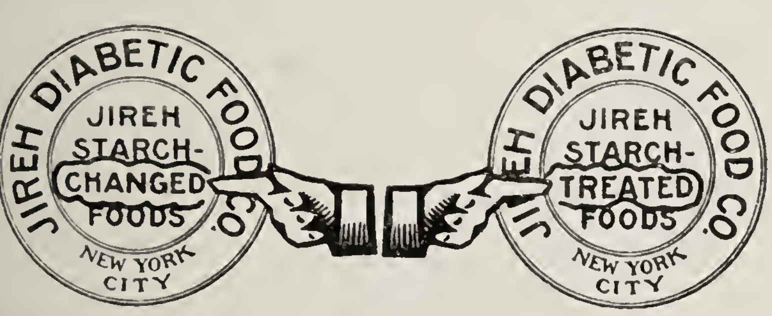

Fig. 3.—The Jireh concern for years claimed that their diabetic foods were "starch-changed"; they were not. To-day they are labeled "starch-treated." Whether this statement is any nearer the truth than the old one is immaterial to the diabetic, for the Jireh products are utterly unsuited for the diabetic's dietary. Here are their trademarks before and after the enactment of the Food and Drugs Act. The lines drawn around, and the "fists" pointing to, the words "changed" and "treated," have been added by us before reproducing the trademarks.

BOND GLUTEN DIABETIC FLOUR

The Bond Gluten Diabetic Flour is put on the market by the Mayflower Mills, Fort Wayne, Ind. Very little advertising matter is sent out by the concern and apparently no information regarding the carbohydrate-content of the product is given unless specially requested. To a letter written two years ago asking for the carbohydrate-content of Bond's Gluten Diabetic Flour, the firm replied that it contained 40 per cent. gluten and that they had another flour "that carries 80 per cent. of gluten." The company then added, somewhat ingenuously:

> "We do not know what percentage of starch either of these flours would contain, but you can readily see that they are genuine flour and of the very highest quality."

Written to more recently on the same subject, the Mayflower Mills replied:

> "The last analysis of our Bond's Gluten Diabetic Flour showed carbohydrates 50 per cent. and the gluten per cent. [*sic*] three times the amount found in the best wheat flours."

Needless to say, Bond's Gluten Diabetic Flour is a dangerous product for diabetics and should be declared misbranded under the Food and Drugs Act.

P.-L. GLUTEN FLOUR

P.-L. Gluten Flour is made by the Pieser-Livingston Co., Chicago. This company in its advertising circulars and letterheads publishes an analysis of its flour, giving the percentage of moisture, nitrogen and gluten but making no mention of the amount of carbohydrates. When asked for the starch-content of their flour, they send a typewritten letter in which it is admitted that the product contains over 50 (51.28) per cent. of carbohydrates. The Pieser-Livingston Company publishes what purport to be testimonials from Chicago and other physicians. These testimonials, if genuine, are not such as to inspire confidence in the medical profession. For instance one Chicago physician writes that he has compared the analysis of the P.-L. Gluten Flour with the analyses of flours of other makes and

> "I find your flour better in 'Proteids' and less sugar than other makes. Gladly recommend it to all physicians and those troubled with 'Diabetes' and stomach trouble."

Another Chicago physician also has made a comparison of analyses and he writes:

> "I am led to believe that it contains more gluten and less sugar, or dextrose, than any other flour of its kind in the market. I would, therefore, recommend it to all physicians to be prescribed for patients suffering with diabetes."

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[1] Incidentally, the Heintz Food Company makes another product, Heintz Health Biscuits. These are claimed to be a "natural laxative" and are also said to be "non-medicated"; in fact, "there is not a bit of any kind of medicine in them." When examined in the Association's laboratory about two years ago, the drug phenolphthalein was found as an ingredient. The state chemists of North Dakota have examined them more recently and report finding the same drug.

[2] Propaganda Department, The Journal, Dec. 14, 1912, p. 2174.

Still another testimonial from a well-known Chicago physician is "featured" a little more than some of the others. This runs, in part:

> "I am using your gluten flour in cases of diabetes and that I find it useful where only a small amount of starch is to be incorporated in the diet."

Ordinary wheat flour contains about 73 per cent. of carbohydrates; P.-L. Gluten Flour contains, on the manufacturer's own statement, over 50 per cent. How it is possible to feed a patient with bread made from flour containing more than 50 per cent. of carbohydrates and at the same time give that patient "only a small amount of starch" is matter for speculation. The P.-L. Gluten Flour is no flour for a diabetic.

PURE GLUTEN FOOD COMPANY

This company markets various products under the name of "Hoyt's Gum Gluten." It advertises in medical journals more extensively, probably, than any other manufacturer of so-called diabetic foods. In its advertisements, appears this statement:

> "In all cases where non-starch diet is indicated, prescribe only Gum Gluten Foods."

The viciousness and cruelty of this advice may be realized when it is learned that, even according to the manufacturers, the various Hoyt Gum Gluten products contain carbohydrates ranging from 40.63 per cent. up to 48.2 per cent. As in the case of most exploiters of products of this kind, the protein-content of the different preparations is emphasized and enlarged on. For instance, can more grossly misleading claims be made than these that appear on the packages of the various Gum Gluten products:

> "The extracted and concentrated strength of wheat."
> "The rich albuminous muscle-building element which furnishes the body with what it needs without taxing it."
> "The only true food for those having diabetes."
> "The nitrogenous food of the twentieth century."
> "Endorsed by the medical profession as a perfect food."

In view of these claims, the following testimonial, alleged to have been written by a Brooklyn doctor, is a gem:

> "These preparations are all you claim for them."

WILSON BROTHERS' GLUTEN FLOUR 4/7 STANDARD

This is the flour that, above all others, makes the present ruling of the Department of Agriculture on what constitutes a "gluten flour," a joke and a disgrace. The stuff is said to contain 20 per cent. of protein. The government standard for gluten flour requires 35 per cent. So far as we are able to learn the amount of carbohydrates is not given in any of the advertising matter put out by Wilson Brothers. They do give, however, what purports to be an analysis by Gustave Mannel, an analytical chemist of Rochester, N. Y. Mr. Mannel certifies that he has analyzed a sample of Wilson Brothers' product and finds it "very rich in gluten." He then makes the following remarkable statement—remarkable, that is, in view of the admission that the firm itself makes when held down to it:

> "A very small percentage of starch remains with the pure gluten, and this combination forms a special food of high merit where starch is not wanted. This flour contains more gluten and less starch than any flour I have ever analyzed."

Now Wilson Brothers will admit—if you insist—that their product contains 64.1 per cent. of carbohydrates. In view of this fact, Mr. Mannel's idea of percentages seems somewhat mixed. Few people would consider 64.10 (the amount of carbohydrate in the Wilson product) "a very small percentage" when compared with 74.0 (the percentage of carbohydrates in ordinary flour). As has already been said, Wilson Brothers' preparation contains 20 per cent. of gluten and 64.1 per cent. of carbohydrates, and yet Mr. Mannel says that it "contains more gluten and less starch" than any flour he has ever analyzed. Evidently his experience in analyzing gluten flours has not been an extensive one.

SUMMARY

So much, then, for some of the most widely advertised products for the use of diabetics. They are one and all advertised under claims that are either directly or inferentially false or misleading. They all contain percentages of carbohydrates that are dangerous in the extreme to real sufferers from diabetes. Their continued sale under present methods is a menace. Every product sold for the use of diabetics should be required by law to have plainly stated on the label the percentage of carbohydrates it contains. Every physician who is treating a diabetic should make it his business to find out the percentage of carbohydrates in any flour or food that he thinks of recommending to his patient. He is not justified in telling his patient offhand to give up the use of ordinary bread and flour and use a "gluten bread" or "gluten flour." For, as we have shown, a flour may be legally labeled gluten and still contain dangerously high percentages of carbohydrates, and it is the carbohydrates that are the essential elements so far as the diabetic is concerned.

DANGEROUS PRODUCTS SOLD TO DIABETICS

Manufacturer and Product	Carbohydrate Percentage
Brusson-Jeune Co., New York City.	
Brusson Gluten Bread	49.77
Farwell & Rhines, Rochester, N. Y.	
Gluten Flour	46.05
Heintz Food Co., Chicago.	
Gluten (Glutin) Biscuit	51.64
Jireh Diabetic Food Co., New York City.	
Jireh Diatetic Biscuit	64.52
Jireh Flour	58.59
Jireh Bread	39.12
Mayflower Mills, Fort Wayne, Ind.	
Bond Gluten Diabetic Flour	50
Pieser-Livingston Co., Chicago.	
Pieser-Livingston Gluten Flour	51.28
Pure Gluten Food Co., New York City.	
Hoyt's Gum Gluten Biscuit Crisps	43.85
Hoyt's Gum Gluten Breakfast Food	44.52
Hoyt's Gum Gluten Flour	47.40
Hoyt's Gum Gluten Granules	43.84
Hoyt's Gum Gluten Noodles	48.20
Hoyt's Gum Gluten Self-Raising Flour	40.63
Wilson Bros., Rochester, N. Y.	
Gluten Flour	64.10

THE EMETIC ACTION OF THE DIGITALIS BODIES

To the Editor:—In The Journal, Feb. 1, 1913, p. 371, was an editorial statement as follows:

"An important deduction from the work of Hatcher is that the mode of administration and the preparation have only a minor influence on the production of nausea by the digitalis bodies, and that this symptom indicates the beginning of toxic action and hence a point at which caution should be exercised. Instead of seeking for a form of the drug which will not produce nausea, or for a method of checking it, we should remove the cause by suspending the administration of the drug, or giving it in smaller doses."

Again, Feb. 15, 1913, p. 502, appeared the following by Eggleston and Hatcher:

"The appearance of nausea and vomiting following the use of any of the digitalis bodies by whatever channel administered must be looked on in ordinary cases as a sure sign of the toxic effect of the drug on the medulla, and one which calls for an intermission of administration, rather than for the use of such drugs as opium to control the symptoms, as recommended by Hochheim."

All the above statements, without enlargement, I fear might lead some of your readers to neglect digitalis in cases and at times when it is most urgently needed. In cases of cardiac decompensation with venous stagnation in the greater circulatory tree, the liver and entire gastro-intestinal tract are congested and swollen. From congestion of the intestines there results in such cases a compensatory diarrhea, and from congestion of the stomach there likewise result nausea and vomiting.

Given a case with nausea and vomiting from congestion, digitalis is strongly indicated, and it does become necessary to employ measures which will make it possible for the needed medicine to be retained. The nausea and vomiting here are of peripheral origin. Assuming that we have a case of this sort to begin with and that the digitalis is administered even under the skin, into the muscles or into the vein, it requires considerable nicety of judgment to decide when the nausea and vomiting, if they continue, are caused by central overstimulation and when only by the still unreduced peripheral congestion. The rate of the pulse and the apex-beat are here the chief guides.

A still more difficult situation faces the clinician when he is treating a patient who presents various symptoms which indicate that digitalis is urgently required, but who does not have nausea and vomiting when the administration of the drug is begun. Then digitalis is administered, as too often happens, in hopelessly inadequate doses. This treatment may be continued for from twenty-four to thirty-six hours, and then nausea and vomiting appear. Does this indicate digitalis intoxication and that the drug must be stopped? Not at all. It means that the drug is being given in doses too small to have any bracing effect on the circulation and that the patient's condition is growing worse, so that the congestion of the stomach has increased and now nausea and vomiting of peripheral origin are manifesting themselves. In such cases, in spite of the vomiting, the drug, instead of being stopped, must be pushed, and in sufficient dosage; and when they are required, measures to aid in the retention of the drug must be employed. With such treatment the nausea and vomiting soon disappear and the general condition of the patient improves.

These are considerations of the utmost importance from the point of view of the patient and the clinician, and must be made clear. While I have no doubt that they are entirely clear in the mind of the writer of the editorial in question, and to the writers of the article of February 15, the statements quoted, as they appear in print, might possibly lead to a misunderstanding.

M. Schulman, M.D., New York.

The title of the editorial and of the article referred to, "The Emetic Action of the Digitalis Bodies," indicates clearly that the vomiting discussed was that which results from the action of these preparations, and not vomiting due to other causes entirely and wholly independent of digitalis administration, such as those cited by our correspondent. It is evident from a consideration of the passage quoted from the articles of Drs. Eggleston and Hatcher, taken in connection with the context, as it should be, that the authors have reference to the nausea and vomiting due to the action of the digitalis bodies. Elsewhere (p. 501) the same article says:

> "A solid or semisolid fat such as that in digitalis or strophanthus is a very indigestible substance, and it is quite conceivable that the psychic effects of the disagreeable odor of the oil of digitalis might result in nausea in the case of a patient having an extremely irritable stomach; but it is not within the province of the present paper to deal with the psychic effects of odors."

It is clear that this disclaimer of possible adventitious vomiting due to other causes sufficiently relieves the authors of responsibility in those cases in which nausea and vomiting are incidental to the disease and apart from the effects of digitalis. We are glad, however, that Dr. Schulman has called attention to the necessity of carefully distinguishing between the nausea arising from the toxic action of the remedy administered and the nausea which may be due to other conditions. In the first the remedy should, of course, be discontinued; in the second it may be the very agent that will successfully combat this symptom when it arises from extraneous causes.

Correspondence

Bread From Bolted Flour and From Entire Wheat Flour

To the Editor:—I have admired very much the high stand which The Journal has taken relative to pure foods and pure drugs, and its high standard in everything relating to the medical profession. I am writing now to call your attention to the injury which has been done through a recent editorial (Jan. 4, 1913, p. 50) relating to the use of bolted wheat flour for food purposes and giving quasi-approval of it as an article of food. This has been seized on by the flour-millers in the Middle West and they are making use of it to their business advantage. I will admit that if one has the opportunity of reading your editorial all through, the last part rather annuls the first part and leaves the question "astride the fence." I have been trying through writings and lecturing and such influence as I have been able to exert, to establish a public sentiment in favor of whole wheat flour and unpolished rice.

You will admit that the whole trend of recent investigation has resulted in unquestioned demonstration that in the denaturing of flour and in modern methods of manufacture and in polished rice, elements necessary to health, strength, endurance and resistance to disease are removed.

The influence of The Journal is so vast that it can, if it will take up the matter, exert a most healthful influence on the whole community by giving publicity to actual facts relative to this important question. You are undoubtedly familiar with the fact that animals die in the course of thirty or forty days if fed on polished rice or demineralized wheat, while if fed on whole wheat flour or unpolished rice they thrive and reproduce their kind.

What you say relative to the digestibility of starch is unquestionably true; but you leave out the large question of the value of food salts normally found in cereals. Protein and starch, as you well know, and not "all in all" in the food-supply of the animal body, for those alone without the mineral ingredients which go for life, health, strength, longevity and resistance to disease would give human life a very short shrift. It is my earnest desire that in some future article or editorial you give a just and fair exposition of the significance of the mineral ingredients of food to the human family.

Horace Packard, M.D., Boston.

Comment.—The editorial on bread (Jan. 4, 1913, p. 50), presents certain facts, old and new, on the subject under discussion. It is not a propaganda for any kind of bread nor does it aim to establish a sentiment for a special type of food. The differences between various kinds of flour are indicated, correctly we believe; the changes which methods of production and agriculture have brought about are touched on; the relative importance assigned to various constituents of the grain and the possible significance of accessory factors are specifically emphasized (see next to last paragraph). The crux of the discussion will be found in the last paragraph. Let us consider our correspondent's comments.

If the facts reported in our editorial are correct we cannot object to the fact that manufacturers make use of them to their business advantage. Certainly we are quite as willing that the public at large, the manufacturer, or the purveyor should profit by the contributions which appear in our columns, as that our columns should be of assistance to the man of medicine. The truths of science are not the exclusive property of any select group of individuals; all that we can ask is that the contributions be accepted and promulgated in a spirit of honesty—that the truth be not distorted.

We must expect that every well-intentioned reader will at least read the editorials all through and gather their contentions before deploring omissions which have not been made.

No one who has followed our editorial columns closely can have failed to find repeated detailed reference to the features mentioned by our correspondent in connection with the milling of flour and the polishing of rice. The presumable danger of polished rice and demineralized wheat apply to exclusive feed ing. The story of beriberi and polished rice, of wheat and scurvy (see our editorials) shows that a small addendum of various foods completely averts these abnormal effects. We spoke, in our editorial on bread, of the rôle of this food as a part of the dietary and in relation to its digestibility. Surely we would not recommend a salt-free dietary of patent flour bread alone as an ideal regimen for man; neither would we recommend wheat alone, or rice alone, or beans alone, or any other one-sided dietary. Has not our correspondent gone out of his way to inject into the editorial under discussion implications in no wise introduced in the contribution itself?

We quite agree that there is a "large question" at issue in respect to the real "value of food salts normally found in cereals" or other dietary articles. We are not prepared to admit that the time is ripe for attempting to create a public sentiment about matters which need a great deal of further investigation by scientific methods before any authoritative pronouncements can be made. Some of the therapeutic claims for bran, bran breads, and allied products which are now liberally advertised are quite as much in need of revision, we fancy, as are other outcomes of speculative dieteties. These topics deserve investigation as thoroughly as do the conflicting claims of drugs.

Physical Therapy and Psychic Influence

To the Editor:—There is need of commentary on certain remarks reported in the discussion on Dr. Philip Marvel's paper on physical therapeutics, The Journal, Sept. 7, 1912, p. 757.

It is there said: "Remedial agents other than drugs . . . are of value from the standpoint of psychotherapeutics, the influence of mind over disease. They enable us to impress on the patient the fact that we have a knowledge of many methods of treating disease. Again, these various treatments interest the patient. This meets competition by quacks, or those who are not considered quacks but irregular practitioners, who know little medicine but understand human nature. When you order for your patient medicine in a glass of water and tell him to take a teaspoonful every few minutes, the patient is then made to do something for himself. A regular practitioner too often orders for his patient a certain drug and tells him to take it three times a day, which is all that is required by science, but something has been left out which would be for his betterment, namely, keeping him busy."

Strong protest against these points of view is evidently needed, for what they advocate is not psychotherapy at all in the scientific sense. It is the crudest suggestion, and it is false in leading the patient to believe that the cause of his cure is the physical agent itself which was employed. This does harm in blinding him further to the real nature of his disease and treatment whether mental, emotional or somatic. Also it fails to do the good of preventing similar attacks in future. In this respect it is even inferior to the much-berated error which teaches the ignoring of all bodily sensations whatever; for this often does abrogate suggested maladies. In short, it differs not a whit except by inferior effectiveness from the veriest charlatanry. This argument for any therapeutic measures is frequent in the mouths of loose thinkers; but its advocacy, if serious, by a teacher in a medical school, is cause for astonishment, for real psychotherapy is at least five years old in America.

In the art of psychotherapy there is no need to foment interest: that, as every physician knows, is already so active in many neurotics as to be a byword. Were the patient not preoccupied by his symptoms, it would indeed be strange; he is merely trying to understand himself. It is the psychotherapist's task to show him how. This cannot be done by apparatus, or even by sympathy or tact, but only by comprehension and enlightenment.

To tell a patient with basophobia that he should stand is to tell him what he knows; to tell him that he can stand is to tell him what he knows to be wrong even when an electric battery "persuades" him into it; but to tell him why he cannot stand is to give him the compass whereby he will be enabled to stand again, sometimes, it is true, only after proper reeducative discipline. Similarly, to massage, faradize and rest a hand which cannot write from scrivener's palsy, "hoping the psychic effect will be good even if the affection is not peripheral," is to court failure (see *Jour. f. Neurol. u. Psychol.*, Leipsic) and drive patients to the cults who do this kind of "psychotherapy" incomparably more effectively. The real psychotherapist ascertains the psychologic mechanism of the dyskinesia, and teaches the patient, through understanding this, how to overcome the disability by properly devised and graded exercises in control.

When real psychotherapy is being performed, the impression on the patient can be left to take care of itself, as can the much-talked-of personality of the doctor. Who looks at his surgeon or cares about the impression he makes if his reputation for skill is great? Psychotherapy is mental surgery; it is not the impression but the knowledge and skill which count.

These statements I can vouch for in instances in which the crude suggestions of apparatus or other placebo, assurance or assumed sympathy had previously failed. Their theoretical soundness is a more complex thesis which interested readers will find outlined in the *Journal of Abnormal Psychology.*

Need I add that physical measures need no support from suggestions? They are effective in themselves when properly applied; each form has its own indications in modifying bodily processes apart altogether from the psyche of the patient; and I agree with Dr. Marvel regarding the pity of their too general neglect.

Tom A. Williams, M.B., C.M., Washington, D. C.

The Stewart and Ryfkogel Methods in the Surgery of Epithelioma of the Lip

To the Editor:—The article on "Operation for Epithelioma of the Lower Lip," by Dr. Ryfkogel (The Journal, Feb. 15, 1913, p. 507), condemns my operation for cancer of the lower lip on grounds which I think do not exist.

After admitting that my operation fulfils the conditions necessary in an ideal operation, Dr. Ryfkogel goes on to say that the "resulting infection and sloughing is frequently extensive and severe, so that death has not infrequently occurred." As far as I am able to learn this is not true, and Dr. Ryfkogel is either misinformed or has had some very unfortunate experiences. I have personal knowledge of about four hundred operations of this type by several operators, and in not one has either sloughing or death occurred, or severe infection.

In the earlier days of the operation slight infection from the mouth through Wharton's duct occurred quite regularly, but lasted only a few days and did no harm when drainage had been provided. Lately this has been avoided by using twenty-day chromic gut to ligate Wharton's duct. In my experience patients sit up the second day, part of the stitches are removed the third day and the balance the fifth, and they can be discharged on the eighth to tenth day.

Dr. Ryfkogel in his article makes no statement as to the removal of the lymph-nodes, and it must be inferred that this is very incomplete, as he excludes the submental region and by preserving the facial arteries prevents the removal of the submaxillary salivary gland.

Now I have frequently found the submental nodes infected by carcinoma of the lip, and the removal of the submaxillary salivary gland has been proved necessary on account of the lymph-node which regularly is in very close relation to or imbedded in this gland, and which is one of the earliest nodes to become infected. Any operation that fails to remove all these lymph-nodes is incomplete and must have a large recurrence rate.

I cannot understand why sloughing should ever occur in this operation, as the facial flaps are abundantly nourished even when both facial arteries are ligated. Of course, bungling work can cause both sepsis and sloughing, but there is no excuse for this and it cannot rightly be charged to the operation.

J. Clark Stewart, M.D., Minneapolis.

A proof of the above was sent to Dr. Ryfkogel, who replies:

To the Editor:—I fear Dr. Stewart has not read my article very carefully, for I state that two weeks after the removal of the lip, I do a radical dissection of the cervical lymph-nodes including the submental and submaxillary. At the second operation the facial arteries are cut; but as the flaps are now healed in place their preservation is no longer necessary. To save space I referred to a previous article in which I advocated a very thorough neck dissection in these cases, and as I do not like to have such an extensive wound in continuity with the mouth, I do a two-step operation. I also remove the lip wide of the growth, and my operation permits this by allowing full use, without tension, of the loose skin of the neck. In Dr. Stewart's original article he states that there is sometimes "an offensive suppuration" following his operation; such suppuration is, in my experience, often accompanied by sloughing in the wound. Dr. Stewart misunderstood in thinking that I stated that sloughing of the flap occurs in his operation, for I have not known this to happen. It is certainly remarkable, however, that 400 consecutive neck dissections that have been at all extensive and extend into the mouth should all heal without accident, such as shock or sepsis, even when the mouth has been excluded by careful suturing. A death observed by me occurred in a case of a man of 65 years with an extensive lip cancer. The neck dissection and lip plastic were quickly done after Stewart's method. Wharton's duct was ligated, and drainage thoroughly established. The offensive suppuration mentioned by Dr. Stewart quickly occurred, and notwithstanding free opening of the wound, death took place. If a surgeon believes that a given case is suitable for a one-step operation, Dr. Stewart's should be adopted, because mine can be performed only in two steps. If, however, he desires to do the operation in two stages and have ample tissue for a new lip without tension, I believe that mine will be the most satisfactory.

H. A. L. Ryfkogel, M.D., San Francisco.

Proposed Addition to the Hippocratic Oath

To the Editor:—As the time for the graduation of medical students approaches it has occurred to me that an acceptable addition to the Hippocratic oath might be made which cannot fail to meet the approval of medical men.

It is generally admitted that the hardest knocks which physicians have to bear come from other medical men; and while nothing libelous need be said, much can be conveyed. The whole ground has been so beautifully covered in such classic phrases that one can see that only good would result from reading the following lines to those about to have to deal with other physicians. The following relates particularly to all instances in which physicians are asked their opinions of their fellow practitioners:

> That you, at such times . . . never shall
> With arms encumber'd thus, or this head-shake,
> Or by pronouncing of some doubtful phrase,
> As, *Well, well, we know*; or, *We could, an if we would*;
> Or, *If we list to speak*; or, *There be, an if there might*;
> Of such ambiguous giving out, to note
> That you know aught of [him]: this not to do,
> So grace and mercy at your most need help you,
> Swear. —Hamlet, I, 5.

Surely the necessity for the care of the reputation of one's fellow practitioners could not be more forcibly impressed.

L. Miller Kahn, M.D., New York.

The Lister Memorial

To the Editor:—The movement for the establishment of memorials to the late Lord Lister in Great Britain is moving on apace. The memorials consist of a statue in Glasgow and the preservation of the Lister ward in the old Royal Infirmary, which is being rebuilt; but the proposition is to retain Lister's ward in its original state and install there a museum which shall contain everything that can be gathered relating to the early work of Lord Lister. In London there will be a statue, a tablet in Westminster Abbey and also an international fund for the purpose of awarding premiums to specially eminent surgical work in any country in the world.

I am glad to say that as a result of my letter in your issue of January 25, p. 308, I have already received nearly $700 in pledges and in cash. The checks have ranged from $5 to $100. When the matter is brought to the attention of the various national societies, I hope to see this sum largely increased. For the honor of the profession in this country and as an expression of appreciation of the wonderful work that Lister did for our profession and for humanity, it ought to be and I hope it will be multiplied several times over.

W. W. Keen, M.D., Philadelphia.

Queries and Minor Notes

Anonymous Communications will not be noticed. Every letter must contain the writer's name and address, but these will be omitted, on request.

FRENKEL TREATMENT IN LOCOMOTOR ATAXIA

To the Editor:—Please tell me what you can about the merits of the Frenkel treatment for locomotor ataxia.

R. M. Wiley, M.D., Salem, Va.

Answer.—In 1897 Frenkel (the name is frequently misspelled Frankel and Fraenkel) gave to the world a rather complicated system of exercises for tabetics, in order to relieve one of the troublesome symptoms, the ataxia. Frenkel's method, now considerably simplified, consists essentially in the systematic performance of simple movements with purposeful intent and attention, calculated to overcome incoordination by so reeducating the cortical centers that their work may subsequently be performed without attention and conscious volition. The exercises may properly be considered a series of cerebral gymnastics—not gymnastics by force—which any physician can devise to suit his individual case. The employment of this method is limited to the relief of one of the numerous symptoms of tabes, the incoordination, but has no appreciable effect on either the disease as a whole or on any of its other symptoms. In those cases, then, in which the symptom ataxia is present and in which the employment of Frenkel's exercises is not contraindicated, it constitutes a valuable addition to the symptomatic treatment of this disease.

RECIPROCAL RELATIONS OF MINNESOTA

To the Editor:—A physician graduated from a reputable medical college and obtained a license in 1898 to practice medicine in the state of Minnesota. In what other states in the Union can he practice medicine without passing any examination? E. L.

Answer.—If his credentials are otherwise satisfactory, he is eligible for a license through reciprocity in Arkansas, Colorado, Delaware, District of Columbia, Illinois, Indiana, Iowa, Kansas, Kentucky, Louisiana, Maine, Maryland, Michigan, Missouri, Nebraska, Nevada, New Hampshire, New Jersey, North Dakota, Ohio, Tennessee, Texas, Utah, Vermont, Virginia, Wisconsin and Wyoming, since it is reported that Minnesota has reciprocal relations with those states.

ANIMAL INOCULATIONS

To the Editor:—1. What doubtful diseases will guinea-pig inoculations aid in diagnosing?

2. Give technic of such inoculations as can be carried out by the general practitioner.

3. Mention sites for inoculations.

4. State the time period for development of infection in a given disease suspected.

5. Specify infective mediums (secretion or excretion) that best lend themselves for inoculation. J. E. K.

Answer.—1. Animal inoculations, especially in guinea-pigs, are used to determine the pathogenic character of microorganisms obtained by the culture of various secretions, and especially for the demonstration of the tuberculous character of certain lesions in which tubercle bacilli are not readily demonstrated by other laboratory methods.

2. Guinea-pigs and rabbits are usually inoculated in the thigh or abdomen; rabbits may be inoculated intravenously through the large dorsal vein of the ear. The material which is believed to contain germs of tuberculosis may be inserted under the skin or rubbed up with a sterile liquid, such as a salt solution, and injected in the peritoneal cavity. A Koch syringe

or an ordinary hypodermic syringe may be used for such purposes. Before use, the syringe with the needle should be boiled for ten minutes to sterilize it. The injection should be made with strict aseptic precautions.

3. As said above, a hypodermic injection in the thigh or abdomen may be made, or material may be implanted under the skin or in the abdominal cavity. Frequently also the eye of the rabbit is utilized for the injection of supposed tuberculous material, because the progress of the lesion can be readily observed in this situation.

4. The period for development of the disease will vary with the material under examination. Ordinary septic infections show their results quickly, sometimes within twenty-four hours. On the other hand, tuberculosis may not be manifest for a number of weeks.

5. As a rule, a culture of some of the microorganisms present in the diseased part, or in the secretions from it, should be used. When a diagnosis of a doubtful tuberculosis lesion is desired, a part of the affected tissue, such as an excised gland, must be rubbed up and injected directly.

LITERATURE ON INTRATHORACIC SURGERY

To the Editor:—Please refer me to some late papers on the present status of intrathoracic surgery. W. F. R.

Answer.—The following articles on intrathoracic surgery have been published within the past two or three years in The Journal and elsewhere:

Bancroft, F. W.: Lung Surgery, *Colorado Med.*, May, 1910.
Elsberg, C. A.: Intratracheal Insufflation (Meltzer); Its Value in Thoracic Surgery, *Ann. Surg.*, July, 1910.
Lilienthal, H.: First Case of Thoracotomy Under Anesthesia by Intratracheal Insufflation, *Ann. Surg.*, July, 1910.
Quinby, W. C.: Surgery of the Throat, *Surg., Gynec. and Obst.*, November, 1910.
Babcock, W. W.: A Pneumatic Shield for Operation on the Lung, The Journal, July 2, 1910, p. 11.
Meyer, W.: Impermeable Cardiospasm Successfully Treated by Thoracotomy and Esophagoplication, The Journal, May 20, 1911, p. 1437.
Senour, W. E.: Present Status of Surgery of the Thoracic Cavity, Experimental and Applicable, *Kentucky Med. Jour.*, January, 1911.
Upcott, H.: Recent Work in Thoracic Surgery, *Practitioner*, London, June, 1911.
Munford, J. G.: Thoracic Surgery, *Boston Med. and Surg. Jour.*, Sept. 14, 1911.
Elsberg, C. A.: Experiences in Thoracic Surgery Under Anesthesia by the Intratracheal Insufflation of Air and Ether, *Ann. Surg.*, December, 1911.
Bunnell, S.: The Use of Nitrous Oxid and Oxygen to Maintain Anesthesia and Positive Pressure for Thoracic Surgery, The Journal, March 23, 1912, p. 835.
Flint, J. M.: Physiologic Basis of Thoracic Surgery, The Journal, Sept. 7, 1912, p. 760.
Robinson, S.: Apparatus for Thoracic Surgery Under Intratracheal Insufflation or Positive Pressure, *Surg., Gynec. and Obst.*, May, 1912.
Boothby, W. M.: Intrathoracic Surgery: Division and Circular Suture of Thoracic Aorta, *Ann. Surg.*, September, 1912.
Bryan, W. A.: Recent Advances in Thoracic Surgery, *Jour. Tennessee State Med. Assn.*, November, 1912.

STATE ASSOCIATIONS DO NOT INSURE AGAINST BUT DEFEND MALPRACTICE SUITS

To the Editor:—Will you oblige me by publishing in your columns a list of the state medical societies which have any system of insurance against malpractice suits for their members?

T. H. Rogers, Providence, R. I.

Answer.—According to the best information available, no state society provides such insurance but the associations in the following states defend their members or assist them in their defense when subjected to suits for malpractice: California, Illinois, Indiana, Iowa, Kansas, Kentucky, Maryland, Massachusetts, Michigan, Minnesota, Mississippi, Missouri, Nebraska, New Jersey, New York, North Dakota, Ohio, Pennsylvania, Vermont, West Virginia and Wisconsin.

PROCHOWNICK DIET IN PREGNANCY

To the Editor:—Please give a diet for a pregnant woman, so as to influence size of child. The patient has always had very large children and hard labors, so I want to aid if possible in having a small child. John F. Miller, M.D., Andover, S. D.

Answer.—Prochownick (*Therap. Monatsh.*, 1901) advised the following, begun ten to twelve weeks before the expected birth:

Breakfast: One small cup of coffee, 3 ounces (100 c.c.); zwieback or bread, 1 ounce (25 gm.); a little butter.

Dinner: Any kind of meat, eggs or fish, with little sauce; green vegetables prepared with fat (as cream); salad; cheese.

Supper: Same as dinner, with from 1 to 1½ ounces (from 40 to 50 gm.) bread, and as much butter as desired.

Absolutely forbidden.—Soups, potatoes, desserts, sugar, beer, and overdrinking of water.

If the patient is accustomed to the use of alcohol, a small bottle of red or white wine is allowed, from 9 to 12 ounces (300 to 400 c.c.), or an equal quantity of water may be taken during the day. This diet appears to have stood the test without modification. Recent authors on obstetrics advise it in cases with contracted pelvis. The diet was described more fully in The Journal, Oct. 28, 1911, p. 1474.

REFERENCES TO THE LIFE AND WORK OF LISTER

To the Editor:—What can I find of the early life of Lord Lister, the details of his discovery of antiseptic surgery, and all other things pertaining to him? I should like to get these data as I wish to write an address using him as a subject.

R. E. Fort, M.D., Nashville, Tenn.

Answer.—Some good references on Lister are as follows:

Lister Jubilee Number, *Brit. Med. Jour.*, 1902, ii, p. 1817.
Symposium of Papers on the Late Lord Lister, read before the Academy of Medicine, Toronto; seventy pages; reprinted from the *Canadian Jour. Med. and Surg.*, May, 1912.
Marcy, H. O.: Personal Reminiscences of Lord Lister, *Am. Jour. Surg.*, March, 1912.
Sendon, A. A.: Lister, His Life and Work, Australasian *Med. Gaz.*, March 16, 1912.

TEST FOR UROCHROMOGEN IN URINE

M. L. Stevenson, M.D., Covington, La.: See The Journal, March 1, 1913, p. 689.

INFLAMMATION OF THE GALL-BLADDER

To the Editor:—In your answer (March 8, 1913, p. 770) to the inquiry of M. V. S., relative to a gall-bladder case in which he had operated, which caused pain every time the sinus closed, you say, "the trouble lies in the fact that the inflammation of the gall-bladder has not subsided entirely."

In the main I agree with the statement, but I do not think that any further drainage is indicated or will alleviate matters. There is likely some obstruction of the cystic duct, and no amount of external drainage will overcome that.

Cystic duct obstruction is evidenced not only by the refusal of the sinus to stay closed without causing pain, but also by the fact that no bile escapes; nothing but mucus. Now a cystic duct that will not admit bile to the gall-bladder will not allow the passage of mucus and inflammatory products in the normal way, through the common duct to the duodenum.

When the sinus closes an infected retention cyst is produced, in effect.

Inasmuch as this state of affairs has been present for about a year, the most logical treatment, it seems to me, would be the removal of the mucous membrane of the gall-bladder, or if this is not feasible a cholecystectomy.

William E. Ground, M.D., Superior, Wis.

Medical Economics

This Department Embodies the Subjects of Post-graduate Work, Contract Practice, Legislation, Medical Defense, and Other Medicolegal and Economic Questions of Interest to Physicians

SUMMARY OF PUBLIC-HEALTH LEGISLATION

A tabulation of reports received from the forty-one legislatures which have met since January 1 shows that up to date 426 bills on health topics have been introduced. This includes 34 amending existing board of health laws; 12 on vital statistics; 94 on the regulation of the practice of medicine, amendments to existing practice acts or bills providing boards for some special sect; 8 on registration of nurses; 6 each on the regulation of dentistry and pharmacy; 37 on the regulation of foods and drugs, habit-forming drugs, etc.; 9 bills on milk and dairy regulation; 55 on the control of disease; 21 on the sanitary construction of public buildings, etc.; 6 on occupational diseases; 6 on quarantine provisions; 20 on the care of the insane, feeble-minded, epileptic, etc.; 31 on marriage, eugenics, sterilization of criminals, etc.; 10 on vaccination, serums, etc.; 10 on water-supply and sewage-disposal; 3 on medical expert testimony; 14 on health supervision of schools; 3 antivivisection bills and 26 bills on miscellaneous subjects.

The large number of bills on different phases of the regulation of the practice of medicine shows the amount of agitation as well as the unsettled condition of public opinion on this subject. It is also significant that bills on this subject have been introduced in more of the legislatures in session than on any other one question, thirty-one of the forty-one legislatures in session having some bills on some aspect of this question now before them.

The next most important subject, numerically speaking, is the regulation of diseases, there being fifty-five bills on contagious diseases and their control, and on the prevention of disease. The fact that thirty-five bills on eugenics, marriage and sterilization have been introduced, shows the large amount of public interest in this question. Most of these bills have originated with laymen rather than with physicians. The thirty-four bills amending the board of health laws are mostly amendments strengthening the law. The bill in Arkansas, which has now become a law, creates a new state board of health. The fact that there are thirty-seven bills on food and drugs and habit-forming drugs is sufficient evidence of the public attitude on this subject.

The number of bills on public health subjects introduced in legislatures this year probably exceeds that of any preceding year. The thoughtful observer must be impressed with the waste of energy and the small results produced by our present lack of system in legislative matters. Bills are drafted hastily without adequate information or careful inquiry. They are introduced without sufficient consideration of phraseology or of possibility of enforcement or of conformity with existing laws. Bills are too often considered, both in committees and on the floor of the legislature, from a partisan, sectarian and personal point of view rather than from the point of view of the public good. Even when a carefully drawn and effective bill is introduced, it is too often emasculated and made inoperative and worthless by compromises which are necessary in order to secure its passage. These faults are characteristic of all American legislation. The medical profession, which is supposedly scientific by instinct and training, and which is supposedly working for the public good, ought to set a better example to the lawmakers than it has done in the past twenty-five years.

LEGISLATIVE NOTES

ARKANSAS

Following the passage of the bill creating a state board of health, referred to in The Journal last week, a bill was introduced appropriating the necessary funds for its operation. The day before the legislature adjourned the house tabled the appropriation bill. A few hours after this action was taken the governor began to receive telegrams from one of the northern counties of the state, saying that an epidemic of cerebrospinal meningitis had suddenly broken out, and asking the governor to send help at once. The governor immediately turned these telegrams over to the members of the legislature. By a peculiar coincidence, the member of the house representing the county in which the epidemic had broken out had been one of the most active opponents of the appropriation bill. On learning the situation in his county he at once moved to reconsider the motion to table, which was carried by an overwhelming vote. The next morning the appropriation bill passed without opposition.

The bill appropriating $36,000 for the medical department of the state university also became a law. The optometry bill and the chiropractic bill failed to pass.

COLORADO

The tuberculosis bill, making this disease reportable and requiring disinfection of houses in which tuberculosis has occurred, has passed both senate and house and is now before the governor. The sterilization bill has failed to pass the house. The chiropractic and osteopathic bills have passed the senate.

NORTH CAROLINA

The model bill on vital statistics has become a law. It carries with it an appropriation for $10,000. The general appropriation for the State Board of Health has been increased $8,500, making the total health appropriations amount to $46,000.

OREGON

The following bills on public health subjects have passed both houses, and have been signed by the governor: H. B. 69, providing for the sterilization of feeble-minded, imbeciles, insane and habitual criminals; H. B. 92, providing for the inspection of all hospitals and sanatoriums both public and private by the state board of health; H. B. 279, requiring a medical certificate of freedom from diseases from men desiring marriage license; S. B. 21, placing all charitable institutions, orphanages, maternity homes, etc., under the jurisdiction of the State Board of Health, and providing $10 per capita from the state funds for all orphans in these institutions; S. B. 298, making it a misdemeanor to deface or destroy any notice posted by the State Board of Health; H. B. 125, providing $5,000 annually for the study of bubonic plague in China, the work to be done under the auspices of Harvard University; H. B. 191, appropriating $10,000 a year to be used in promoting knowledge on social hygiene. H. B. 424, amending the medical practice act, and S. B. 200, prohibiting quack advertising, have already been commented on.

UTAH

S. B. 107, an optometry bill, has been killed in the house; H. B. 42, a sterilization bill, was killed on the floor of the house; S. B. 156, establishing a sanitary commission, was killed in the senate. The legislature adjourned Saturday, March 15.

TEXAS

The optometry bill has been killed by the senate, 19 to 6.

PROFESSIONAL MEN AS CANDIDATES FOR THE SUCKER LIST

How do these gold brick pedlers know that you are one of that species, a representative of which is born every minute?

This pointed question is asked by John Oskison, financial editor of Collier's *Weekly*, writing in the Chicago *Tribune*. He answers his question thus:

No sucker fisherman could afford to go on the theory that all are possible suckers and send his bait around indiscriminately. It would cost too much. So to qualify as a real, grown up sucker you must get on a sucker-list.

If you are a teacher, a preacher or a doctor you are pretty sure to be tested by some one of the fishermen. After you bite once you are passed along—you become an asset to the whole tribe. Your name is worth anywhere from 10 cents to $10, depending on how readily you bite and the amount of money you have dropped into the pockets of the promoters who have had their chance at you.

The teacher, the doctor and the preacher are ideal suckers, says Mr. Oskison; their earnings are usually small, their families large, and their sense of duty highly developed. Perhaps you would conclude, therefore, that they ought to be the very ones to keep away from the bait. No; they see the cost of everything which represents a decent existence rising higher and higher, while their income mounts with exceeding slowness or not at all. They will save something—at any cost of self-deprivation. And when that saving amounts to a hundred dollars or more they become susceptible.

Many are so ignorant of business that when they read the sunrise-tinted literature of promoters they actually believe they have a fair chance to obtain 100 per cent. in a short time on their investment. Government figures show that last year 525,000 persons lost $120,000,000 to persons indicted for fraudulent use of the mails.

Mr. Oskison concluded that the only sure way to avoid being caught as a sucker is to stick close to the side of the bank or banker whose business is under the supervision of a state or national government.

Medical Education and State Boards of Registration

COMING EXAMINATIONS

Arizona: Phoenix, April 7-8. Sec., Dr. John Wix Thomas.

California: San Francisco, April 1. Sec., Dr. Charles B. Pinkham, 929 Butler Building.

Colorado: 612 Empire Building, Denver, April 1. Sec., Dr. David A. Strickler.

Idaho: Boise, April 1. Sec., Dr. O. J. Allen, Bellevue.

Minnesota: State University, Minneapolis, April 1-4. Sec., Dr. Thomas S. McDavitt, Lowry Building, St. Paul.

Montana: The Capitol, Helena, April 1. Sec., Dr. W. C. Riddell.

New Mexico: Santa Fe, April 14. Sec., Dr. W. E. Kaser, East Las Vegas.

Oklahoma: Oklahoma City, April 8. Sec., Dr. John W. Duke, Guthrie.

Rhode Island: State House, Providence, April 3. Sec., Dr. Gardner T. Swarts.

West Virginia: Huntington, April 14. Sec., Dr. H. A. Barbee, Point Pleasant.

Arizona January Report

Dr. John Wix Thomas, secretary of the State Board of Medical Examiners of Arizona, reports the written examination held at Phoenix, Jan. 6-7, 1913. The number of subjects examined in was 9; total number of questions asked, 90; percentage required to pass, 75. The total number of candidates examined was 7, of whom 3 passed and 4 failed. For two candidates who failed the college and year of graduation was not given. The following colleges were represented:

PASSED

College	Year Grad.	Per Cent.
Rush Medical College	(1911)	87.5
Drake University	(1908)	81.7
Washington University, St. Louis	(1912)	82.4

FAILED

College	Year Grad.	Per Cent.
Atlanta School of Medicine	(1907)	69.9
Tennessee Medical College	(1907)	48.4

Colorado January Report

Dr. David A. Strickler, secretary of the Colorado State Board of Medical Examiners, reports the written and oral examination held at Denver, Jan. 7, 1913. The number of subjects examined in was 8; total number of questions asked, 80; percentage required to pass, 75. The total number of candidates examined was 9, of whom 6 passed and 3 failed including 1 osteopath. Twenty-six candidates were licensed on presentation of satisfactory credentials including state licenses. The following colleges were represented:

PASSED

College	Year Grad.	Per Cent.
Denver Homeopathic College	(1908)	76.3
University of Colorado	(1912)	82.9, 86.4, 89.1
University of Michigan, Dept. of Med. and Surg.	(1909)	81.2
Kansas City Hahnemann Medical College	(1910)	81.5

FAILED

College	Year Grad.	Per Cent.
Louisville Medical College	(1894)	62.9
University of Nebraska	(1902)	66.7

LICENSED ON PRESENTATION OF SATISFACTORY CREDENTIALS

College	Year Grad.	State Licenses
Rush Medical College (1892) Nebraska;	(1903)	Illinois
Medical College of Evansville	(1881)	Indiana
University of Louisville, (1882) Kentucky;	(1893)	Kentucky
Kentucky University	(1904)	Louisiana
Tulane University of Louisiana	(1911)	Alabama
Baltimore Medical College	(1898)	Penna.
University of Maryland	(1908)	Minnesota
University Medical College, Kansas City (1898)	(1907)	Missouri
Lincoln Medical College	(1904)	Nebraska
Kansas City Medical College	(1905)	Kansas
Bellevue Hospital Medical College	(1886)	Missouri
Ohio Medical University	(1904)	Ohio
Ohio-Miami Medical College	(1911)	Ohio
Miami Medical College	(1880)	Illinois
Cleveland College of Physicians and Surgeons	(1899)	Ohio
Jefferson Medical College	(1911)	Iowa
University of Tennessee	(1894)	Tennessee
University of Nashville	(1900)	Tennessee
University of Vermont	(1911)	Vermont
Medical College of Virginia	(1908)	Virginia
Milwaukee Medical College	(1901)	Nebraska
University of Helsingfors, Finland	(1907)	Mass.
Royal University of Palermo, Italy	(1894)	Connecticut

Minnesota January Report

Dr. Thomas S. McDavitt, secretary of the Minnesota State Board of Medical Examiners, reports the written and oral examination held at Minneapolis, Jan. 7-10, 1913. The number of subjects examined in was 18; total number of questions asked, 110; percentage required to pass, 75. The total number of candidates examined was 6, of whom 5 passed and 1 failed. Twelve candidates were licensed through reciprocity. The following colleges were represented:

PASSED

College	Year Grad.	Per Cent.
Rush Medical College	(1912)	85
Harvard Medical School	(1910)	87
University of Minnesota, College of Med. and Surg.	(1912)	85, 89
Jefferson Medical College	(1909)	88

FAILED

College	Year Grad.	Per Cent.
Milwaukee Medical College	(1909)	65

LICENSED THROUGH RECIPROCITY

College	Year Grad.	Reciprocity with
Rush Medical College (1908) Wisconsin; (1911)	(1912)	Illinois
Northwestern University Medical School (1904)	(1911)	Illinois; (1912) Wisconsin.
College of Physicians and Surgeons, Chicago	(1897)	Wisconsin
Chicago College of Medicine and Surgery	(1907)	Iowa
Hamline University	(1909)	N. Dakota
St. Louis University	(1906)	Illinois
University of Pennsylvania	(1910)	Maryland
Milwaukee Medical College	(1912)	Wisconsin

North Dakota January Report

Dr. G. M. Williamson, secretary of the North Dakota State Board of Medical Examiners, reports the written and oral examination held at Grand Forks, Jan. 7-10, 1913. The number of subjects examined in was 13; total number of questions asked, 116; percentage required to pass, 75. The total number of candidates examined was 13, of whom 9 passed and 4 failed. Six candidates were licensed through reciprocity. The following colleges were represented:

PASSED

College	Year Grad.	Per Cent.
Northwestern University Medical School	(1911)	81.5
University of Minnesota, College of Med. and Surg.	(1912)	82, 84.7
Hamline University	(1907)	79
University of Pennsylvania	(1910)	90
Jefferson Medical College (1910) 82.5;	(1911)	81.6
University of Nashville	(1901)	80.5
University of Toronto, Ontario	(1910)	78

FAILED

College	Year Grad.	Per Cent.
College of Physicians and Surgeons, Chicago	(1911)	70
Keokuk Medical College, College of Phys. and Surg.	(1903)	69
Laval University, Montreal, Canada (1911) 71;	(1912)	66.2

LICENSED THROUGH RECIPROCITY

College	Year Grad.	Reciprocity with
Rush Medical College	(1907)	Illinois
College of Physicians and Surgeons, Chicago	(1908)	Illinois
Bennett Medical College	(1910)	Minnesota
University of Minnesota, College of Medicine and Surgery (1908) (1909)	(1910)	Minnesota

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Disinfection in Measles.—The New York City Department of Health does not remove goods for sterilization in carrying out disinfection after measles. It is said that experience has shown that there is little likelihood of any infection from the sick-room when the person suffering from measles has completely convalesced; the main danger is from fresh discharges. This change in the method of disinfection is appreciated by the public, and the absence of secondary cases justifies it. The abandonment of terminal fumigation after recovery from measles or diphtheria has diminished the work of the disinfection corps by 20 per cent. After the recovery of the patient at home the woodwork of the room in which the patient was isolated is thoroughly scrubbed with hot soda solution (½ pound to 3 gallons) and the room is thoroughly aired for at least twenty-four hours before being occupied. If the patient is removed from the sick-room during the height of the illness, or dies at this period, the room and its contents are disinfected and all goods exposed to the infection are removed to the disinfection station and disinfected by steam.—January *Bulletin* New York City Department of Health.

Society Proceedings

COMING MEETINGS

AMERICAN MEDICAL ASSOCIATION, MINNEAPOLIS, JUNE 17-20

Alabama State Medical Association, Mobile, April 15-18.
American Urological Association, Boston, April 15-17.
California State Medical Society, Oakland, April 15-17.
Georgia State Medical Association, Savannah, April 16-18.
Louisiana State Medical Society, Baton Rouge, April 22-24.
Maryland Medical and Chirurgical Faculty, Baltimore, April 22-24.
Mississippi State Medical Association, Vicksburg, April 8-10
New York State Medical Society, Rochester, April 29-May 1.
South Carolina State Medical Association, Rock Hill, April 15-17.
Tennessee State Medical Association, Nashville, April 8-10.

ASSOCIATION OF AMERICAN MEDICAL COLLEGES

Twenty-Third Annual Meeting held in Chicago, Feb. 26, 1913

(Concluded from page 859)

Some Problems in Medical Education

DR. EGBERT LEFEVRE, New York: During all the years of its existence, the policy of the association has been to consider the question of medical education from the point of view of those who were actively engaged in medical education and who had knowledge of all its phases, technical, pedagogic and geographic. At present there is great need for such a body. Two general educational remedies have been advocated by organizations concerned with medical education: (1) that one or two years of college work, which should include one year of chemistry, physiology and biology, be added to the preliminary training; (2) that a hospital or a clinical year be added, making the medical course one of six years. The questions for this association to decide are not merely academic, but questions of administrative standards.

The first question that arises is how the student is to obtain the year's work in the sciences demanded by the American Medical Association in the action taken by its House of Delegates in 1912. In states with state colleges or universities the question has been answered. The high-school and university courses are so correlated that with a minimum amount of disturbance the students pass from one to the other. But in the greater part of the country no such coordination exists. In some states students are admitted only on examination in addition to their credits; others demand special preparation in subjects not included in the high-school course. Universities should feel it their duty to correlate their entrance requirements with the high-school courses of their locality. Universities do not want students preparing for medical-school requirements, because they object to acting as a preparatory school for technical or professional education. This raises the question of equivalents and the dangers of evasion. It has been suggested that courses in chemistry, physiology and biology be given in technical schools, which would not admit students until after the completion of a high-school course, and it has been asserted that such a course would be more definite than that given in many literary colleges, because it would be under the supervision of the educational department of the state.

What is the object of this added year of preparation? In general terms, the answer is "power to grasp professional subjects." This question has given rise to much debate, and incident to it, it has been stated that one year of college work is not sufficient time in which to teach these subjects as pure sciences. Others hold that it is sufficient time in which to gain a familiarity with the principles of these subjects. They should be taught in an intensive manner so as to arouse interest, to make the student feel that they have a bearing on his future work, and to widen his mental horizon and awaken his reasoning faculties. Unfortunately, the generalities of the college course do not often give this direction. The high-school graduate often gets more out of the course than the man with the A.B. degree. Medical colleges are in duty bound to demand of colleges that these courses be standardized—that they be made worth the student's time.

As to whether or not this added year will relieve the medical curriculum, the only answer to be made is that the ultimate aim of medical education is to make good practitioners of medicine. The medical school cannot turn out a "finished" product, but it can train its students so that they will be in a position subsequently to remedy their own deficiencies. The medical curriculum has reached the limit of its capacity. It has been formed almost altogether by accretion, something being put in, little or nothing taken out. If students come to the medical colleges with better preparations in the sciences there is a tendency to add more detail, to extend the laboratory courses, to teach subjects as pure sciences, to lose sight of the ability of the student, to go beyond the needs of the future practitioner and to plan the course as though they were to be chemists, pathologists or research workers. Opportunity should be given to those who wish to pursue a subject beyond the degree given in the course, but who cannot because of the rigid curriculum presented.

In our attempt to make the student scientific, we are defeating our object by insisting on this great detail before he can understand the principles. The reason students do not have a better grasp of scientific subjects is that medical education has become less homogeneous. The science years are becoming more and more divorced from the clinical. This tendency should be corrected. I believe that teachers of scientific branches are largely to blame for this. It is the result of evolution. They should be in thorough sympathy with the future professional work of the student, and I am of the opinion that teachers in medical schools should have a medical course as part of their training. Medical progress is being retarded by lack of coordination in the science and clinical departments. Instead of extending the course in physiologic science, a correlated clinical laboratory course should be introduced in the second year. This would be the best introduction possible for the clinical subjects. The establishment of state examining boards has raised the general standards of the profession and is responsible for a more uniform curriculum, but it has had a decided influence on the overloading of the curriculum; it has encouraged quiz-book methods and put a premium on ability to answer questions. State-board examiners should recognize the changes that have occurred in medical education. Practical examinations should be given. The states should consider it their duty to provide the necessary funds.

Divided Schools

DR. CHARLES R. BARDEEN, Madison, Wis.: Unless a medical school is an integral part of a university which is in a position to give financial support to a school, the equipment facilities are, with a few exceptions, inadequate. The fundamental need of affiliation with large public hospitals, dispensaries and public health work is likewise clear. The medical course falls into two subdivisions: (1) that of the basal medical sciences and (2) that of the clinical teaching. The teaching of the basal sciences may usually be organized most readily at the university center. The clinical teaching can be well established there only when large hospitals and dispensaries adjoin, as in Michigan, Minnesota or Pennsylvania. When the clinical teaching cannot thus be given, but can be given in the same city or within a few miles of the university center, the basal sciences are, as a rule, given in conjunction with the clinical teaching and the medical course, as at Northwestern, Harvard, Columbia and Western Reserve. At Indiana, Cornell and Texas the medical school is some distance from the university center, but work in the basal medical sciences is given in both places. The need of developing these sciences at the university center, especially in state universities, in connection with public health work, has led to the organization of "half schools," and divided schools. In a university where comparative vertebrate anatomy, histology, neurology, physiology, pharmacology, chemistry, bacteriology and hygiene are cultivated as important aspects of biologic science, the addition of human anatomy, pathology and physiologic chemistry so as to cover the first two years of the medical course is a simple and natural step. If, however, these subjects are to be taught students as a part of the regular course, it is important that they should at least be entrusted to men who have had a medical training and who are interested. It is also of great value to have at hand at least a small hospital in which interest in clinical medicine may be maintained and to have available some clinical material to demonstrate to students in the second year of the medical course.

In the divided school, in the usual sense, the clinical branches are taught in a city miles away from the seat of the university. As a rule, the division in work takes place between the second and third years of the course; but it may take place in the middle of the second year, as at Leland Stanford, or at the end of the first year, which is the aim at present in Indiana. There seems to be no fundamental reason why the work of a medical school should not be done in two or more places, provided the organization of the school is effectively centralized in a strong university. A fundamental thing is university support and control. If the remote medical school gives the complete work of the four years, some of the work of the first two years will have to be repeated at the university center; on the other hand, some non-medical science work may have to be given in the medical school. If the separation takes place between the second and third years, some clinical work should be given in the university center and the clinical division should cultivate some of the basal sciences, especially physiology and pathology. The line of separation need not, however, be between the second and third years. The main thing is to have university control and support. The question is not merely so much one of the division of the medical school as of the existence of the medical school. The problem is in each case a local one, but the university must control and support all of the teaching, and the work must be so organized as to save the student's time to the utmost. His time must not be used up in long daily trips from one part of his work to the other. Extreme centralization of a medical school makes for certain kinds of economy, but if this economy is attained by giving up the use of clinical material, it may be after all a false economy, and the university may fail to do its duty in promoting the highest service in public work.

The Fifth or Hospital Year

Dr. William Pepper, Philadelphia: The state boards should decide on the merits of individual hospitals, should classify them and make a list of hospitals in which candidates could spend their intern year. It is becoming yearly easier to place graduates in satisfactory hospitals. We fail to see the necessity for the control of hospitals by medical schools. It is hopeless as well as useless to wait until each school owns or controls acceptable hospitals in which to place all of its graduates. I believe it not to be to the best advantage of a hospital to get all of its residents' year after year from the same school. Too much inbreeding is a bad thing.

How will the fifth year requirement affect the student? In a small minority it will add to the difficulties, but it will affect most those needing better training, the poorly prepared man, and it is for these that this requirement is intended. The best men practically all take hospital positions now. As to the effect on the hospital, I believe that this will prove the entering wedge whereby we may expect to obtain better facilities for our graduates serving as residents in hospitals. The state board by classifying hospitals as acceptable and non-acceptable will direct the attention of managers to various inadequacies in the service, to lack of laboratory facilities, lack of proper records and innumerable other deficiencies that may exist. There also is the possibility of the state board demanding of acceptable hospitals the right to hold practical examinations in its wards and laboratories. Here is a chance in my opinion to institute real practical examinations. This alone would make the whole plan worth the trouble.

Medical College Organization

Dr. William C. Borden, Washington, D. C.: A properly conducted medical school consists of two main groups, the laboratory group and the clinical group. The work of the laboratory group requires a thoroughly equipped building or buildings, wherein the teaching in anatomy, physiology, chemistry, pathology and bacteriology and materia medica and pharmacology, with all of their various subdivisions, may be carried on effectively. The work of the clinical group requires one or more hospitals with sufficient ward facilities and one or more outpatient services, in all of which authoritative control of patients and teaching is had by the teacher in these divisions. An effective modern institution for teaching medicine must have adequate buildings and equipment, including a hospital and a dispensary, and it had best be a department of a university. It should be subject to the authority of the board of trustees and the executive, the president; but this authority should not extend beyond the necessary financial control of education and other matters such as the details of appointment to the medical faculties. The organization of a medical school is intended to give definite assignment of responsibility and authority to every teacher and administrative officer, and to have proper supervision by the responsible heads of the teaching groups, so that proper administration may be had and adequate instruction may be given, and this in such a way that friction may be avoided.

DISTRIBUTION OF RESPONSIBILITIES, AUTHORITIES AND STUDENTS

			Divisions	Subdivision	Students Year
Board of trustees President of the university	Executive section Executive committee Dean Chairman	1. Med. school 2. Hospital 3. Dispensary			
	Educational section Advisory committee Dean Chairman	Divisions of the faculty and distribution of students	Anatomy	Gross anatomy	1st 2d
				Mic. anatomy	1st
				Embryology	1st
			Physiology	Normal	1st
				Pathologic	2d
				Hygiene	2d
			Chemistry	Inorganic	1st
				Organic	2d
				Physiologic	2d
				Clinical	3d
			Pathology	Pathology	2d
				Bacteriology	
				Clinical microscopy	
			Materia medica	Materia medica	2d
				Pharmacology	2d
				Therapeutics	3d
			Medicine	Physical diagnosis	2d 3d
				General medicine	3d 4th
				Dietetics	3d
				Pediatrics	4th
				Tropical medicine	3d
				Psychiatry	4th
				Neurology	4th
				Dermatology	4th
				Venereal diseases	4th
				Preventive medicine	4th
				Forensic medicine	4th
			Surgery	Minor	2d
				General	3d 4th
				Surgical pathology	3d
				Orthopedic	4th
				Genito-urinary surgery	4th
				Radiography	4th
				Ophthalmology	4th
				Otology	4th
				Rhinology	4th
				Laryngology	4th
				Operative laboratory	4th
			Obstetrics		4th
			Gynecology		3d 4th

The medical faculty should be governed by an ordinance or constitution which has to do with two main subjects: (*a*) the administration of the department; (*b*) its educational conduct. The administration is best placed in the hands of an executive committee with the dean as chairman and to include with others the professors of medicine and surgery, as representing the two most important clinical divisions. This executive committee is a subcommittee of the advisory committee of the university. The accompanying diagrams will give an idea of an organization, which has given great satisfaction in the past four years.

As the dean's office is the administrative center of the department of medicine, its organization and conduct are of great importance. Under the dean as the head of this department of the college there is (1) the secretary, who has charge of the work and the keeping of the students' records; (2) the superintendent of medical buildings, who has charge of the bookkeeper, the purveyor, the janitors and the engineer, the latter having charge of the firemen, carpenters and other workers; (3) the superintendent of the hospital, and (4) the director of the dispensary. That makes a very good division of the work of the dean's office.

RESPONSIBILITIES AND AUTHORITIES, UNIVERSITY HOSPITAL AND DISPENSARY

- Board of trustees President of the university
  - Teaching section
    - Advisory committee Dean
      - Dispensary
        - Director of the dispensary
          1. Assistant director
          2. Chief of the clinical division; assistant clinician
          3. Chief of the dispensary laboratory; assistants
          4. Skiagrapher; assistants
          5. Record clerk
          6. Nurses on dispensary service
          7. Orderlies, etc.
      - Hospital
        1. Chiefs of clinical division; assistant clinicians
        2. Chiefs of clinical laboratory; assistants
        3. Skiagrapher; assistants
  - Administrative section
    - Executive committee Dean
      - Superintendent of the hospital
        1. Resident physician; interns
        2. Anesthetists
        3. Pharmacist
        4. Superintendent of nurses
           1. Head of nurses; ward supervisors; pupil nurses
           2. Operating-room nurse
           3. Special nurses (graduates)
           4. Orderlies
           5. Ward laborers
           6. Ward maids
        5. Stewardess
           1. Cooks
           2. Kitchen maids
           3. Dining-room maids
           4. Kitchen and dining-room laborers
        6. Assistant superintendent
           1. Bookkeeper
           2. Purveyor
           3. Record clerk
           4. Telephone and office attendants
           5. Engineer
              - Fireman
              - Carpenter
              - Electrician, etc.

Report of Committee on Pedagogics

The report of this committee, made by Dr. E. P. Lyon, the chairman, will be published in full in The Journal later.

FEDERATION OF STATE MEDICAL BOARDS

First Annual Conference held in Chicago, Feb. 25, 1913

On account of the illness of Dr. A. B. Brown of Louisiana, president, the vice-president, Dr. Charles H. Cook, presided.

Officers Elected

The following officers were elected: president Charles H. Cook, Natick, Mass.; vice-president, Albert de Bay, Orange City, Iowa; secretary-treasurer, O. V. Huffman, Albany, N. Y. Executive Committee, three-year term, James A. Duncan, Toledo; two-year term, J. M. Baldy, Philadelphia; one-year term, Herbert Harlan, Baltimore.

The next annual conference will probably occur in Chicago the last week in February, 1914.

The following boards were represented: Arkansas, eclectic; Arkansas, regular; Indiana, Louisiana, Maryland, Massachusetts, Michigan, Minnesota, New York, Ohio, Pennsylvania, South Carolina, Vermont, Virginia and Wisconsin.

The following boards have paid the dues for charter membership, or have expressed a desire to become charter members, but were not represented at the meeting: Iowa, North Dakota, Oregon, Rhode Island and Utah.

The following became charter fellows of the organization: Emil Amberg, John P. Bennett, A. B. Brown, N. P Colwell, Charles H. Cook, R. D. Copeland, Homer Dupuy, Espey M. Williams, W. P. Harlow, F. F. Lawrence, J. G. Martin, Murray Galt Motter, F. T. Murphy, George C. Tallerday, F. C. Waite, S. L. White, Fred C. Zapffe. Dr. John K. Scudder was elected an honorary fellow.

By action of the Executive Committee, the time for charter membership in the federation was extended to July 1, 1913. All boards desiring to become affiliated as charter members may do so by forwarding the dues, $25, to the secretary-treasurer. All those desiring to become charter fellows may, on the payment of $1, be so considered. Ex-members of state medical boards may, on application to the Executive Committee, become honorary fellows without payment of dues. Delegates from the United States Army, the United States Navy and the Public Health Service will be admitted to all sessions of the federation on the same basis as honorary fellows.

Should Medical Boards Require One or More Years of College Work?

Dr. W. J. Means, Columbus, Ohio: The activities of medical boards are fixed largely by statutes. The provisions in most states, however, are quite liberal, and while they differ considerably in specifications, in the main the boards are given great latitude in the execution of their functions. Few medical boards have exercised their full power in any of their functions so far as my observation goes. This is especially true in the supervision of the preliminary educational course and in inspecting colleges. Their sins are those of omission rather than of commission. Medical boards can exercise a much broader supervision under the laws now existing than they do. It is certainly within their power to determine the value of preliminary educational requirements.

Without a uniform high school standard, honestly administered, it is folly to talk about higher requirements. Various high-school standards for admission have been set, but the evaluation of these standards varies more than do the standards. Personal mathematics with different rules of addition, multiplication and division seem to enter into the evaluation very largely. The New York Board of Regents, for example, maintains that its sixty counts are of more value in work required than the Carnegie fourteen units. The proportion, it is claimed, is six to five in favor of the New York standard. It is evident that the Carnegie Foundation has lowered the fifteen-unit standard. Its fourteen units may be made up from all sorts of subjects, none of which may have any scientific value. In other words, there are no required subjects, and medical colleges are taking advantage of this looseness, and state boards are being influenced by the college demands. Of much more importance than the number of units or counts is the subject-matter that makes up the credits. Graduation from a first-grade high school alone should not be the standard on which a medical certificate is granted. In New York the recent requirement of one year's work in chemistry, biology and physiology is specified work included in the sixty counts. It is raising the requirements in contents only.

The medical curriculum as it stands to-day requires preparation in addition to that of the high school. Without some training in chemistry, physics and biology, medical students are handicapped. These studies give the student the preparation which saves time when he enters on his medical work. The physician should have a broad liberal education, therefore his preliminary education should include a good knowledge of English and other cultural subjects, such as mathematics and foreign languages. The four years in high school are all too short to get the required educational training and the cultural education necessary to round out a professional career.

The physician's activities are not confined to the healing art. The problems of public health and the problems of citizenship must be met. From an educational point of view no good reason can be offered against a one or two years' college course. Two years is the ideal, one year the necessity. The poor-boy plea is no longer looked on as a reason for low requirements. That well-trained doctors prefer urban to rural practice is also no longer a truism, and rural districts are entitled to just as good treatment and as highly educated doctors as the cities. Physicians everywhere are better educated men now than they were years ago. My experience with the country doctors almost persuades me that efficiency in the healing art is more evident in the country than in the city. High standards will not deprive country districts of doctors. A physician who knows nothing but the issuing of drugs is of little value to any community. That higher education necessarily means expenditure of more time and more money will not deprive the people anywhere of needed medical attendance. It is the duty of state boards to be alert in exercising the power given them in maintaining high preliminary standards and in inspecting medical colleges, as well as their product. State boards should carry out the will of public sentiment as expressed by the organized interest in medical education. State medical boards must keep pace with public opinion.

Should Internship Be Required for Graduation?

Dr. Isadore Dyer, New Orleans: There can be no question of the correctness of the proposition that a hospital experience is desirable for the man who intends to practice medicine, and that such a man is possessed of more efficient training than he who has not had such service. There is some question, however, as to the expediency of promulgating any rule requiring such service. We should have an intern year when we can offer it adequately. Until then we should not make a pretense of making a requirement which we know it will be impossible for the majority to satisfy.

The questions to be considered in this connection are: 1. In what particulars do medical graduates lack most for the practice of medicine? 2. Are there enough hospitals properly equipped and so administered as to allow this? 3. How can the college require an intern year if it cannot direct or apply the sort of service required, and how can it pass on a credit for an intern year unless the hospital and the intern are under the control of the college? 4. Further, what class of hospitals will be qualified to afford the required service and the required conditions?

Hospitals must either be standardized for educational purposes, or the intern year credited on some basis of work, according to which full or modified conditions may be allowed. At present it seems almost impossible to standardize the intern year. The ideal condition must presuppose the affiliation of the college with the hospital so as to allow direct supervision of the intern while engaged in hospital work. The intern must establish credits for systematic work in medicine, surgery, obstetrics, pathology and correlated subjects. Such a division of service will necessitate the arrangement of periods in the hospital, with rotating groups to different fields of work, changing every three or four months in order to cover all the clinical branches. The hospital administration must be willing to allow the intern service to be used for educational purposes as the first object, and to make second the business of the hospital, for the frequent changes of service among interns can hardly make for the greater efficiency in the administration.

The efficiency of the hospital intern grows greater as the service of the intern is concentrated on division of work. Therefore one year of service is of doubtful usefulness to the hospital, and of still more doubtful usefulness to the intern, especially if he is harassed by frequent changes in the assignment, which make of him an untrained man in each. The intern year, then, if made obligatory for licensure, should require service that makes for efficiency in the greatest number of subjects, and especially should argue that one year cannot create such efficiency under the existing organization of hospitals. The postgraduate clinic year is more likely to accomplish results than the intern year without proper supervision. The intern year is desirable for licensure if it can be made systematic, which at this time is not probable. Therefore any rule requiring an intern year is inexpedient, and if adopted would work a hardship on all but the graduates of a few colleges owning or controlling hospital service.

There should be an attempt at the gradual standardization of hospitals to educational purposes with the future expectation of correlating hospitals and colleges of medicine in each state. This will require large education of the lay community. Until such time a fifth practical clinical year should be required of medical graduates, and therefore should be required by the state boards of examiners. To make such a clinical year efficient, state boards of examiners should stipulate the detail and amount of practical clinical work in each branch to be taken as part of the application for a license before the candidate is admitted to an examination. Such a stipulation should include each branch of medical practice and the scope of training required.

DISCUSSION

Dr. William Pepper, Philadelphia: The state board should say where the internship should be taken. The University of Pennsylvania does not want the control of students after graduation, nor does it want supervision of hospitals. The state board must have its form of examination and make it a practical examination conducted in the wards of the hospital.

Dr. Reuben Peterson, Ann Arbor, Mich.: I favor the intern year, but before the matter is adopted as a requirement, the subject should be discussed carefully. No board or school has the right to demand a fifth clinical year without proper knowledge of hospitals and of what work should be done by the intern. This work should be part of the college curriculum, and the degree should not be granted until after a student has served his hospital year, so that the college will have full control of his time and work. Hospitals must be standardized and the work so arranged that the intern gains a fully rounded course, which may be of value to him in his practice.

Dr. Egbert Le Fevre, New York: There are not enough places in hospitals for all medical graduates. The control of this question should reside with state boards. The service in most hospitals is two years, and a man who wants to serve only one year cannot secure a place. Will you demand general service or accept special service done in special hospitals? I do not believe that we are ready at present to make this requirement obligatory, but we should give academic credit to every man who has taken such service.

Dr. J. M. Baldy, Philadelphia: The plan in Pennsylvania is for the examining board to have full control of the hospitals. The medical student should not be considered. The community must be protected and the student must do what is necessary, so that when he enters on the practice of medicine he is competent to do so without doing injury to the community. The hospitals are badly organized to do this work, but a beginning should be made now. In the June examination in Pennsylvania, fifty-three men failed. Forty-two of these went into hospitals afterward, taking a six months' service. Eleven did not do this. Some of these eleven failed at a second examination, whereas of the forty-two who took hospital work only eight failed. The University of Pennsylvania gives a postgraduate course of which 50 per cent. is clinical, and the board approves of the course and accepts it as a substitute for internship.

Rules and Regulations Governing Examinations

Dr. J. M. Baldy, Philadelphia: There are two different factors at work in making tests of would-be medical men: the schools and the state. The schools teach the medical student the tools and their functions. The state lays down a minimum course of instruction and tests the finished product. It does not test his knowledge of his tools but his knowledge as to the use of his tools, with a sufficiently safe assurance to render it proper for the state to turn him loose on an unsuspecting and unprotected community. The state board should not conduct examinations in chemistry, descriptive anatomy, physiology and other fundamental branches. These subjects are not of prime importance. The state should take over only the finished product and test it as an entity and not in detail. It is for this reason that after Jan. 1, 1914, the State Board of Pennsylvania will admit no applicants to its examinations, either from within the state or without, until a year of service in an approved hospital has been completed; nor will any one be admitted to begin practice in the state through reciprocity who after that date has not fulfilled that requirement. The state board should know whether the applicant is fit to practice medicine, not whether he is familiar with the fundamentals and the use of names, as distinct from practice.

DISCUSSION

Dr. W. B. Hinsdale, Ann Arbor, Mich.: The function of the state is to protect its citizens by not allowing a person to practice medicine without a knowledge of the subject sufficient to render him safe in practicing. The applicant must show his ability to apply and correlate facts. Therefore questions must be so formulated as to test the applicant's originality and ingenuity in the application of the primary principles of medicine to concrete cases. Colleges are to be reprimanded for not teaching the sciences, and especially for merely trying to prepare students for examination. I do not believe that the time has come for the application of bedside teaching, but questions can be formulated in a blending of subjects of an acceptable nature as in the combined methods of the English examination.

Dr. J. W. Andrews, Mankato, Minn.: If Minnesota followed the example of Pennsylvania it could not examine two-thirds of the graduates of the country. The time will come, however, when all state boards may adopt the conditions mentioned in the paper; but time must be given to work out these standards and to apply them.

Dr. L. E. Seaman, Cleveland: Pennsylvania will surely occupy a unique place, and for many years to come the larger proportion of states in this country will be *persona non grata* with Pennsylvania.

Dr. F. F. Lawrence, Columbus, Ohio: The paper is a practical one and leads up to what must come in this country just as it came in Great Britain, where the teaching institutions are not degree-conferring bodies. The teaching must be done properly in order that schools may continue their existence, and the state boards are the ones to pass on how well this teaching is being done.

Dr. J. M. Baldy, Philadelphia: We expect that in Philadelphia within five or six years the examining functions of the board shall be a purely perfunctory one. The schools will continue the students from the freshmen into the sophomore year, will practically guarantee his studies and the examining board will simply have to visé his work.

CHICAGO SURGICAL SOCIETY

Regular Meeting, held Feb. 7, 1913

The President, Dr. Charles Davison, in the Chair

Juxta-Epiphyseal Sprain and Sprain Fracture of the Lower End of the Radius

Dr. Kellogg Speed: If the capsule tears or gives way the bone does not break, as a rule, but, as demonstrated by Ross and Stewart, the ligament is stronger than the bone or periosteum, and in the majority of tests on the cadaver pulls out the bone surface or causes by its line of stress a sprain fracture across the impact-receiving area. Stimson believes that too much stress has been laid on the supposed rupture of the internal lateral ligament in sprains at the wrist, for his experiments do not show this, except in cases with marked displacement.

Three causative mechanisms have been worked out: 1. Splitting or crushing by force from carpal bones. 2. Radius yielding at the weakest point by breaking up of the causative force. 3. Cross-strain exerted at insertion of capsular ligament, especially on the anterior aspect with the hand in dorsal hyperextension. The last-named factor has never been given its full value. What in one case will give merely the sprain with ligamentous damage, in another will cause epiphyseal or sprain fracture of the styloid process with little displacement and no comminution. Fracture force in distinct fracture causes the bone to break frequently in the line of epiphysis; and the lower fragment, forced on by a continuation of the pressure, is driven on up into the cancellous portion of the shaft, giving the impacted Colles'. As the swelling and soreness are often not great at first, and superficial examination gives no crepitus, no false motion and little deformity, which a sprain alone or a small hematoma might account for, these cases do not come to the hands of the surgeon at once, or if they do are not diagnosed.

Juxta-epiphyseal sprain may be as painful and result in as prominent objective findings. Crepitus excepted, one cannot clearly differentiate if the acute swelling has occurred, as the hematoma formed by the tearing loose of the ligamentous attachments at the wrist, all in the epiphyseal area, simulates the fracture deformity. Local pain on pressure and loss of function are at first as great in sprain with ligamentous laceration and hemorrhage as in true sprain fracture. Ross and Stewart, at the German Hospital in Philadelphia, in going over records found that 15 per cent. of all fractures confirmed by Roentgen ray were sprained fractures, and that in 1910, eleven of these were of the lower end of the radius, and that in 1911 there were seven in the same location.

As diagnostic signs, the following are sufficient: (1) history of sufficient trauma; (2) small sharply localized area of swelling and acute tenderness over attachments of ligaments at the lower end of the radius and ulna. The findings in sprain fractures (under 2) are pronounced and certain, recurring always at the same place when test is repeated, so that one can in 80 per cent. of cases make a clinical diagnosis before roentgenogram.

Treatment should be that of fracture. The wrist is immobilized from the base of the fingers to the elbow in a light plaster splint, the hand in comfortable position, generally slightly flexed, and the forearm midway between pronation and supination. After from ten to fourteen days the splint is removed, the arm massaged, and after the third week no support is needed. This avoids prolonged disability from sprains, excess of callus formation, and better satisfaction to the patient.

DISCUSSION

Dr. E. Wyllys Andrews: I do not see how any one can help being impressed with the methods described in this paper. An hour of this sort with the actual roentgenograms from cases is worth more than a whole treatise, such as Hamilton's or Scudder's, especially the former, before the days of roentgenograms. Now we have pictures of the bones as they actually are and can trace the line of fracture in any given case. We do not have to generalize and theorize about the mechanics of the causation, or whether the fracture is direct or indirect. We do not have to theorize about the mechanics of reduction and retention, or whether the fracture is epiphyseal or not, or impacted or not. It surprises me to find that such a large proportion of so-called sprains are actual fractures. We have known of cases of fracture of the shoulder-joint associated with rupture of the small fragments of the rim of the joint, and in the hip-joint we find them in dislocations and fractures of the neck, tearing and stripping off segments of bone.

Dr. D. B. Phemister: In children between the ages of 8 and 16, we frequently see what is known as a folding fracture. As a result of violence, the cortex in this location, which is still flexible, bends outward. It is not a green-stick fracture. Fracture occurs when the resistant cortex meets a flexible cortex, and the older the child, the nearer the bone is to the epiphysis; between the ages of 8 and 15 it is located an inch and a half above the joint. In an adult the bone will break, but in a child the cortex is still flexible, and as a result of impaction and slight flexion, the cortex bulges outward. I have had five cases of this type of fracture which I have seen in the last few years.

Bilateral Urinary Calculi

Dr. Daniel N. Eisendrath: I have had two cases, and at the Michael Reese Hospital we have had five other bilateral cases. In one no operation was performed because the patient had a carcinoma of the uterus. In one case the renal calculus was removed, but the patient died some months later of a senile intercurrent disease before the opposite ureteral calculi could be removed. In one case no operation was performed, owing to an advanced pulmonary tuberculosis. In a fourth case the calculi were first removed from the right kidney by Dr. McArthur, and after an interval of three months an attempt to remove a left-sided calculus by the ureter through a pyelotomy incision was followed by such severe bleeding as to require removal of the kidney. This case has been reported elsewhere as showing one of the dangers of pyelotomy. The right remaining kidney continues to show negative shadows, and the patient is three months pregnant at the time this article is being written.

DISCUSSION

Dr. L. L. McArthur: There succumbed to operation at the Michael Reese Hospital two months ago a man from whom I removed a calculus a year before. It was so soft and friable that I was sure I had removed all of it. I had put on the record the probability of this man having a recurrence of the stone because of the fine fragments which might remain in some of the calices of the kidney. True enough, in a year he came back with the recommendation that the kidney should be removed if recurrence occurred. I removed the kidney, but as there was sepsis at the time of its removal the patient failed to improve, and finally died of a chronic sepsis a month and a half after the operation. I believe that the contour of the calices of the kidney in the cases of multiple calculus enables us to make a prediction of probable recurrence.

The case to which Dr. Eisendrath referred, which has been under my care, is that of a young girl who had a left renal colic first. After the stones had been demonstrated with the Roentgen ray, they were removed, although the right kidney showed stones that were causing no trouble. The patient remained well for nine months or a year, and then had right renal colic so severe that the stone from the right kidney was removed. After a year's lapse of time, the urine never clearing up completely, the patient came back with left renal colic, both kidneys showing stones in them, for which a third operation of emptying the kidney was done. She has some uneasiness in the right side, but otherwise is very comfortable.

Dr. A. J. Ochsner: There is no doubt in my mind that there is a sympathetic anuria, because I have made personal observation of that condition in several cases in which there was positive evidence. About twenty years ago Harrison of London demonstrated that calculi formed only in case the urine had a certain density, and this density cannot be reached if a patient takes a sufficient amount of distilled water. It is possible in these cases to prevent recurrence of calculi, provided that the patient is sufficiently impressed with the importance of taking distilled water. I have had the opportunity of demonstrating that in a large number of cases. One case which illustrates this was in a colleague of mine who could be freed from calculi provided he drank distilled water, but if he grew careless and failed to drink it, the calculi would return.

Another case I had that demonstrates the value of distilled water was in a patient who had renal colic constantly until about six years ago, when I ordered him to drink only distilled water. For six or seven years he never had an attack, until two years ago. During the summer he was building a house, and thought that it was too much trouble to drink distilled water; before the summer was over he had another attack. He lived in northern Wisconsin. He came to see me during the attack; I gave him 2 ounces of whisky and 1 ounce of distilled water several times and he improved. Since that time, he has had no attack, although formerly by drinking ordinary water he would have an attack every three or four months.

Tumors of Large Nerves Associated with Fibroma Molluscum, with Exhibition of Largest Specimen on Record

Dr. Norman Kerr: My case is of interest because of the large size of the tumor which was removed from the left sciatic nerve Jan. 29, 1912, at the Chicago Policlinic Hospital. The patient, a woman aged 22, about seven years ago was struck on the back of the lower third of the left thigh by some one's knee while at a dance. No attention was paid to this until about a week later, when a swelling was noticed which grew slowly until at present it appears to be the size of a cocoanut, is of solid consistence and is slightly movable in all directions when the posterior muscles of the thigh are relaxed, but fixed when they are held tense. There is no particular enlargement of the superficial veins, and no disturbance of nerve function, except during the last four days, during which she experienced a moderate amount of pain in the growth. Cutting down on the growth showed it to involve the sciatic nerve; it measured 6 inches in length by 3 in diameter, and weighed 1 pound and 3 ounces. The pathologist reported the tumor to be a fibroma. The time since the operation has been too short for evidences of regeneration to show themselves on account of the great length of nerve-trunk which was removed.

Book Notices

Leonardo da Vinci Quaderni d'Anatomia II. Ventiquattro Fogli della Royal Library di Windsor. Cuore: Anatomia e Fisiologia. Publicati da Ove C. L. Vangensten, A. Fonahan, H. Hopstock. Vellum. Price, 3 pounds 8 shillings. Christiania: Jacob Dybwad, 1912.

The manuscripts of the anatomic papers and anatomic drawings of Leonardo da Vinci are preserved in the Royal Library at Windsor. Until recently this most remarkable work had not received adequate scholarly attention, but fortunately King George V. granted three Norwegian scientists permission to collate and photograph the original sheets at Windsor, and also to publish facsimile reproductions (collotype) together with German and English translations of the text. The result is a publication, in every sense monumental, the second volume of which is before us. The first volume was published in 1911 and contains twenty-two sheets dealing with a variety of anatomic and other subjects, the most important being the heart and its motions. The second volume contains thirty-three sheets in facsimile reproduction all dealing with researches on the heart and its functions. It is the purpose to publish a third volume this year which will contain Leonardo's papers on the organs of generation, and then to follow with the remainder of the hitherto unpublished Windsor papers. The editions consist of 248 numbered copies; there will be no reprint. American libraries and bibliophiles should not neglect to secure this great work, which is of signal importance to medical history and to a full understanding of one of the most gifted and remarkable men that ever lived. The editors are peculiarly well qualified for their difficult task—Vangensten is a philologist, Fonahan a medical historian, and Hopstock an anatomist. Leonardo wrote from right to left probably because he was naturally left-handed, and the critical editing of the manuscript consequently is associated with unusual difficulties which have been mastered in a brilliant manner according to the opinions of competent scholars in different countries. The translations appear to be highly successful, and the heliotypes are beautiful. On many of the sheets the drawings take up but little space in comparison with the text, but even the smallest sketch is reproduced with the most minute exactness so that there surely is no loss of clearness in comparison with the original. From the technical point of view the publication reaches the top notch of the printer's art.

X-Ray Diagnosis and Treatment. A Text-Book for General Practitioners and Students. By W. J. S. Bythell, B.A., M.D., Hon. Physician to the Ancoats Hospital, Manchester, and A. E. Barclay, M.D., M.R., C.S., L.R.C.P., Medical Officer to the Electrical and *X*-Ray Departments Manchester Royal Infirmary. Oxford Medical Publications. Cloth. Price, $5.50. Pp. 147, with 118 illustrations. New York: Oxford University Press, 1912.

This book is based on a large experience in *x*-ray work in various institutions in Manchester. It is a record of personal work, and like all such statements from competent workers is interesting. As the authors intimate in their preface, the great difficulty with *x*-rays in medicine is that the work has as often as not been in the hands either of radiographers who knew no medicine or of physicians who knew precious little of *x*-rays. Bythell and Barclay are among the group—may their tribe increase—who know both, and they have furnished an excellent little book on diagnosis. The subject of *x*-ray examinations in its various anatomic localities has been excellently covered. At the end of each chapter there is a large collection of skiagrams with explanations illustrating the conditions which have just been considered in the text, and this is perhaps the best feature of the book. While the authors specifically disclaim any pretense of having offered an atlas, the illustrations are so many and so well chosen that the work amounts almost to an atlas of diagnostic radiography. Little is said about technic or apparatus, so that the book is more valuable for the mature *x*-ray worker than for the beginner. Only one chapter—14 of its 145 pages—is devoted to *x*-ray therapy, and this part of *x*-ray work is only sketched.

The Milk Question. By M. J. Rosenau, Professor of Preventive Medicine and Hygiene, Harvard Medical School. Cloth. Price, $2 net. Pp. 309, with illustrations. Boston: Houghton Mifflin Company, 1912.

This is a presentation of the N. W. Harris lectures for 1912, which were given by Prof. M. J. Rosenau, under the auspices of the Northwestern University. Why we have a milk question is fully explained in the first chapter. The author takes a sound attitude toward the exaggeration of the danger from milk, and his motto is "to enlighten, not to frighten." The presence of harmless as well as harmful bacteria is emphasized, since large numbers of harmless bacteria gain access to milk, so that numbers alone do not constitute danger. Special attention is given to pasteurization of milk, and although the author states that clean natural milk can never be replaced by treated milk, he admits that pasteurization has been forced on us and that clean, safe milk is at present problematic. In this connection he discusses the advantages and shortcomings of medical milk commissions and points out some disadvantages of the present system of inspecting dairies and recording the results on score cards. "Methods are much more important than equipment. Clean milk may be produced with clean methods and poor equipment, but good milk cannot be produced with good equipment and poor methods."

A strong plea is made for the eradication of tuberculosis among cattle. The value of the tuberculin test is emphasized. Of special interest is the eighth chapter, which gives the "experience" of milk from farm to consumer, and shows the points where contamination may take place. Nevertheless, certain statements seem rather radical. The value of the so-called germicidal action of fresh milk, which lasts but a few hours after milking, is probably of little practical value in reducing the bacterial content. This germicidal action prevents to some extent the multiplication of bacteria in the cistern. Also, it is disputed that normal milk has "few or no leukocytes." Some authorities hold that the charring of cooked milk is due to the proteins in milk rather than to the milk-sugar, as stated by the author. These are minor points, however. The keynote for the solution of the milk problem is well expressed in the sentence, "To keep milk clean we need inspection; to render milk safe we need pasteurization."

Medizinisch-Chemisches Laboratoriums-Hilfsbuch. Von Dr. Med. et Phil. Ludwig Pincussohn. Cloth. Price, 13.50 marks. Pp. 443, with 75 illustrations. Leipzig: F. C. W. Vogel, 1912.

This is an unusually useful book, containing, in addition to the material commonly found in laboratory guides, extensive tables of data which are likely to be useful to the laboratory worker. In laboratories where the exhaustive "Handbuch" of Abderhalden is not available, this small, compact work will be found of great use. There are, of course, in every laboratory special methods of technic devised and used with success, which will not be found described in this or any other book; but Pincussohn has made a good selection in most cases. We note with pleasure an occasional reference to the original description of a method, only to regret that such references are not more abundant. It often happens that, no matter how carefully the writer of a laboratory manual describes in abbreviated form a technical method, difficulty is found in making the method work. Then the worker needs to go to the more explicit descriptions available in the original articles for help out of his difficulties, and without any reference in his laboratory guide these are commonly difficult to locate. In our opinion the absence of satisfactory references is a serious deficiency in most laboratory guides, and the small amount of space required for these could easily be spared.

Die Puerperale Wundinfektion. By Dr. Albert Hamm, Oberarzt an der Universitäts-Frauenklinik in Strassburg I. E. Paper. Price, 6 marks. Pp. 167. Berlin: Julius Springer, 1912

In this monograph the author takes up the subject of puerperal infection seriatim and places under one cover a complete summary of our present knowledge regarding it. After several pages devoted to historical considerations, the significance of puerperal infection as a wound infection is taken up. Exogenous, endogenous and metastatic infection is included here as well as methods of bacteriologic examination for both aerobic and anaerobic organisms. The problem of bacterial virulence and of resistance to infection is intimately discussed. The pathologic conditions arising from the various forms of infection are briefly classified. A consideration of treatment in its different phases completes the work.

Diseases of Children. A Practical Treatise on Diagnosis and Treatment, for the Use of Students and Practitioners of Medicine. By Benjamin Knox Rachford, Professor of Diseases of Children, Ohio-Miami Medical College, Department of Medicine of the University of Cincinnati. Cloth. Price, $6. Pp. 783, with 107 illustrations. New York: D. Appleton & Co., 1912.

This book is a practical one, laying special stress on diagnosis and treatment and less on pathology and etiology. This makes it rather more useful to the practitioner, perhaps, than to the student. While the book is the expression of a ripe experience, there are certain chapters that are especially elaborated because the author is particularly interested in that subject. Thus the chapter on "Pseudomasturbation" covers six pages and is admirable. The book will be useful to the practitioner who wants a small, inexpensive, but reliable book on diseases of children.

A Treatise on Pellagra. For the General Practitioner. By Edward Jenner Wood, S.B., M.D., Chairman of the Pellagra Commission, North Carolina Board of Health. Cloth. Price, $4. Pp.

Dr. Wood offers as the justification for this book the fact that when it was begun, five years ago, there was no adequate treatise in English on the subject. Although this lack of literature on pellagra in English has been supplied in the great amount of literature on the subject which the last five years have given us, the book still justifies its existence, for it is a most useful summary of the knowledge of the subject. The author writes from first-hand knowledge of pellagra and evidently after long and thoughtful interest in the subject, so that the personal element is not lacking—indeed it is agreeably present in a frank honesty, a lack of prejudice and hobbies, and a practical wisdom; but the chief value of the work lies in the comprehensive presentation of the facts of pellagra which it offers. The subject is divided into the history, etiology, general characteristics, skin manifestations, digestive disturbances, nervous and mental symptoms, diagnosis, prognosis, prophylaxis and treatment, and under these various headings the author has included practically a complete summary of our knowledge of this baffling disease. The chapter on etiology is naturally the most interesting. The author is a disbeliever in the maize theory and inclines to Sambon's simulium theory of its transmission. The style is easy and interesting. Altogether, it is a valuable book.

Gesammelte Werke von K. G. Lennander. Im Auftrage der Universität zu Upsala. Unter Mitwirkung von Dr. K. H. Giertz, Prof. Dr. K. Petren, Dr. A. Petterson, Doz. Dr. Fr. Zachrisson und Prof. Dr. H. I. Ohrvall. Herausgegeben von Dr. Gustaf Ekehorn, Professor der Chirurgie an der Universität Upsala. Paper. Parts 1, 2 and 3. Pp. 1333, with illustrations. Price, 30 marks. Upsala and Stockholm: Almqvist & Wiksells Boktryckeri, 1912.

Lennander was professor of surgery in the University of Upsala from 1892 until his death in 1911 at the age of 51. The republication of his collected works by the university indicates the high value placed on his work by those among whom it was carried on. Lennander had many friends among American surgeons, and it is on this account and according to his personal wish that the articles originally published in Swedish have been translated into English. The articles published in German and in French are reprinted without change. This makes the writings of Lennander easy of access and this is desirable because he made contributions of permanent value to the literature of surgery.

The Hospital Corps Quiz Compend. A Manual for the Hospital Corps, U. S. Army Hospital Corps, National Guard Red Cross Association and for Students and Practitioners. By Frank C. Griffis, M.D., Medical Reserve Corps, U. S. Army. Cloth. Price, $0.75. Pp. 218. Columbus, Ohio: Edward T. Miller Company, 1912.

Dr. Griffis, in this little manual, has given us in condensed form and yet in sufficient detail, an outline of what is required of a soldier in the Hospital Corps of the Army when he is called on for active service. The book will be of value to the Hospital Corps of the National Guard and the Red Cross organizations. A section is allotted to each of the following subjects: the hospital corps in the post and field; elementary anatomy and physiology; first aid; nursing; mess management and cooking; materia medica, therapeutics and pharmacy; hygiene of the post and camp, and minor surgery. A full and complete index adds greatly to the value of the bock.

The Prevention and Treatment of Diseases in the Tropics. A Handbook for Officials and Travelers Compiled Chiefly for the Use of Officials in the Soudan. By Edward S. Crispin, M.R.C.S., L.R.C.P., Assistant Director of the Soudan Medical Department. Cloth. Price, $0.50 net. Pp. 89. Philadelphia: J. B. Lippincott Company, 1912.

This little book takes up first preventive treatment by the destruction of disease-carrying insects and protection from their attack, and then personal hygiene, discussing clothing, drink, food, etc. The second part deals with treatment and, incidentally, with rapid diagnosis. The diagnostic value of pain in different parts of the body is briefly mentioned and the treatment outlined. One chapter is devoted to the consideration of the treatment of injury or disease characterized by symptoms other than pain.

Medicolegal

Medical Practice Act and What Constitutes a Violation Thereof

(People vs. Dunn (Ill.), 99 N. E. R. 577)

The Supreme Court of Illinois affirms a judgment for the plaintiff in this action to recover, for the use of the State Board of Health, the penalty provided by sections 9 and 10 of the medical practice act of 1899 for a second violation of section 7 of that act. The action was begun by the filing of a praecipe and statement of claim, in which it was alleged that the defendant practiced medicine, as defined in section 7, by treating and professing to treat, and prescribing certain material remedies for, the physical ailments of another without a license so to do, as provided by sections 2 and 3 of the medical practice act, and alleged, further, that the offense was committed in the city of Chicago on or about Oct. 16, 1910, and Jan. 26, 1911, and that the defendant had been previously convicted of the same offense. There was a verdict of guilty on which a judgment was entered for $200 and costs, the defendant being ordered committed to the county jail, until the debt and costs were paid, for a period of not to exceed ninety days.

It was contended that the act is a violation of the constitutional provision which prohibits the general assembly, by local or special law, from "granting to any corporation, association or individual any special or exclusive privilege, immunity or franchise whatever." But the court deems it a sufficient answer to this contention to say that the State Board of Health, as created by the statute, is a branch of the executive department of the state government, and its members are officers of the state. That board, therefore, is not a corporation, association, or an individual, as those terms are used in the section of the constitution relied on. The right given the board by the medical practice act to sue for and recover the penalties therein imposed does not constitute the granting of any special or exclusive privilege, immunity, or franchise to that board or its members.

As to the contention that the act is a special law which violates the provision of the state constitution that where a general law can be made applicable no special law shall be enacted, the court says that the act, if it be special, does not fall within any of the cases enumerated in section 22 of article 4 of the constitution in which local or special laws are prohibited. This court has repeatedly held that the general clause at the end of the section, that "where a general law can be made applicable no special law shall be enacted," addresses itself to the general assembly alone, and when that body has concluded a special law is necessary, except in the cases already prohibited, its conclusion is not subject to judicial review.

It was next urged that there was error in denying the defendant's motion for a more specific statement of claim, the defendant contending that thereby she had been deprived of the opportunity to make a proper defense, her theory being that she should have been furnished with the names of the parties she was alleged to have treated. But whether a more specific statement of claim will be required is discretionary with the court, and in this case the discretion was not abused. The statement gave the dates on which it was alleged the offense had been committed, and it was not necessary to give the name of the person alleged to have been treated, or to state that the name of such person was unknown.

Again, the defendant contended that as this is a penal statute, it must be strictly construed, and that there was no violation of the law shown. Two witnesses, a Mrs. Seivert and another woman, testified that they were inspectors of the State Board of Health, and that they went together to the defendant's home on Jan. 26, 1911, when Mrs. Seivert asked the defendant if she could cure cancer, and she said that she could, asking Mrs. Seivert if she had one. Mrs. Seivert's reply was that she did not think so, but had a scar on her neck and had been sick for some time. The defendant then got a magnifying glass, requested Mrs. Seivert to open the collar of her dress, made an examination of the scar, and informed her that it was not a cancer, but a tumor, which she would cure if Mrs.

Seivert would follow her treatment. Asked what her charge was, she said, $2, which was paid. She then told Mrs. Seivert that she would have to pay her $50 more in two weeks, and the balance of $50 in four weeks. When the women were about to depart, the defendant told Mrs. Seivert that, if she did not come back at the time appointed for the treatment, she wanted her to telephone her. Neither of the witnesses saw the defendant again, and no further treatment was given or solicited.

While, strictly speaking, no treatment had been administered to Mrs. Seivert on the occasion of her visit, her ailment was diagnosed by the defendant and every assurance given that she was prepared to treat her, and would give the treatment, and a time was fixed when the first treatment should be administered. A fee was charged and paid for the diagnosis and consultation. The court thinks it clear that the defendant did by this act profess to treat the physical ailment of another, and that the verdict of the jury of guilty was proper.

Lastly, the defendant insisted that the statute was not violated for the reason that Mrs. Seivert was suffering from no ailment whatever, and merely pretended that she had an ailment, but there was nothing in the record which justified this contention, even conceding that it would be a sufficient defense. For anything that appeared in the record the diagnosis of the defendant may have been correct.

Sufficiency of Evidence and Right of Recovery for Attendance on Minor Son Away from Home

(Des Mond vs. Kelly (Mo.), 146 S. W. R. 99)

The Kansas City Court of Appeals affirms a judgment for medical services rendered in attending a minor son of the defendant, while he was sick at his grandfather's home. The court says that the physician died a short time after the suit was begun, and the cause was revived in the name of his administratrix. The evidence was somewhat indefinite as to the number of visits the physician made, but it was shown that the boy was sick about six weeks, that the physician visited him as often, on some days, as two or three times, and, as the boy was afflicted with a severe case of typhoid fever, it was reasonable to suppose that he visited him almost daily at least, as such cases demand frequent visits and the most careful and constant watchfulness of a physician. The boy's sickness was so severe that he required the services of a trained nurse for the whole time mentioned, and that it was thought necessary for her to go with him to the home of the defendant, in company with the physician, at which time he was still very sick. The defendant, also, was one of the party attending the invalid at that time. It was shown that $1.50 for a day visit, and $2.50 for a night visit of a physician to a patient was a reasonable charge, and that $20 was a reasonable charge for the services of the physician in going with the son to his home. January 5, the defendant wrote the physician to the effect that he did not know how many visits he had made to the son; that he wanted him to give the days and dates of such visits, stating that he had paid him $20 the day the physician had brought the son home. In another letter to the physician, dated September 15, the defendant stated that he had paid him $10, and would try and send him a little more every pay-day. It was also shown that the defendant was present at one time while the physician was treating his son, and that he expressed his satisfaction with the arrangement. These letters went to show that the defendant recognized his indebtedness to the physician in excess of the twenty days' services rendered, and that he would continue to pay on each of his pay-days until the whole was discharged.

In view of all the evidence and the reasonable inference to be drawn therefrom, it was sufficient to support the judgment for the plaintiff. In view of the common knowledge that in severe cases of typhoid fever physicians visit their patients almost daily, and sometimes several times each day and often at night, and the other facts and circumstances in evidence, the court thinks the verdict of the jury for $116.30 was not excessive.

The defendant objected to the introduction of any evidence, because the petition did not state a cause of action, in that it failed to state that the doctor was a regularly licensed physician. The objection was not well taken. It is not necessary for the court to discuss the question whether an unlicensed doctor can enforce payment for his services as such; for it was not made an issue in the case. Until that matter was made an issue, the presumption would be that the physician was a regularly licensed practicing physician. It is a rule of law that, nothing being shown to the contrary, men do obey the law. If it was true that the physician was not licensed as such, the defendant should have raised the question by answer, in order to have availed himself of that fact as a defense to the action.

It was further insisted that the plaintiff failed to prove the allegations in his petition that the services were rendered at the instance and request of the defendant, and that they were necessary. The form of the pleading was of no consequence. Yet the court thinks the evidence tended to support the allegations of the petition. The defendant knew the physician was attending the son and rendering the necessary services. This was sufficient to raise the presumption that such services were rendered at his request. But it was not required that any such request should be made, in order to render the defendant liable for their reasonable value, if they were such as come within the meaning of the term "necessaries." It was argued that the defendant was not liable, unless it was shown that he failed to furnish such services, but it was clear that he failed to furnish them, and, besides, he approved of them, and nothing could make it more binding. Proof of the necessity for the services, the approval of them while they were being rendered, and a promise to pay afterward, the court thinks sufficiently supported the allegations of the petition.

Validity of Indictment and of Medical Practice Act

(State vs. Tucker (Miss.), 59 So. R. 826)

The Supreme Court of Mississippi holds that the trial judge erred in sustaining a demurrer to the indictment in this case, which was under Section 1334 of the code of 1906, prohibiting the practice of professions without license, and prescribing a penalty therefor. The court says that the defendant was indicted for practicing as a physician without a license as required by law. It was claimed that the indictment was not sufficient, because it failed to contain the following words of the statute: "Without having first been examined and obtained a license as required by law." The indictment charged that he "did unlawfully practice as a physician . . . and did not then and there have a license so to do." That was a sufficient statement of the offense for the trial of the party charged. A license would not be issued to a person without the examination required by law. It would be a sufficient defense for a person charged to show that he had a license.

The other point raised in the demurrer to the indictment was that Section 1334 and 3691 of the code and the scheme proposed by said sections are prohibited by the fourteenth amendment to the constitution of the United States, which provides that no state shall make or enforce any law which shall abridge the privileges or immunities of the citizens of the United States, nor deprive any person of life, liberty or property without due process of law, nor deny to any person within the jurisdiction the equal protection of the law. But the laws of this state regulating the practice of medicine, prescribing how license for engaging in that profession may be obtained, defining what is the practice of medicine, and providing penalties therefor, are within the police powers which may be lawfully exercised by this state. Certainly the state has a right to make proper and reasonable regulations for certain pursuits and professions. The purpose of the law is to protect the public, and to require all persons who may offer to engage in the practice of medicine to prepare themselves properly for such work, and to answer to the state by examinations as to whether such preparation has been sufficient. The regulations as contained in the laws of this state are certainly not unreasonable; and, as shown by the very wording of the statute, every person is given an opportunity to comply with them and enter into the practice of medicine.

Current Medical Literature

AMERICAN

Titles marked with an asterisk (*) are abstracted below.

Archives of Pediatrics, New York

February, XXX, No. 2, pp. 81-160

1 *Treatment of Meningitis by Drainage of Cisterna Magna. I. S. Haynes, New York.
2 One Hundred Infants Followed from Birth to End of First Year. C. Herrman, New York.
3 Orthodontia. F. R. Stathers, Philadelphia.
4 *Effects of Heated and Superheated Milk on Infant's Nutrition. H. L. Coit, Newark, N. J.
5 *Rachiocentesis, an Aid to Diagnosis. Its Value in Relieving Convulsions. L. Fischer, New York.
6 Unusual Complications of Infectious Diseases in Childhood, with Report of Cases. A. Stern, Elizabeth, N. J.
7 *Use of Antistreptococcus Serum Locally in Treatment of Vaccinal Ulcers. L. A. Sexton, New York.

1. **Treatment of Meningitis by Drainage.**—Haynes believes that all the evidence points to the cisterna magna as the one logical place where removal of pyogenic cerebrospinal fluid should be practiced. He has performed the operation eight times, but unfortunately all his patients died. This, he says, is no discredit to the operation. These results simply mean that operative relief must be offered at the beginning of the disease. Delay brings disaster. If a patient presents head symptoms, a rising blood-pressure, venous engorgement and edema of the optic papilla, with the absence of the copper-reducing elements from the cerebrospinal fluid, the diagnosis is absolutely sure. The disease is septic meningitis. The end is certain, unless relief be afforded by instant, free and continuous escape from the skull of the excess of cerebrospinal fluid with its content of deadly bacteria and poisons.

4. **Effects of Heated and Superheated Milk.**—After careful and thorough investigation Coit found that there is apparently no serious loss of nutritive value produced by feeding an animal on boiled milk derived from an animal of the same species. At the same time it must be pointed out that the published evidence on this point is scanty. When an animal is fed on the milk of another species, the milk from which has been found to be suitable for this purpose, such small differences as have been found in the nutritive values of raw and boiled milk have been in favor of boiled milk. The milk of the same species has a considerably higher nutritive value for that species than the milk of any other species so far investigated. The evidence dealt with throughout Coit's report emphasizes very forcibly the importance of breast-feeding for the young of all species, and shows the special importance of breast-feeding during the early weeks of life. When artificial feeding has been employed in animal experiments, boiled milk of a foreign species has given more satisfactory results than similar milk raw. The Berlin figures dealing with infants fed on boiled cow's milk, give extremely favorable results, and in view of the evidence collected in this report could scarcely be expected to be surpassed had raw cow's milk been used. It is pointed out that the Berlin babies who are artificially fed in connection with the consultation receive milk of a known excellent quality.

5. **Rachiocentesis an Aid to Diagnosis.**—The frequency of convulsions in children prompts Fischer to call attention to the necessity of rachiocentesis as an aid to an early diagnosis of this very important symptom. Intestinal intoxication is a frequent cause of cerebral congestion, resulting in convulsions. But more commonly convulsions are the initial symptoms of an infectious disease, a forerunner of pneumonia, occasionally an early manifestation of scarlet fever, measles or diphtheria. One must not overlook the frequency of convulsions in the beginning of a cerebrospinal meningitis, a tuberculous meningitis, or some malignant form of cerebral manifestation. The diagnosis must be made early so that treatment can be instituted early.

Convulsions recur. Because of their recurrence we can try to control their frequency or prevent their return. This can be accomplished by reducing intracranial pressure. For this purpose rachiocentesis is indicated. Next in importance to relieve the intracranial pressure by lumbar puncture is an injection of a pint of soap-water to empty the rectum. If the child can swallow, give 2 grains of calomel, followed by teaspoonful doses of rhubarb-soda, in all about six doses. This eliminative treatment should be given before any nutrition is ordered. Large quantities of water may be given. An ice-bag should be ordered to be applied over the anterior fontanel. It is important not to move a child too much during a convulsion, for handling the limbs will frequently provoke a spasm.

7. **Antistreptococcus Serum in Vaccinal Ulcers.**—From the first use of antistreptococcus serum three and a half years ago, Sexton noted a marked improvement in the indolent, punched-out vaccinal ulcers, and he has yet to see one that has not responded readily to the constant application of antistreptococcus serum used locally in the form of a wet dressing. The wound is filled with the serum, this is covered with a small wet dressing of same, and over this is placed an oiled silk dressing in order to maintain the moisture as long as possible. The dressings when dry become very hard and stiff. In order to obviate the unpleasantness caused by this the oiled silk is removed and the dressing remoistened, without disturbing it, three or four times daily. The rapidity with which these indolent ulcers respond to this form of treatment is said to be remarkable. Sexton has tried various other serums, including normal horse-serum, but the results have been unsatisfactory.

Boston Medical and Surgical Journal

March 6, CLXVIII, No. 10, pp. 333-372

8 Collection of Facts, Ideas and Theories Relating to Diverse Elements that Contribute to Success in Treatment of Joint Diseases. Relationships Between Visceral Ptosis and Arthritis. Comparisons Between Mild Intestinal Toxemias and Gout. H. W. Marshall, Boston.
9 Diverticulitis. J Stanton, Boston.
10 Case of Infection with Hymenolepis (Taenia) Nana, the Dwarf Tapeworm. I. Gerber, Boston.
11 *Pathology of Typhoid Spine. M. H. Rogers, Boston.
12 Autotherapy (Sputum Filtrate) in Acute Articular Rheumatism: Report of Case. C. H. Duncan, New York.

11. **Pathology of Typhoid Spine.**—In studying reported cases, Rogers says, it is clear that there is a very definite clinical story so that there should be one pathologic process as the basis. Following an attack of typhoid, during the convalescence or within six months' time, there is a sharp, rather sudden onset of pain in the back, usually brought on by some slight injury, or sudden motion. The pain is described as much more severe than is usual in any case of tuberculosis of the spine, and is made worse on the slightest motion. There is usually tenderness to pressure over the portion of the spine corresponding to the pain, and all motions are very much limited. There is often a few degrees of temperature elevation at the beginning; there is never any distinct kyphos. The knee-jerks have been reported as increased, but there is no other sign of paralysis, there being often a decided disinclination to use the legs on account of the pain. This condition lasts from several weeks to from two to three months, and there may be either a complete recovery or there may be some limitation of motion of the spine, and occasionally some deformity showing definite bone changes.

The pathologic process of other bone lesions due to the typhoid bacillus is well known, and those occurring in the tibia may be taken as a description. The simplest process is a localized bone abscess, sometimes three or four in the same bone, in the cortex just beneath the periosteum. These show in the radiogram as a rounded loss of substance, casting a shadow of different density than normal bone. They are generally small, about the diameter of a lead pencil. The typhoid bacillus has been recovered from such conditions, showing that they are true infections and not simply bone cysts. The periosteum may become involved and the process may spread so that the radiogram will show more extensive involvement of the cortex. Evidently the typhoid organism is not virulent enough in the bone to cause a constantly increasing osteomyelitis, such as the cocci group, but tends to remain localized, and to die out. Taking into consideration the sudden onset of these lesions, the fact that they may be multiple and yet localized and circumscribed, there is a strong suggestion that they are the result of septic emboli. The so-called "typhoid spine" is an osteomyelitis of the vertebral bodies, which cause lesions similar to the typhoidal bone abscesses of other bones, located in the cortex just beneath the periosteum.

Cleveland Medical Journal

February, XII, No. 2, pp. 89-160

13 Traumatic Neurosis: Retrospect and Forecast. P. Bailey, New York.
14 Epigastric Hernia. Its Importance in Diagnosis of Obscure Abdominal Conditions. J. Phillips, Cleveland.
15 Sloughing of Nasal Septum after Submucous Resection. D. A. Prendergast, Cleveland.
16 *Factors Concerned in Spread of Scarlet Fever. S. C. Lind, Cleveland.
17 Suturing Nasal Septum after Submucous Resection Instead of Packing. W. J. Abbott, Cleveland.
18 *Station of Presenting Part in Labor. A. J. Skeel, Cleveland.
19 Case of (Hysterical?) Sudden Monocular Real Blindness with Recovery. W. C. Tuckerman, Cleveland.
20 *Case of Fatal Poisoning by Tobacco. E. C. Garvin, Cleveland.

16. **Scarlet Fever.**—Lind does not make any new points but his emphasis of well known ones is summarized as follows: 1. Scarlet fever is due to an unknown virus transferable to monkeys and from monkey to monkey. 2. The virus is found in the throat and nose. 3. Desquamation *per se* is seldom the cause of the spreading infection. 4. Proof is lacking that scarlet fever may be carried through the air. 5. The unrecognized cases are the most potent in its spread. 6. Prophylaxis is difficult and strict isolation is the best means of checking an epidemic.

18. **Station in Labor.**—Skeel urges that the exact station, as well as the presentation and position, should always be carefully considered before deciding the treatment in delayed labor.

20. **Fatal Poisoning by Tobacco.**—In a case cited by Garvin death followed the rectal injection of one pint of water in which was dissolved one and one-half teaspoonfuls of smoking tobacco given for pin-worms. The child, aged 6½ years, immediately complained of faintness, inability to stand and great nausea, and soon commenced to vomit very severely. The bowels also acted at this time and a part at least of the injection was expelled. These symptoms continued for about fifteen minutes, when convulsions ensued, lasting about twenty minutes. The child then became quiet and died in collapse about forty-five minutes after administration of the injection.

Delaware State Medical Journal, Wilmington

February, IV, No. 3, pp. 1-26

21 Technic and Results of Intravenous Injection of Salvarsan. B. A. Jenkin, Wilmington.

Journal of Experimental Medicine, New York

March, XVII, No. 3, pp. 239-372

22 *Cultures from Sputum and Blood in Lobar Pneumonia. T. W. Hastings and E. Boehm, New York.
23 *Pancreatic Transplantations in Spleen. J. H. Pratt and F. T. Murphy, Boston.
24 *Permanent Life of Connective Tissue Outside Organism. A. H. Ebeling, New York.
25 *Intestine Obstruction. I. Toxic Substance Produced in Closed Duodenal Loops. G. H. Whipple, H. B. Stone and B. M. Bernheim, Baltimore.
26 *Idem. II. Toxic Substance Produced by Mucosa of Closed Duodenal Loops. G. H. Whipple, H. B. Stone and B. M. Bernheim, Baltimore.
27 *Extracellular Relation of Malarial Parasite to Red Corpuscle, and Its Method of Securing Attachment to External Surface of Red Corpuscle. M. Rowley-Lawson, New London.
28 *Influence of Lecithin and Cholesterin on Growth of Tumors. T. B. Robertson and T. C. Burnett, Berkeley, Cal.
29 *Pneumonic Lesions Made by Intrabronchial Insufflation of Non-Virulent Pneumococci. M. Wollstein and S. J. Meltzer, New York.
30 *Experimental Study of Bone and Joint Tuberculosis. J. Fraser, Edinburgh.

22. **Cultures in Lobar Pneumonia.**—In thirty-two unselected cases studied by Hastings and Boehm cultures were taken from both the blood and the sputum, and in five of these more than one blood culture was taken. In one case the culture was taken from the blood only, and in this instance the pneumococcus was found. The result in the thirty-two cases in which cultures were made both from the blood and the sputum are as follows: 1. In eleven cases the blood and sputum cultures were positive. (a) In nine cases the pneumococcus was isolated, and five of these patients died. (b) In two cases, instead of the pneumococcus, *Streptococcus hemolysans (longus)* was found. One of these patients died. 2. In twenty-one cases the blood cultures were negative, and in eighteen of these the sputum cultures were positive and in three negative. In these three the only result recorded was the absence of pneumococcus. (a) In nine cases the pneumococcus was isolated. Two of these patients died. (b) In twelve cases no pneumococcus was found. Two of these patients died.

Of the patients in which no pneumococcus was found, in two cases *Bacillus coli* was isolated; in one case *Micrococcus catarrhalis;* in one case a staphylococcus (type not stated); in two cases staphylococcus and streptococcus; in one case *Bacillus influenzae;* in one case *Bacillus fluorescens non-liquefaciens;* in one case an unidentified Gram-positive chromogenic organism, probably saprophytic; and in three cases there are no recorded results except that the pneumococcus was absent. In the total of thirty-three blood cultures, the pneumococcus was found in ten cases (30.3 per cent.); six of the patients died.

During the years 1910 to 1912 sputum cultures were taken from forty-four cases of pneumonia, of which twenty-four showed pneumococci (54 per cent.), and twenty showed no pneumococci (45 per cent.). The authors conclude that typical cases of lobar pneumonia, in which no pneumococci are to be found either in blood or sputum, probably exist more frequently than is generally supposed. These cases are not to be distinguished from the pneumococcus group, except by blood and sputum cultures. *Streptococcus hemolysans (longus)* is an organism which may give rise to such a case. In this connection it is of interest to note that Schottmüller isolated *Streptococcus mucosus capsulatus* from the blood in a case of croupous pneumonia. There is probably no prognostic value in the bacteriologic findings in lobar pneumonia, but from a series of thirty-two cases the authors believe no definite opinion can be drawn.

23. **Pancreatic Transplantations in Spleen.**—Pancreatic transplants to the spleen made by Pratt and Murphy underwent rapid autolysis. In five of the nine animals examined 18 hours to 218 days after the transplantation, no pancreatic tissue was demonstrable. In one dog well preserved acini were found thirteen days after the transplantation. In the other three experiments in which pancreatic cells were present in the spleen, the interval between the operation and the death of the animal varied from eighteen hours to eight days. One dog lived for 187 days with the internal function of the pancreas maintained by a graft in the spleen entirely separated from its original vascular supply and nervous connections. The interval between the date of the transplantation and the death of the animal was 209 days. Although the tolerance for carbohydrates sank to a low point, persistent glycosuria did not develop. Inanition due to the absence of pancreatic secretion from the intestine was the cause of death. The feeding of fresh pancreas supplied this lack in part and apparently prevented the death of the animal in the third week following pancreatectomy. The limit of tolerance to glucose rose for a short time after the feeding of pancreas was begun, but was at a fairly constant low level from May 24 to August 20.

The pancreatic remains at death as determined by serial sections were less than 1 centimeter in size. The larger part of this small nodule was composed of fibrous tissue. Acini were found, and some of the cells contained well preserved granules staining blue with phosphotungstic hematoxylin and identical in appearance with the zymogen granules of the normal pancreas. As these granules do not occur in the cells of the islands of Langerhans, their presence furnishes additional evidence that the pancreatic cells in which they occurred in the graft were acinar cells. No islands of Langerhans were found in any of the sections. If Ribbert's statement is true that only cells that can functionate will live when transplanted, then the presence of normal appearing acinar epithelium in this graft 209 days after the pancreatic tissue was transplanted into the spleen is evidence that the acinar cells can carry on the internal function of the pancreas. This experiment does not disprove the neurogenic theory of diabetes, but it presents additional evidence against it, and in favor of the theory of an internal secretion.

The prevention of diabetes for more than six months by means of the small nodule of sclerosed pancreatic tissue in the spleen, the authors point out, makes the accuracy of Martina's observations improbable. If his graft in the spleen remained active, why did sugar appear in the urine two days after the remainder of the pancreas was removed and persist in large amount, 3 to 6 per cent., until the death of the animal? Inasmuch as the animal lived four months with this degree of glycosuria it is probable that some pancreatic juice was entering the intestine, secreted from remains of pancreatic tissue so small that they were overlooked at the autopsy. Among the dogs in which the authors shut out all the pancreatic secretion from the intestine, marked disturbance of absorption attended with great loss of weight, always occurred.

24. **Life of Connective Tissue Outside of Organism.** It is stated by Ebeling that connective tissue can be kept in a condition of active growth outside of the organism for more than eleven months, that its mass increases considerably, and its power of proliferation, after such a long period, is more active than at the beginning of its life *in vitro*.

25. **Intestinal Obstruction.**—The authors report on their study of a toxic substance produced in closed duodenal loops, made in dogs by ligatures placed just below the pancreatic duct and just beyond the duodenojejunal junction, together with a posterior gastro-enterostomy. These closed duodenal loop dogs died with symptoms like those of patients suffering from volvulus or high intestinal obstruction. This duodenal loop may simulate closely a volvulus in which there has been no vascular disturbance. Dogs with closed duodenal loops which had been washed out carefully survived a little longer on the average than animals with unwashed loops. The duration of life in the first instance was one to three days, with an average of about forty-eight hours. The dogs usually lost considerable fluid by vomiting and diarrhea. A weak pulse, low blood-pressure and temperature were usually conspicuous in the last stages.

Necropsy showed more or less splanchnic congestion which may be most marked in the mucosa of the upper small intestine. The peritoneum was usually clear and the closed loop was either distended with thin fluid, or collapsed, and contained only a small amount of pasty brown material. The mucosa of the loop showed ulceration and even perforation, but in the majority of cases it was intact and exhibited only a moderate congestion. The authors found that a simple intestinal obstruction added to a closed duodenal loop does not modify the result in any manner, but it may hasten the fatal outcome.

The liver plays no essential rôle as a protective agent against this poison, for a dog with an Eck fistula may live three days with a closed loop. A normal dog reacts to intraportal injection and to intravenous injection of the toxic substance in an identical manner. Drainage of this loop under certain conditions may not interfere with the general health over a period of weeks or months. Excision of the part of the duodenum included in this loop causes no disturbance.

The material from the closed duodenal loops contain no bile, pancreatic juice, gastric juice, or split products from the food. It can be formed in no other way than by the activity of the intestinal mucosa and the growth of the intestinal bacteria. This material after dilution, autolysis, sterilization and filtration produces a characteristic effect when introduced intravenously. When given in toxic doses it causes a profound drop in blood-pressure, general collapse, drop in temperature, salivation, vomiting and profuse diarrhea, which is often blood-stained. Splanchnic congestion is the conspicuous feature at autopsy and shows especially in the villi of the duodenal and jejunal mucosae. Epinephrin, during this period of low blood-pressure and splanchnic congestion, will cause the usual reaction when given intravenously, but applied locally or given intravenously, the engorged intestinal mucosa is not bleached.

Secretion is not found in the duodenal loop fluid, and the loop material does not influence the pancreatic secretion. Intraportal injection of the toxic material gives a reaction similar to intravenous injection. Intraperitoneal and subcutaneous injections produce a relatively slow reaction which closely resembles the picture seen in the closed duodenal loop dog. In both cases there is a relatively slow absorption, but the splanchnic congestion and other findings, though less intense, are present in both groups. The authors are forced to conclude, therefore, that there seems to be no escape from the conclusion that a poisonous substance is formed in this closed duodenal loop which is absorbed from it and causes intoxication and death. Injection of this toxic substance into a normal dog gives intoxication and a reaction more intense but similar to that developing in a closed-loop dog.

26. **Idem.**—In this paper the authors report a series of experiments showing that a toxic substance is produced by the intestinal mucosa during intestinal obstruction and can be demonstrated in it, and that the poison will not be formed in closed duodenal loops when the mucosa has been destroyed by chemical means. Moreover, no such poison can be demonstrated in the normal intestinal mucosa. The blood taken from a dog with a duodenal loop is not toxic to a normal dog when given intravenously. This toxic substance is absorbed from the mucosa itself and not from the lumen of the drained loops. The same is probably true of the closed loops which have an intact mucosa. It seems highly probable that the poison is formed by the mucosa and is in great part absorbed directly from it by the blood. Normal intestinal mucosa contains no toxic substance nor can it neutralize *in vitro* the toxic substance produced in the closed loops. There is no evidence that the toxic material when given intravenously is excreted by the intestine or held by the intestinal mucosa in any demonstrable form. The toxic substance is not absorbed from the normal intestinal tract. Destruction of the mucosa in a closed loop by means of sodium fluorid prevents the formation of the toxic substance. This fact furnishes the final proof that the mucosa is the essential factor in the elaboration of the poisonous material.

27. **Relation of Malarial Parasite to Red Corpuscles.**—Briefly, the author emphasizes that the malarial parasite is extracellular during its entire developmental cycle; that is, with the exception of the brief periods when it is free in the blood-serum, it is attached to the outside surface of the red corpuscle. The parasite secures its attachment to the outside of the red corpuscle by means of filamentous pseudopodia thrown out by the parasite for that purpose. The attaching processes are described as (1) primary and (2) secondary (accessory) attaching pseudopodia. She has not been able to find any evidence of conjugation of malarial parasites in any stage of development, and she suggests that it may be that Craig's "conjugating parasites" are the result of a wrong interpretation of the infection of a corpuscular mound by two young parasites and that the idea that the parasites were intracellular perhaps led to the misconception.

28. **Lecithin and Cholesterin and Growth of Tumors.**—The authors found that cholesterin, whether suspended in dilute alcohol or in sodium oleate solution, when injected directly into tumors causes a marked acceleration both of the primary and of the metastatic growth. The acceleration of the growth of the primary tumor by cholesterin is most evident in the premetastatic stage. Lecithin, when injected in the form of an aqueous emulsion directly into tumors, diminishes the tendency to form metastases, retards the metastatic growth when it does occur, and in some instances also retards the primary growth. The retardation due to lecithin is most evident in the metastatic stage. Simultaneous injection of minims 6 strontium chlorid solution into the tumors does not appreciably affect the action of the lecithin.

29. **Pneumonic Lesions Made by Non-Virulent Pneumococci.**—Twenty to twenty-four hour broth cultures of the avirulent pneumococcus were injected by intrabronchial insufflation into eighteen dogs, in doses varying from 10 to 30 c.c. In three instances the dose of cocci was enriched three times; that is, it contained three times the number of organisms, as the result of centrifugalization of a large quantity of culture. None of the dogs died as the result of the inoculation of these doses of avirulent pneumococci. All were killed at periods varying from one to seven days after the dose had been administered. The animals did not appear to be very ill, and only three showed a rise of temperature to 41.1 C., all three having received a dose

of 10 c.c. The animals receiving the enriched doses, as well as one dog to whom 30 c.c. were given, had even less fever and no more severe local reaction than the dogs to whom the smaller dose had been administered.

The intrabronchial insufflation of a non-virulent pneumococcus caused, like the insufflation of a virulent pneumococcus, the development of an exudate in the lungs which, in general, leaves the framework unaffected, and the lesion presents the gross appearance of a lobar pneumonia. It differs, however, materially from the pneumonia produced by virulent pneumococci in the important points that the consolidation tends to a more rapid resolution, the disease is non-fatal, the blood is not invaded by the organism, and the exudate is strikingly poor in fibrin. As to the question which was the starting point for the foregoing investigation, namely, whether the pneumonic lesion produced by the streptococcus is merely a form of pneumonia caused by a less virulent organism, the authors answer that for the dog it seems in the negative. The leukocytic infiltration of the framework of the lungs which occurs invariably in streptococcus pneumonia, and which is practically absent in the lesions caused by the virulent as well as by the non-virulent pneumococcus, is a strong enough feature to form a dividing line between the two forms of experimental pneumonia described.

30. **Bone and Joint Tuberculosis.**—In the course of an investigation into the etiology and pathology of bone and joint tubercle, a number of experiments were performed by Fraser with a view to establishing (1) the routes by which infection spread to the locomotory system, and (2) the factors which governed the localization of the lesion. His results may be summarized as follows: Local bone or joint tubercle is rarely the result of a generalized infection. To illustrate this fact guinea-pigs received known quantities of human tubercle bacilli by subcutaneous inoculation and by feeding.

The first series, ten in number, was infected with amounts varying from 1 to 2 mg. of dried bacilli. The inoculation was made subcutaneously, and six weeks later the animals were killed and examined. Special attention was paid to examination of the bones and joints, and in most instances the bones were submitted to microscopic examination. The necropsy revealed in each case the presence of a disseminated tuberculosis. In no instance was any lesion discovered in the bones or joints. Infection by ingestion was carried out by feeding four guinea-pigs for a period of three weeks on food adulterated with tubercle bacilli. The animals were permitted to live for six weeks and were then killed and examined. Necropsy revealed the presence of general tuberculosis, apparently primarily beginning as a mesenteric infection. Examination of the bones and joints yielded entirely negative results. These experiments illustrate the fact that infection of bones or joints is not a likely possibility in the general dissemination of tubercle. Next, the tibiae of seven guinea-pigs were inoculated. The bone was exposed from its inner or subcutaneous aspect. For about a third of the circumference the periosteum was separated from the underlying bone until an area of 1.9 cm. was exposed. In this area the medulla was opened by raising a tiny trap door of bone, and without infection of the soft parts a fine probe carrying a tiny plug of cotton wool infected with tubercle bacilli was introduced. The wound was then bathed with antiseptic lotion, and the trap door of bone and the raised periosteum were replaced. At the end of a varying period each animal was killed and examined. The infected bone was removed intact and submitted to microscopic examination. The examination revealed in every case, as was to be expected, a general bone tuberculosis. The examination of the infected bone showed that in four of the seven cases a definite tuberculous osteomyelitis had developed; in the remaining three cases microscopic examination afforded no sign of active tubercle; in one instance there existed what apparently was a healed tuberculous focus. There was no source of error in the original infection of the bone, but Fraser believes they were instances of true recovery from infection.

Next, two rabbits were infected with a bacillus of human strain, while two were infected with a bovine bacillus. When rabbit bones are directly infected with the human tubercle bacillus there results no local development of disease. When the bones are infected with the much more virulent bovine bacillus, the virulence of which had been previously demonstrated, a slight lesion appears, but it is circumscribed and retrogressive. It is interesting to note that the rabbits which were inoculated with bovine bacilli showed no evidence of general tuberculosis. The explanation apparently is that the cellular action is so intense as to prevent any general spread of the disease. These experiments were carried out in fully developed animals and the center of the shaft was the site of local infection. To reproduce more exactly the type of infection which occurs clinically, a series of experiments was performed in which young rabbits with growing epiphyses were used, and the bones were infected at what is considered the site of election of the disease; namely, the metaphysis. The experiments yielded negative results. In neither case was there any development of the disease, local or general.

The next question considered was the result of direct infection of the joint cavity. Rabbits were chosen for the experiments and both human and bovine bacilli were employed in individual instances. In striking contrast to the bones, the joints are readily infected with the tubercle bacillus. The degree of reaction which occurred was much more intense in the case of the bovine bacillus than in that of the human. Another series of experiments was performed in which a quantity of tubercle bacilli was introduced into the circulation by injection of a mesenteric vein. Uniformly the results were negative. Infection of the mesenteric veins necessarily produced tuberculous foci in the liver and lungs and occasionally in the overlying peritoneum, but in no instance was there any sign of infection of the bones or joints.

Next, a series of experiments was performed to demonstrate the possbility of hematogenic infection. In a total of six experiments a local infection developed in one instance, and this single positive result was indicated not by an active tubercle, but by a healing and retrogressive process. The value of these results lies in their demonstrating that a circulation of tubercle, a tuberculous septicemia, in fact, unaided by any predisposing factors, is unlikely in itself to produce a local tuberculous lesion of the bone or joint. Other experiments showed that it is possible to infect the joints of a limb by infection of the main blood-vessel with tubercle. The primary infection was of the joint, and any change which may have appeared in the neighboring bone was secondary to the synovial tubercle. This was demonstrated by subsequent microscopic examination. The infection had originated in that portion of the synovial membrane which lines more especially the reflection of the joint. Histologically the changes in the joint subsequent to infection were those of an acute synovial tubercle. In two cases of direct infection of the nutrient artery, the injection entering entirely the medulla, the result locally was negative. There was some evidence of general infection. The infected tibia showed a fatty change in the marrow, but no development of tuberculous tissue.

Journal of Ophthalmology and Oto-Laryngology, Chicago

February, VII, No. 2, pp. 35-68

31 Blood Changes in Sympathetic Ophthalmia. H. S. Gradle, Chicago.
32 Submucous Resection of Nasal Septum, with Report of 100 Cases. H. T. Aynesworth, Waco, Tex.

Laryngoscope, St. Louis

February, XXIII, No. 2, pp. 81-158

33 Modern History of Accessory Nasal Sinus Disease. J. Wright, New York.
34 Unusual Case of Osteoma of Superior Maxilla. M. D. Ritchie, Pittsburgh.
35 Early Home Treatment of Deaf Child. G. Hudson-Makuen, Philadelphia.
36 Inadequacy of Drainage Sometimes Obtained by Ordinary Myringotomy in Acute Otitis Media and Method of Overcoming Difficulty. R. Lewis, New York.
37 Case of Cavernous Sinus Thrombosis of Otitic Origin, with Recovery. H. R. Johnson, Fairmount, W. Va.
38 Nystagmus Produced by Galvanism of Individual Semicircular Canals. L. M. Hubby, New York.
39 Case of Fibro-Angioma of Tongue. D. MacFarlan, Philadelphia.
40 New Instruments. J. J. Sullivan, Scranton, Pa.
41 Probable Tumor of Lung Diagnosed by Upper Bronchoscopy. R. H. Johnston, Baltimore.

Maryland Medical Journal, Baltimore

March, LVI, No. 3, pp. 53-78

42 Some Endoscopic Methods. R. H. Johnston, Baltimore.
43 Present Status of Typhoid Vaccination in Maryland. F. W. Hachtel and H. W. Stoner, Baltimore.
44 Relation Physician Should Sustain to Our City Clinic. J. D. Blake, Baltimore.
45 Medicine To-Day. E. K. Tullidge, Baltimore.

Medical Record, New York

March 8, LXXXIII, No. 10, pp. 415-460

46 Scope of Disease. R. G. Eccles, Brooklyn.
47 Ulceromembranous Angina (Vincent's) and Its Treatment; with Report of Cases. C. C. Sutter, Rochester, N. Y.
48 Gonorrheal Ophthalmia Treated with Gonococcus Vaccines. W. K. Mittendorf, New York.
49 Thorium X in Treatment of Pernicious Anemia, with Report of Case. F. E. Park, Stoneham, Mass.
50 Rationale of Use of Adrenalin in Treatment of Asthma. C. P. McCord, Detroit, Mich.
51 Fourteen Cases of Alcoholism in Children Apparently Free from Morbid Heredity. A. Gordon, Philadelphia.
52 Necessity of Early Institutional Treatment in Mental and Nervous Diseases. F. H. Barnes, Stamford, Conn.

Military Surgeon, Washington, D. C.

February, XXXII, No. 2, pp. 135-219

53 *Gaseous Disinfection of Equipment in the Field. E. L. Munson, U. S. Army.
54 *Graduated Labor in Pulmonary Tuberculosis. S. R. C. Holcomb, U. S. Navy.
55 Kitchen Incinerator; Its Construction and Use. L. H. Reichelfelder, U. S. Army.
56 Recent Advances in Sanitation in U. S. Navy. A. W. Dunbar, U. S. Navy.
57 Sanitary Instruction of Soldiers in India. R. J. Blackham, Indian Army.
58 Syphilis: Especially in Regard to Its Communication by Drinking-Cups, Kissing, etc. W. P. McIntosh, Washington, D. C.
59 Case of Quinin Idiosyncrasy. G. M. Van Poole, U. S. Army.

53 and 54. Abstracted in The Journal, Oct. 26, 1912, p. 1564.

Mississippi Medical Monthly, Vicksburg

March, XVII, No. 11, pp. 211-230

60 La Grippe. J. J. Stevens, Hattiesburg.
61 Noma. T. F. Clay, Tutwiler.
62 Hypodermic Administration of Quinin: Its Indications and Contra-Indications. W. B. Harrison, Mattson.
63 Pellagra Induced in Monkey. W. A. Dearman, Long Beach.

New Orleans Medical and Surgical Journal

March, LXV, No. 9, pp. 635-696

64 *Abdominal Cesarean Section in Eclampsia and Central Placenta Praevia: Reports of Cases. E. M. Williams, Patterson, La.
65 Technic of Complete Hysterectomy. P. B. Salatich, New Orleans.
66 Davison's Operation for Undescended Testicle. H. B. Gessner, New Orleans.
67 *Essential Hematuria. A. Nelken, New Orleans.
68 Residual Urine in Old Men. S. P. Delaup, New Orleans.
69 Economic Value to Community of Recent Work Against Tuberculosis. J. G. Dempsey, New Orleans.
70 Treatment of Fractures of Neck of Femur. I. Cohn, New Orleans.

64 and 67. Abstracted in The Journal, May 18, 1912, pp. 1538 and 1539.

New York Medical Journal

March 8, XCVII, No. 10, pp. 477-528

71 Infant-Feeding. J. L. Morse, Boston.
72 Urethral and Periurethral Lithiasis. V. C. Pedersen, New York.
73 Scleroderma Inusitatum. W. P. Cunningham, New York.
74 Indurative Headache. A. Maverick, San Antonio, Texas.
75 *Metamorphosis of White Blood-Corpuscles. T. Powell, Los Angeles.
76 Teething as Cause of Disease in Infancy. C. Herrman, New York.
77 History or Bloodletting. F. H. Garrison, Washington, D. C.
78 Postoperative Dilatation of Stomach. H. A. Duncan, Philadelphia.
79 Cultivation of Bacillus Typhosus from Spot in Luetic Typhoid Subject after Fastigium. P. G. Skillern, Philadelphia.
80 Infection of Genito-Urinary Tract by Micrococcus Catarrhalis. E. H. Siter, Philadelphia.

75. **Metamorphosis of White Blood-Corpuscle.**—Powell regards the white blood-cell as a human parasite. He says that the various things that go to make the animal, vegetable and bacterial worlds have a definite and practically uniform contour and a no less definite manner and order of development, while that matchless deceiver, the white blood-corpuscle, stands almost alone in its morphologic versatility, in its indefinable shapelessness, and in its developmental irregularities, its only counterpart being the equally irregular, shapeless and indefinable thing which is called the ameba. The study of the morphology and life history of plants, animals and micro-organisms enables us to describe with commendable accuracy the changes which will take place in succeeding generations of the same. But no such advantage can be had from the study of the so-called "primordial animal cell." For it utterly defies the highest powers and possibilities of human insight, prevision and description, not so much as a fairly accurate conception of the changes it is destined to undergo being at all possible. At best the history of this supposedly immortal thing can only be approximately described in advance of its coming by saying: The white blood-corpuscle will start out as a spheroidal, non-nuclear and non-motile mass; that at some future but indeterminable period it will appear as a mononuclear object of no certain but very uncertain configuration; that at a later but very uncertain moment of time it will appear as a grotesquely irregular motum corpusculum, or moving body, and that at a still later but very uncertain moment of time it will fall to pieces and disappear—all this without bestowing on its host, the body, so much as a single discoverable benefaction.

Old Dominion Journal of Medicine and Surgery, Richmond

February, XVI, No. 2, pp. 49-93

81 *Cheek Defect and Its Repair by Plastic Operation; Report of Case. J. S. Davis, Baltimore.

81. **Cheek Defect.**—Davis cites a case of large defect involving entire thickness of the right cheek, a typhoid complication, which was repaired with a double-faced skin and fat flap taken from the arm. A large pedunculated rectangular-shaped flap, 7.5 by 16 centimeters, made up of whole thickness skin, with its subcutaneous fat, was raised from the outer side of the right arm. The base of the flap was in the mid deltoid region. The flap was folded on itself and the distal end was sutured to the pedicle and underlying muscle. A few interrupted sutures were placed at intervals in the edges, thus bringing raw surface to raw surface, and forming a flap with a double thickness of fat within, and with whole thickness skin on front and back. A number of small stab-wounds were made in the flap to relieve congestion. The flap was then stretched by means of four sutures on a gauze-covered wire frame, to keep it flat, and to control the contraction. Dressed with moist salt gauze. The area from which the flap was raised was grafted immediately with Thiersch grafts from the thigh. Silver foil, rubberized mesh and dry gauze dressings.

Two weeks later as much as possible of the scar tissue was removed from the sides and upper portion of the defect. The flap on the arm was then opened across its free end, and its edges freshened. The arm was raised into position and the flap was sutured into the defect. Catgut was used in the mouth and through the fat and silk on the cheek. In this way the upper two-thirds of the defect was filled. The arm was then held by means of a plaster cast, which also included the chest, shoulder and head. The flap was dressed with moist salt gauze. Eleven days after implantation the circulation seemed well established from the cheek. The flap had healed nicely both inside and out. The cast was removed and under local anesthesia the pedicle was cut through close to the arm. Eleven days after amputation of the pedicle the scar tissue was dissected out from the lower third of the defect and, after trimming and freshening the edges of the flap, it was sutured in, so as to completely close the remainder of the opening.

Three months later the defect was entirely closed with a thick flap which was nearly level with the surrounding tissues. There was wonderful improvement in the appearance of the patient. The flap was in excellent condition. The skin was soft and pliable and of normal color. Within the mouth the skin was whitish and soft, and seemed to be gradually taking on the characteristics of the mucous membrane. It had united as satisfactorily to the surrounding tissues as had the external layer.

Ophthalmic Record, Chicago

February, XXII, No. 2, pp. 59-116

82 Protection of Eyes of School Children. N. M. Black and F. A. Vaughn, Milwaukee.
83 Treatment of Pulsating Exophthalmos with Case Report. F. C. Bushtel, Denver.
84 Hole at Macula. C. A. Clapp, Baltimore.
85 U-Shaped Hemostatic Lid Clamp. M. D. Stevenson, Akron, O.
86 Capsule Forceps. H. S. Gradle, Chicago.

South Carolina Medical Association Journal, Seneca

February, IX, No. 2, pp. 33-55

87 Amputations, with Special Reference to Lower Extremities. C. M. Rees, Charleston.
88 Surgical Treatment of Stone in Bladder in Children. R. T. Ferguson, Gaffney.
89 Treatment of Some Patients with Disease in Posterior Urethra. O. V. Mikell, Columbia.
90 Pituitrin in Labor. J. J. Lindsay, Spartanburg.

Tennessee State Medical Association Journal, Nashville

February, V, No. 10, pp. 393-433

91 Tuberculous Peritonitis. M. Goltman, Memphis.
92 Tennessee's Needs in Legislation. S. R. Miller, Knoxville.
93 Appeal for Cooperation of Laity and Medical Profession in Public Health Matters. C. L. Goodrich, Fayetteville.

Vermont Medical Monthly, Burlington

February 15, XIX, No. 2, pp. 27-52

94 Blood-Pressure, Its Control by Drugs. D. Marvin, Vermont.
95 Diseases of Cervix Uteri. A. Randolph, Washington, D. C.
96 Lane's Kink and Jackson's Membrane. C. E. Chandler, Montpelier.

FOREIGN

Titles marked with an asterisk (*) are abstracted below. Single case reports and trials of new drugs are usually omitted.

British Medical Journal, London

February 22, I, No. 2721, pp. 373-424

1 Hunterian Oration on Hunter and Lister and on Museum of Royal College of Surgeons of England. R. J. Godlee.
2 Aches and Pains Connected with Eye and Nose. C. E. Shaw.
3 Tumors of Orbit: Plea for Operation. W. Collins.
4 Hematoma of Left Orbit Treated by Modified Krönlein's Operation. J. M. Cotterill and G. Mackay.
5 *Influence of Septic Infection in Causation of Eye Disease. B. T. Lang.
6 *Six Cases of Hydrocele in Infants Treated by Operation. J. H. Nicoll.
7 *Occlusion of Inferior Vena Cava, as Result of Internal Trauma (Dissecting Varix?). S. G. Shattock.
8 Vaccine Therapy in Chronic Bronchitis. H. T. Gillett.
9 *Supraclavicular Anesthetization of Brachial Plexus. W. F. Neil and F. Crooks.

5. **Influence of Septic Infection in Causing Eye Disease.**—Many of the inflammatory lesions of the eye in Lang's opinion are infective and depend for their origin on some septic focus, from which the exciting substance must travel to the seat of the disease by the blood-stream. Whether the causative agent is bacterial or toxic is uncertain. On the one hand, attempts to grow organisms from the fluid of the anterior chamber in cases of acute non-suppurative iritis always fail; on the other hand, the anterior chamber is very like a joint cavity, and gonococci can be seen in and cultivated from the joint fluid in cases of acute gonococcal arthritis. Histologic demonstration of the bacteria in the inflamed tissues is out of the question because no eye is ever excised during the onset of the acute stage.

Septic foci occur in three situations: 1. Along the respirato-alimentary tract. 2. Along the genito-urinary tract. 3. On the skin or in a sinus leading from it. Cases illustrative of the infective influence of chronic inflammation are cited. Lang subjected 176 patients to careful analysis, which emboldens him to maintain the views here expressed that he holds that these eye conditions are often septic in origin and not due to anemia, idiopathic tendencies, rheumatism or the gouty diathesis.

6. **Hydrocele in Infants Treated by Operation.** In the operation performed by Nicoll in these six cases a skin incision (1 to 1½ in.) was made just above the groin over the inguinal canal, and the spermatic cord exposed just below the ring. The testicle and hydrocele were pushed up into the wound, and the upper end of the hydrocele sac exposed by a few snips of the scissors. The exposed sac was then emptied by trocar and cannula. The collapsed sac with the testicle was then pulled out of the wound, and the sac dealt with—either by tearing out its internal serous lining, by complete excision, or by bisection and suture of its halves back to back behind the testicle. Replacement of the testicle in the scrotum and suture of the wound in the groin completed the operation.

7. **Occlusion of Inferior Vena Cava.**—Immediately after running a foot race Shattock's patient lay on the grass, and within a few seconds complained of pain in the lumbar spinal region. He was put to bed, where he remained for six months. Edema of the legs, and to a lesser degree of the abdomen and scrotum, supervened at once, and persisted for the period mentioned. While in bed, the superficial veins began within a few days to dilate, and this dilatation slowly progressed. During the rest of life the distended veins were supported by the systematic use of carefully adjusted elastic pants reaching as high as the thorax. Albuminuria appeared directly after the event, and persisted throughout life. Death occurred twenty-five years later. He was subject to attacks of phlebitis and thrombosis in the enlarged saphenous veins, these attacks being readily brought on, for example, by the pressure of a crease in the elastic pants.

Sept. 25, 1909, the patient noticed some tenderness and discoloration behind the right internal malleolus; this extended to the dorsum of the foot; on the 29th, the temperature was 100 F., and he had a slight rigor. The next day his throat became sore, and on October 1, the signs of well-marked tonsillitis appeared, the lesion on the foot having vanished. The throat became more painful, and the temperature kept up. On October 4, the right tonsil was freely incised under gas; not more than three or four drops of pus escaped. Death took place on the day following, and was attributed to tonsillitis and septicemia.

At the autopsy, although carried out within six hours after death, there was such a degree of generalized emphysema as to render a satisfactory examination of the viscera impossible. Description of the specimen: The preparation comprised the superior and inferior venae cavae, wanting their cardiac terminations. The right azygos vein is considerably dilated. Except for its highest part, the whole of the portion of the inferior cava preserved is converted into a flat impervious ribbon, which is most contracted and thinnest for a distance of 6.5 cm. (2½ in.) opposite and below the renal veins. A portion has been cut away from the front of the vessel below the veins last named, showing that its lumen is completely occluded. The common iliac veins and the portions of the external and internal preserved are likewise flattened and obliterated, though somewhat less reduced in size, owing to the presence of internal adherent coagulum. The tributaries and trunk of the left renal vein are pervious, though, as tested with the probe, the entrance of the latter into the cava is closed. The same is true of the trunk of the right renal. The right spermatic vein, as far as its entrance to the cava, is likewise pervious. From the left side of the lower part of the cava there projects the occluded end of one of the lumbar veins of the same side. The upper divided end of the inferior cava is pervious, though reduced in size. It was found during the dissection that the hepatic veins were unoccluded.

9. **Supraclavicular Anesthetization of Brachial Plexus.**—The operations performed by the authors under this form of anesthesia were: Amputation through forearm, amputation of fingers, reducing impacted Colles' fracture, setting fractures of forearm, suturing tendons and lacerations of arm, incising cellulitis of arm, sequestrotomy of humerus, reducing dislocation of shoulder, plating radius and ulna, wiring olecranon, moving stiff elbow, and scraping necrosed metacarpal. In forty cases they had only four failures; in the first three of these a general anesthesia was obtained at the second attempt. In four cases the anesthesia was light or incomplete; but was sufficient to allow of the operation being performed; in these cases a weak solution of the anesthetic was used. Thus in 80 per cent. of the cases the anesthesia was light or incomplete, but was sufficient to allow of the operation being performed; in these cases a weak solution of the anesthetic was used. Thus in 80 per cent.

of the cases the anesthesia was complete, in 10 per cent. it was a failure, and in the other 10 per cent. although the anesthesia was incomplete, it was sufficient for the operation.

Journal of Obstetrics and Gynecology of British Empire, London

January, I, XXIII, No. 1-64

10 Burton ("Dr. Slop"): His Forceps and His Foes. A. Doran.
11 *Duplication of Bladder, Vagina and Vulva, with Successive Full-Time Pregnancy and Labor in Each Uterus. J. E. Gemmell and A. M. Paterson.
12 Hebosteotomy. A. J. Wallace.

11. **Duplication of Pelvic Structures.**—The salient features of this case are: a single anus and rectum: duplication of vulva, urinary and genital ducts, bladder and uterus; wide separation of the pubic bones; and the absence of a true umbilicus. The distance between the anterior superior spines of the ilium was eleven inches. There was no symphysis pubis. On palpation in the groin, on each side, Poupart's ligament, pubic spine, pubic crest and separated pubic symphysis could be felt distinctly. The distance between the two pubic bones measured 5⅞ inches. The curve of the sacrum and coccyx and their relation to the spine of the ischium on the left side, formed an almost normal shape of the left half of the pelvis; whereas the right half was merely a large roomy basin. There was no mons veneris. The interval between the thighs formed a perineal space 4 inches in diameter. The vulvar area was roughly heart-shaped with the apex directed backward to the cleft between the nates. The anterior portions of this area, covered sparsely by hair, encroached on the area covering the pubic bones on each side of a bare area devoid of hair and sweat glands.

When the patient was placed in the pelvic position, with knees drawn up on the abdomen, and the soles of the feet resting on the bed, the distance between the folds of the groin was found to be 6½ inches; and the presence was noted of two separate laterally placed vulvae, with a single anus (behind the left vulva), and a natal cleft behind the anus. The vulvae were almost normal in size and form. Labia majora were present. The medial labium on each side was less prominent than the lateral labium; within each vulva were labia minora, clitoris, vestibule and the openings of urethra and vagina. The ostia vaginae readily admitted two fingers and were three inches apart. In 1910, when the patient was first seen, each vagina showed the remains of a hymen. The labia majora and clitoris were not so well formed on the right side as on the left. Behind the left vulva were the perineum and anus. Bimanual examination showed on each side, besides a normal vagina, a well-formed cervix and uterus, which could be moved freely, independently of one another. A single ovary could be felt at the outer side of each uterus. The urethrae were apparently normal; on passing a catheter six ounces of clear urine were drawn off by the left urethra. A catheter passed through the right urethra drew off four ounces of turbid urine containing pus.

In the area between and anterior to the two vulvae, opposite to the separated pubic bones, the following facts were observed. The area of skin was devoid of both hair and sweat glands. On palpation it was found to consist solely of thin skin covering a hole, beneath which abdominal viscera could be palpated. The margin of this vacuity in the abdominal wall presented a thickened clearly demarcated border, bounding a circular opening beneath the skin about 1½ inches in diameter. All round the opening the aponeurotic covering of the abdominal wall was thick and resistant, particularly behind it, where it formed a dense broad band stretching across between the pubic bones, in front of and between the vulvae. In relation to the anterior border of this space, and a little to the right of the middle line, the skin was drawn up into a puckered, somewhat stellate, raised cicatrix, about an inch in diameter. The authors suggest that this area comprises the umbilical area; that there has been no allantois or proper umbilical cord; that the fetal belly-wall was in contact with the placenta, and that at birth the orifice was ligatured and the thin skin drawn over it to cover it, and complete the body-wall. The stellate cicatrix represents a pseudo-umbilicus and the closure of the fetal body cavity at its junction with the placenta.

Journal of Tropical Medicine and Hygiene, London

February 15, XVI, No. 4, pp. 49-64

13 Indian Oropharyngeal Leishmaniasis. A. Castellani.
14 Identity of Certain Leishmaniases Based on Biologic Reactions. I. Bandi.
15 Case of Paramelitensis Fever. P. W. Bassett-Smith.

Lancet, London

February 22, I, No. 4669, pp. 507-582

16 The Hunter Museum and Lister. R. J. Godlee.
17 *Transmission to Monkeys of Virus Obtained from English Cases of Poliomyelitis. J. McIntosh and H. Turnbull.
18 Two Cases of Pancreatic Cyst. W. F. Cholmeley.
19 Two Cases of Pancreatic Cyst with Acute Symptoms. C. Frankau.
20 Large Renal Calculus Associated with Sarcoma of Kidney. D. Drew.
21 Case of Bence-Jones Proteinuria. J. Henderson.
22 Ptomain Producing Bacteria in Human Intestinal Flora. D. M. Bertrand and A. Berthelot.
23 Therapeutic Action of Splenic Extract. H. R. Harrower.

17. **Transmission of Poliomyelitis.**—This paper deals with the inoculation into monkeys of material from four cases of poliomyelitis which with one exception occurred in the London Hospital district. In every instance the monkeys were inoculated intradurally as well as intraperitoneally with emulsions of the cord. Pieces of the spinal cord and brain were on their removal from the body transferred to a bottle containing a 33 per cent. solution of glycerin in saline and were kept in the ice chamber till required. For the inoculation of a monkey about 1 gm. of cord was placed in a conical glass, cut into as small pieces as possible with a pair of scissors, pounded up with a glass rod, and finally rubbed up with about 6 c.c. of saline. The larger particles were allowed to settle, and then the emulsion was drawn into a syringe. In practice it was found better to use a 10 c.c. record syringe for the intraperitoneal injection, and a 0.5 c.c. syringe with a finer needle for the intradural inoculation. Under an anesthetic (ether) a small incision about ¼ inch long was made down to the periosteum just above the superciliary ridge and just outside the middle line. A small hole was then made with a drill (diameter 2 mm.), a fine needle introduced, and 0.5 c.c of the emulsion injected. At the same time 4 to 5 c.c. of the emulsion were injected into the peritoneum.

The clinical histories and pathologic reports of the cases from which the material for inoculation was obtained are detailed. The authors suggest that in sporadic cases the virus is feeble, and the occurrence of the disease is due to a hypersusceptibility of the individual attacked, while an epidemic only results when the virus has become exalted either by a series of passages through susceptible individuals or from some other cause unknown.

Annales de l'Institut Pasteur, Paris

January, XXVII, No. 1, pp. 1-96

24 Manganese in the Organs of Animals. G. Bertrand and F. Medigreceanu. See Editorial March 1, 1913, p. 674.
25 *Experimental Arteriosclerosis. (Recherches sur l'athérome aortique.) (Recherches sur la pathogénie des altérations artério-scléreuses.) Y. Manouelian.
26 Inhibiting Influence of Peptone on Coagulation. (Etude de l'immunité contre l'action anticoagulante de la peptone.) E. and M. Pozerski. To be continued.
27 Filariasis in Native Troops in the Senegal. (Etudes morphologiques sur les microfilaires à gaine—Mf. Bancroft et Mf. diurna.) H. Foley.
28 Staphylococci in Stools. I. Schiller.
29 Influence of Diet on Formation of Indol in Rabbits. D. M. Bertrand.
30 Toxic Action of Guinea-Pig Serum in Contact with Kaolin. S. Mutermilch.

25. **Experimental Arteriosclerosis.**—Manouelian found that the aorta showed lesions of arteriosclerosis after repeated injections of filtrates or emulsions of cultures of staphylococci in rabbits and monkeys. This occurred regularly in 84 per cent. of the rabbits and in five of the six monkeys. He found further that injury of the nerves was always followed by arteriosclerosis in the vessels innervated, the lesions closely resembling those of arteriosclerosis in man. He found in dogs a nerve fiber passing from the solar plexus and the secondary plexuses beyond to the abdominal aorta, on a level with the

origin of the left renal artery. He tore out this nerve fiber between two clamps or performed a similar operation on a nerve fiber passing to the pulmonary or femoral artery. The artery with which the nerve fiber in question was connected developed isolated lesions closely resembling those of arteriosclerosis in man. The data here presented suggest that the nervous system plays more of a part in the development of arteriosclerosis than has hitherto been realized.

Bulletin de l'Académie de Médecine, Paris

February 11, LXXVII, No. 6, pp. 85-108

31 Cultivation in Vitro of Spinal Ganglia. (Sur le rajeunissement des cultures de ganglions spinaux.) G. Marinesco and J. Minea.
32 *Ankylosis of the Jaw. (L'ankylose temporo-maxillaire étudiée au point de vue du diagnostic.) E. Kirmisson.
33 Bacteriologic Factor in Precipitation of Uric Acid. (Sur un mode de précipitation de l'acide urique.) V. Galippe.

32. **To Determine Whether Ankylosis of the Jaw is Unilateral.**—Kirmisson has often found it difficult to ascertain whether both sides were affected in case of pronounced ankylosis of the jaw. He has obtained useful information from the fact that the lower jaw can be moved sideways, when it is impossible to open the jaws, if the lesion is on one side only. If the ankylosis is bilateral, the patient will be unable to move the jaw in any direction. Another sign of unilateral ankylosis is that the cheek on the affected side seems more rounded than on the sound side. This paradoxical phenomenon is due to the fact that the bone support on the side of the ankylosis is more or less atrophied, so that the soft parts developing normally are squeezed into prominence, as it were. On the sound side, the bone being normal, the soft parts stretch normally over them and thus appear sunken in comparison with the bulging soft parts on the side of the ankylosis.

Lyon Médical, Lyons

February 9, XLV, No. 6, pp. 265-328

34 Meningococcus Septicemia and Meningitis in Young Man with Joint and Visceral Lesions from Inherited Syphilis. P. Courmont and J. Froment.

Presse Médicale, Paris

February 12, XXI, No. 13, pp. 121-128

35 Hemolytic Properties of Organ Extracts. C. Achard, C. Foix and H. Salin.

Revue de Chirurgie, Paris

February 10, XXXIII, No. 2, pp. 137-291

36 *Prevention of Injury of Nerve in Operating on the Elbow. (Des rapports de la branche motrice du nerf radial avec l'articulation radio-humérale, envisagés au point de vue de la chirurgie opératoire du coude.) O. Jacob.
37 *Fractures of the Ankle. (Sur la disjonction tibio-péronière et les fractures du cou-de-pied. Essai de classification.) Clermont.
38 *Participation of Thyroid in General Diseases. (Sur les altérations du corps thyroide dans différents états expérimentaux et cliniques.) E. Martini.
39 Retrograde Invagination of the Intestine. A. Catz.

36. **Prevention of Postoperative Paralysis of the Radial Nerve.**—Jacob has encountered three cases of paralysis of the extensor and abductor muscles of the hand consecutive to an operation on the elbow. He gives an illustrated description of the exact anatomy of the region as observed in two cases, showing the best means for avoiding injury of the motor branch of the radial nerve in operating on the elbow.

37. **Fracture of the Ankle.**—Clermont strives to classify the various forms of fracture of the ankle with separation of the tibia and fibula, what he calls *disjonction tibio-péronière*. His study is accompanied by ten illustrations in the text and ten Roentgen-ray pictures.

38. **Secondary Changes in the Thyroid.**—Martini examined the thyroid in a number of dogs after removal of the adrenals, testicles, ovary or pancreas or after splenectomy or nephrectomy. None of these operations seemed to affect the structure or function of the thyroid as none of them led to the production of toxins to any appreciable extent. He has also made a careful study of the thyroid in ten persons who had died of pneumonia, ten others from typhoid, ten consumptives and ten cancer cadavers. He also reviews research in this line by others. The data presented confirm the part played by the thyroid as a protecting organ with a power to neutralize toxins. The reaction in the thyroid to the invasion by any infection varies in different cases. In acute diseases its reaction is characterized by excessive functioning which aims to neutralize the invading material circulating in the blood and facilitate its elimination. In chronic disease the continuous irritation from the toxins finally changes the structure and the secretion of the thyroid, modifying it more or less according to the intensity of the toxin production. The thyroid takes thus an active part in the defense of the organism, but if the struggle is long continued the thyroid becomes exhausted and shows signs of retrogression processes.

Semaine Médicale, Paris

February 12, XXXIII, No. 7, pp. 73-84

40 *Osteoma in Front of Hip-Joint; Five Cases. (Les ostéomes pré-coxaux.) F. Lejars.

40. **Osteoma in the Thigh.**—Lejars has encountered five cases of pathologic bone growth in front of the hip-joint. They deceptively simulated sarcomas but there was nothing malignant about the growths. They all had a history of traumatic injury at this point from two to four years before. After a period of insidious development, the tumor had suddenly increased in size and caused pain in moving the limb. In each of the cases he restored conditions approximately to normal by removing the exuberant bone growth with chisel and mallet. The resection should be as complete as possible to free the joint below and prevent new bone growth from relics left. He gives an illustrated description of the more typical cases; in one the patient was a man of 50 and the upper third of the thigh was twice the natural size. He had broken the femur at this point two years before but the progressive development of the tumor had only been noticed the last two months.

Archiv für klinische Chirurgie, Berlin

C, No. 3, pp. 597-938. Last indexed March 1, p. 702

41 *Operations on Posterior Cranial Fossa. (Zur Chirurgie der hinteren Schädelgrube.) O. Hildebrand.
42 Idiopathic Dilatation of the Esophagus. (Kasuistik und Therapie der Speiseröhre. Oesophagogastroanastomose.) H. Heyrovsky.
43 *Cancer of the Esophagus from the Standpoint of Thoracic Surgery of Human Beings. (Der Oesophaguskrebs vom Standpunkt der thorakalen Chirurgie.) Willy Meyer (New York).
44 *Multiple Progressive Ossifying Myositis. (Hyperplasia fascialis ossificans multiplex.) S. Goto.
45 *Fistulas and Cysts in the Neck. (Halsfisteln und Cysten.) R. Wenglowski.
46 Implantation of Renal Vein in Vena Cava in Case of Operative or Other Injury. (Ueber Neoimplantation der Vena cava, zugleich ein Beitrag zur Technik der Gefässanastomose End-zu-Seit.) E. Jeger and W. Israel.
47 Operative Treatment of Injury of Duodenum from Contusion. W. Röpke.

41. **Operations on Posterior Cranial Fossa.**—Hildebrand devotes 106 pages and four colored plates to the detailed description of his fifty-one operations of this kind and to the lessons learned therefrom. Twenty of the patients died during or soon after the operation, but in all but four of these the lesion had been found absolutely inoperable. Only twenty-four of the remaining thirty-one were really operable cases. Twenty-two patients survived for more than three months afterward. The benefit derived from the operation, even in the hopelessly doomed cases, was great. In a large number choked disk retrogressed, thus restoring normal vision where the atrophy of the optic nerve was not irreparable. This group of cases in which although the choked disk retrogressed yet vision was irreparably lost, teaches the imperative importance of operating early, before such changes become installed. As the diagnosis in the early stages is often dubious, an exploratory operation to render the diagnosis certain is the only means to save such patients from blindness at least and possibly from death. Hildebrand has long preached the necessity for early exploratory trephining on even suspicion of a lesion in the posterior cranial fossa. Even if the exploratory operation should occa-

sionally hasten by days or weeks the inevitable fatal outcome, this should not be weighed in the balance against the exploratory operation, as the patients are already great sufferers. On the other hand, the earlier the exploratory operation is done the less danger connected with it. In his six cases of serous meningitis great benefit was the invariable rule, and the patients are still living in good health or succumbed a few years later to intercurrent disease. The five patients with internal hydrocephalus all recovered and one is in good health five and a half years since, but is blind; another died five weeks after the operation from tuberculous meningitis. One of the five patients with cysts in the cerebellum died at the operation; the cyst communicated with the fourth ventricle. The others were cured. Of the five with solid cerebellar tumors, two are living in good health and two died at the operation. The tumor was not discovered in the fifth case and the patient died from its effects six months later.

43. **Cancer of the Esophagus.**—See The Journal, July 2 and July 9, 1910, pp. 46 and 164.

44. **Ossifying Myositis.**—Goto's study of the pathologic anatomy of the course of this affection in a clinical case described in detail confirms the assumption that this form of myositis is not of an inflammatory or neoplastic nature. It seems to be the result of some congenital but not hereditary defect in the differentiation of the connective-tissue elements. There is first hyperplasia of the connective tissue, then fibrous induration, and finally ossification. Trauma seems to afford a local predisposition but the local changes can develop without this. The article fills over 57 pages and has nineteen illustrations in the text.

45. **Fistulas and Cysts in the Neck.**—A bibliography of 396 articles on the subject concludes Wenglowski's long article of which the 104 pages devoted to it in this *Archiv* is only the last half. It is accompanied by thirty illustrations in the text.

Beiträge zur Klinik der Tuberkulose, Würzburg

XXVI, No. 1, pp. 1-121. Last indexed February 22, p. 632

48 *Clinical Importance of Reaction to Tuberculin Salve: 500 Cases. (Ueber die klinische Bedeutung der Moroschen Tuberkulinreaktion—auf Grund von 500 eigenen Beobachtungen.) K. Dluski and S. Rudzki.
49 *Artificial Pneumothorax: Thirteen Cases; Necropsy Findings in Four. (Einige Erfahrungen mit künstlichem Pneumothorax.) A. A. H. van den Bergh and Others.
50 *Influence of Gestation on Pulmonary Tuberculosis. (Einfluss der Generationsvorgänge auf die Lungentuberkulose.) W. Köhne.
51 Research on the Local Tuberculin Reactions. (Einige Untersuchungen über die klinische Anwendbarkeit der lokalen Tuberkulinreaktionen.) K. Andersen.

48. **Tuberculin Salve Reaction.**—Dluski and Rudzki report the application of Moro's technic in 500 cases of tuberculosis and also on a large number of healthy controls. They followed Moro's directions with care, rubbing a piece of the salve about the size of a pea on the skin over the stomach below the ensiform appendix or near the nipple. The salve is made of 5 c.c. Old tuberculin and 5 gm. lanolin, and is put up in 2 gm. tubes. The reaction is specific, but a negative response was obtained in 33 per cent. of the cases of certain tuberculosis. The positive responses grow less numerous with increasing age. The test is more important for prognosis than for diagnosis, negative findings with certain tuberculosis being a very unfavorable sign. The more pronounced the reaction the better the prospects for recovery. The salve test is particularly useful for control of tuberculin treatment.

49. **Artificial Pneumothorax.**—The great danger with this procedure is said to be that some minute focus on the other side may be whipped up by it, and the tuberculous lesion may spread rapidly. This occurred in some of the cases reported; in two it was confirmed by necropsy To date it seems impossible to determine beforehand which patients will derive great benefit from the compression of the tuberculous lung by this means and which patients will have their mild tuberculous process in the other lung whipped up to a rapidly fatal course. For the present, therefore, it seems necessary to restrict the application of the method to cases of serious pulmonary processes limited almost entirely to one lung and progressing under conservative measures.

50. **Influence of Gestation on Pulmonary Tuberculosis.**—Köhne's experience has been that when the tuberculous process has displayed a tendency to shrivel up, this tendency is generally enhanced by a pregnancy, and the latter may even inaugurate it. In comparatively few tuberculous women are the effects of a pregnancy disastrous. But he warns that tuberculous women should never be allowed to nurse their children, and that all pregnant tuberculous women should be given the benefit of sanatorium treatment. These conclusions are based on twenty-nine cases with a record of eighty-eight childbirths. In sixteen of the twenty-two cases in which the women were under constant medical care, the condition actually improved during and after the pregnancy, but in the five other cases an injurious influence was manifest. The tuberculosis was not of a mild form in any instance.

Berliner klinische Wochenschrift

February 17, L, No. 7, pp. 289-332

52 *Cancer Induced in Rats by Feeding with Parasites of Cockroaches. (Ueber eine durch Nematoden—Spiroptera sp. n.—hervorgerufene papillomatöse und carcinomatöse Geschwulstbildung im Magen der Ratte.) J. Fibiger.
53 Deforming Arthritis Result of Necrosis of Cartilage. (Wesen der Arthritis deformans.) G. Axhausen.
54 Examination of Stools for Ova. (Zur Fäcesuntersuchung auf Parasiteneier.) F. Wolff.
55 *Therapeutic Artificial Pneumothorax. E. Aron.
56 Anaphylaxis to Gastric Juice. (Magensaftanaphylaxie.) E. Manoiloff.
57 Treatment of Ankylosis of the Ankle. (Zur Behandlung versteifter Fussgelenke.) E. Weiz.
58 Durable Bacteriologic Stain. (Ueber einen haltbaren Gramfarbstoff für Gonokokken-, Pilz- und Spirochätenfärbung.) E. Klausner.
59 Vaccine Therapy. A. Wolff-Eisner.

52. **Cancer Induced in Rats by Feeding with Parasites of Cockroaches.**—In 1907 Fibiger discovered a stomach lesion in certain rats and found in it nematodes about 1.6 cm. long by 0.25 mm. in diameter and also ova containing the embryos. The lesions had the appearance of a malignant growth. He found it later in eleven of 1,144 rats examined. Certain circumstances indicated an intermediate host, and his research led to the discovery that this host was the ordinary cockroach, the *Periplaneta americana* or *orientalis*. In another series of sixty-one rats from a large sugar refinery similar nematode worms were found in the stomachs of forty, and in eighteen of these there were morbid changes in the stomach lining and in half of these the lesions were in the form of tumors like those first discovered; in the others the lesions seemed to be the preliminary stages. His further research has apparently confirmed beyond question that the tumors were dependent on the presence of the nematodes and that the ova of these parasites came from the *Periplaneta americana*. He gives an illustrated description of the spontaneous and induced growths and the biology of the parasites. He succeeded in reproducing the cancer by feeding other rats with the intermediate host, the cockroach. The malignant growth is slow in developing and it is probable that a larger proportion of positive experimental results would have been obtained if the rats had not succumbed too soon to intercurrent diseases. He states that in at least two and probably three of the laboratory rats fed with cockroaches, metastases of the induced malignant epithelioma were found in other organs. He remarks that this is the first time any one has succeeded in inducing in healthy animals carcinoma with metastasis.

No parasites or ova were found in the metastases and hence the development of the metastases must be due to a capacity on the part of the epithelium cells of the stomach to develop further, independently, without the help of a parasite, in other organs. It is his impression that all the anatomic changes are the result of the action of the toxins produced by the nematodes. He refers to Borrel's suggestion that parasites, such as the demodex and nematodes, may transmit the unknown virus which produces cancer. He based this assumption on the frequent finding of such parasites in or near cancerous growths. Fibiger adds that his own research shows the results of others in a new light. What has been assumed to be a casual coin-

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A. Simmons

Lincoln

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cidence—the presence of helminths in or near cancers must now be regarded as more a causal factor. There are a number of cases on record of carcinoma in persons with chronic trichiniasis.

55. **Artificial Pneumothorax.**—Aron gives some tracings of the pressure in the pleural cavity before and after artificial pneumothorax to show that the untreated lung breathes the deeper the more completely the compressed lung is excluded from the work of respiration. His experience confirms the necessity for restricting pneumothorax therapy to cases of unilateral pulmonary tuberculosis, progressing in spite of all other measures. He warns that the insufflation must not be begun until certain that the needle is in the pleural cavity. Force should never be used, and a manometer is always necessary. As soon as the pressure in the pleura approaches the zero point, special caution is imperative.

Centralblatt für die Grenzgebiete der Med. u. Chirurgie, Jena

February, XVI, Nos. 2-3, pp. 37-424

60 *Present Status of Knowledge in Regard to the Secondary Sexual Characteristics. (Unser Wissen über die sekundären Geschlechtscharaktere.) R. Hofstätter.

60. **Secondary Sexual Characteristics.**—Hofstätter devotes over four hundred pages to his critical review of the literature on this subject, listing 2.324 articles in alphabetical sequence. The present status of our knowledge shows that we have not gone much beyond Darwin to date. Hofstätter discusses the relations between the internal secretions and the secondary sexual characters, the effects of castration on man, woman, plants and the lower animals, regeneration, transplantation, influencing of the sexual characteristics by breeding and by external factors, precocious and tardy maturity, pseudohermaphroditism, and the sexual instinct, etc.

Deutsche medizinische Wochenschrift, Berlin

February 13, XXXIX, No. 7, pp. 297-344

61 *Benefit from Roentgen Exposures of Tuberculous Focus. H. Iselin. To be continued.
62 Development of Adrenal Cortex. (Zur Entwicklung der Nebennierenrinde.) M. Landau.
63 *Serodiagnosis by Abderhalden Technic. (Weitere Untersuchungen—3 Liste—auf Grund des Abderhaldenschen Dialysierverfahrens.) A. Fauser.
64 Serodiagnosis of Syphilis. (Untersuchungen mit der v. Dungernschen Vereinfachung der Wa. R.) W. Brugg.
65 *Benzol in Leukemia. S. Wachtel.
66 Hernia of the Diaphragm. (Ueber Eventratio diaphragmatica.) K. Motzfeldt.
67 Firearm Wounds of the Abdomen. (Schussverletzungen des Bauches.) H. Schricker.
68 Sympathetic Nystagmus in Erysipelas. C. Hirsch.
69 Corrosion of Skin from Benzin. (Verätzungen durch Benzin.) E. Sehrwald.
70 Proprietary Medicinal Articles and Their Substitutes in Contract Practice. (Die wurttembergischen Krankenkassenreverse über die pharmazentischen Ersatzpräparate.) Rathenau.
71 Medical Impressions of America. (Reiseeindrücke aus amerikanischen Krankenhäusern.) H. Strauss.

61. **Reduction of Toxicity of Tuberculous Focus by Roentgen Exposures.**—Iselin's article is not completed in this number but he states that since the beginning of 1907 he has given Roentgen-ray exposures to 300 patients with glandular tuberculosis. The rapid reabsorption of the tuberculous glands frightened him at first, but experience soon showed that no injury resulted except in six cases, while the patients gained in weight as a rule. In eighty-one patients with bone or joint tuberculosis all gained in weight except fourteen. Fully 77 per cent. of his patients with surgical tuberculosis showed this surprising gain in weight. It demonstrated that the reabsorption of even an entire tuberculous process not only does not injure the body but proves actually beneficial. The gain in weight further shows that exposure of the focus seems to exert a favorable influence on the general condition and reenforces the defensive powers. He was not able to keep the records of the temperature as the patients were all outpatients. This fact renders the increase in weight much more significant than if they had been in a sanatorium or hospital; they simply continued their ordinary mode of life. One girl of 19 was given the roentgen exposures for a nodular tuberculous peritonitis without effusion; in three months she had gained 9 kg., about 20 pounds. One workman with a large process in the ilium gained nearly 18 pounds in the course of six months although he had kept at work all the time. One woman of 50 with an open process in both knees gained 7 pounds in the six weeks after a single exposure of each knee.

63. **Serodiagnosis in Mental Disease.**—Fauser adds thirty-three to his previous series of fifty-five cases of dementia praecox or other forms of mental disease in which he has applied Abderhalden's serologic tests. He urges others to apply the tests in mental affections as cooperation of large numbers may reveal principles of extreme importance for psychiatry, clearing up the problems of dementia praecox, etc. Besides the findings of pathologic anatomy, we now must record the findings of pathologic serology. The latter may soon overshadow in importance the former.

65. **Benzol in Leukemia.** Wachtel has given benzol in two cases of leukemia. In the first, a severe myeloid leukemia, he was obliged to drop the benzol the third day as albumin appeared in the urine. The second patient was a woman of 38 and she improved remarkably under 3 gm. benzol daily. In the first two weeks there was not much change except that the temperature returned to normal and the general condition improved. But in the fourth week the leukocytes dropped from 102,000 to 37,000. During the first three weeks the mononuclears predominated, but after this the myelocytes became reduced in numbers while the polynuclears increased, the spleen returned to normal size and the patient felt so well that she resumed her ordinary life. The number of myelocytes is still high, however, showing that the leukemia itself has not been eradicated. Under the benzol the number of reds increased and also the hemoglobin percentage. The last examination, Jan. 5, 1913, four weeks after the close of the benzol course, showed 4,200,000 reds, 8,000 whites, 12 per cent. lymphocytes, 80 per cent. neutrophils and 2 per cent. each of eosinophils and neutrophil myelocytes, with 78 per cent. hemoglobin.

Medizinische Klinik, Berlin

February 9, IX, No. 6, pp. 201-240

72 *Lead-Poisoning and Spinal-Cord Disease. (Bleivergiftung und Rückenmarkskrankheiten.) H. Eichhorst.
73 *A New Heart Tonic with Action Like That of Digitalis of the Asclepiadaceae—Milkweed Family. (Calotropis procera.) L. Lewin.
74 *Nodose Rheumatism. Hillebrecht.
75 *Early Diagnosis of Carcinoma of the Sigmoid Flexure and Ampulla of the Rectum. H. Friedrich.
76 *Drainage into Cellular Tissue Without Drains. (Dauerdrainage unter die Haut ohne Drains.) Evler.
77 The Constitutional Predisposition. (Zur Frage des Constitutionsproblems.) J. Bartel.

72. **Spinal-Cord Disease in Lead-Poisoning.**—Eichhorst discusses a case of spastic spinal paralysis or lateral sclerosis in a house-painter who showed unmistakable signs of lead-poisoning. The spinal trouble seems to be the consequence of the chronic lead-poisoning, and he does not anticipate complete recovery. He has previously had two cases of multiple sclerosis of the brain and spinal cord for which lead-poisoning was probably responsible. He comments on the scanty literature on the relations between lead-poisoning and spinal cord disease, and urges general practitioners to make a special study of this subject to throw more light on it.

73. **Milk-Weed as a Stimulant for the Heart.**—Lewin has been studying for a number of years a plant of the milk-weed family which seems to act on the heart like digitalis. It is a tropical variety and has long had a reputation among the native tribes as a remedy for dysentery, asthma, leprosy, syphilis, etc., and as an arrow poison, etc. The evaporated residue of the milk injected into frogs starts peristalsis of the heart; after six minutes the heart stops in systole with the fatal dose.

74. **Nodose Rheumatism.**—Hillebrecht has been able to find only seventy-eight cases of this affection in children under 15 and thirty-seven in adults, but adds two cases to the list. The nodules develop late in an acute articular rheumatism or chorea; they are situated mostly on the tendons, aponeuroses

and scalp, are not tender, and they subside again soon or not until after several weeks or months. Salicylic medication never displays any efficacy in these cases, and although the lesions are locally harmless yet their presence renders the prognosis very much graver.

75. **Early Diagnosis of Cancer of the Rectum and Sigmoid Flexure.**—Friedrich states that in twenty-two cases of this kind the lesions were discovered during endoscopy, and they were in such an early stage in eight cases that seven patients in this group were permanently cured by excision. In the others the tumor was already palpable and the six patients who were given operative treatment all died in connection with the operation. Seven patients were permanently cured by the early diagnosis rendered possible by sigmoidoscopy. Of the fifteen others many might probably have been saved if endoscopy had been applied earlier. The general practitioner should insist on endoscopy in all cases of constipation developing in persons with previously normal bowel functioning, especially when associated with tenesmus, obstinate pains in the sacral region, blood and pus alone or with the stools, and hemorrhages outside of defecation. The assumption without further examination that blood from the anus comes from hemorrhoids, is an error on the part of the physician and may have the direst consequences for the patient.

76. **Permanent Drainage Without Drains.**—Evler's method was recently described in these columns. He merely makes an opening by separating muscles or boring through bone, thus permitting the pathologic effusion to ooze into the subcutaneous connective tissue. This not only drains away the fluid but has the effect of autoserotherapy. With ascites he separates the recti and draws peritoneum up over the edges of the hole thus made; the hole is only large enough to admit the tip of the finger. He usually taps the patient first. One patient thus treated two years ago has been in good health to date, and two cancer patients were immeasurably relieved. He drills a rib for pleural effusion. As the drill is removed, the fluid spurts from the hole. He has applied the method in two cases of effusion in a bursa, suturing the opened internal capsule to the external. Living tissue seems to be able to take care of a certain amount of bacteria and their toxins when the focus is drained in this way. In his three cases of effusion in a bursa the method proved so simple that none of the patients would stay in bed afterward. His only failures were in cases of effusion in the knee with deforming arthritis. The results were particularly striking in eight cases of a cystic tumor in tendon or fascia tissue on hand or foot.

Monatsschrift für Geburtshilfe und Gynäkologie, Berlin

February, XXXVII, No. 2, pp. 169-288

78 Organotherapy in Dysmenorrhea. G. Klein.
79 Oxydase Reaction in the Placenta. A. Wolff.
80 Diagnosis of Tubal Pregnancy. (Intakte Tubargravidität und wiederholter bimanueller Untersuchungen nebst Bemerkungen zur Diagnose der Tubargravidität.) J. Sonnenfeld.
81 *Autogenic Vaccines in Diagnosis and Treatment of Gonorrhea in the Female. (Zur spezifischen Diagnostik und Therapie der weiblichen Adnexgonorrhoe.) M. Neu.
82 Recurring Tubal Pregnancy. (Wiederholte Tubargravidität.) E. Puppel.
83 Operative Treatment of Incontinence of Urine. (Fall von hartnäckiger Harnincontinenz bei einer Frau, der durch die von mir vorgeschlagene Operationsmethode bei schweren Blasenscheidenfisteln geheilt wurde.) N. Wolkowitsch.
84 *Disturbances at the Menopause. (Zur Frage der sogen. Ausfallserscheinungen.) Dubois.
85 J. Marion Sims. A. Martin.

81. **Specific Diagnosis and Treatment of Gonorrheal Salpingitis.**—Neu concludes from an extended trial of gonococcal vaccines in the gynecologic clinic at Heidelberg that no vaccine has yet been produced that is certain in diagnosis or effective in treatment of chronic gonorrhea in the female.

84. **Disturbances at the Menopause.**—Dubois says that the phenomena so frequently observed in women at the menopause, including congestion, sweating, "hot flashes," rapid pulse, headache, dizziness and emotional depression, are due in greater measure to psychic causes than to lack of ovarian secretion. He recommends, after exclusion of organic disease by a competent gynecologist, treatment by psychotherapeutic measures.

Münchener medizinische Wochenschrift

February 11, LX, No. 6, pp. 281-336

86 Metabolism of Matter and Energy in Infants. (Die Oekonomie im Stoff- und Kraftwechsel des Säuglings.) A. Schlossmann.
87 *Serodiagnosis of Pregnancy and Tumors in Genital Organs. (Ueber Serumfermentwirkungen bei Schwangeren und Tumorkranken.) P. Lindig.
88 Clinical Importance of Bacterial Anaphylatoxin. A. Hamm.
89 Heredity and Atheroma. (Erblichkeit des Atherom.) H. Schneider.
90 *Electrolysis in Treatment of Trigeminal Neuralgia. A. Rethi.
91 The Wassermann Reaction in Prophylaxis of Syphilis in General. (Notwendigkeit einer obligatorischen Einführung der Blutuntersuchung nach Wassermann bei der Kontrolle der Prostituierten und deren Bedeutung für die allgemeine Prophylaxe der Syphilis.) M. Müller.
92 Injection of Cocain into the Perineal Tissue as Head Emerges. (Schmerzlose Entbindungen.) A. Voll.
93 Electric Pocket Light Shows Transparency of Hydrocele as Aid in Diagnosis. A. Mayer.
94 National Insurance of Wage Earners in Russia. (Das neue russische Arbeiterversicherungsgesetz.) E. Franck.
95 The Mineral Mud at Homburg. (Indikationen und Wirkungen des Homburger Tonschlammes.) v. Noorden.

87. **Serodiagnosis of Pregnancy and Tumors in Genital Tract.**—Lindig has been applying Abderhalden's serodiagnostic methods with confirmatory results. It seems established beyond question now that a proteolytic ferment is present in the blood-serum of pregnant women and in women with tumors in the genital tract and possibly also with inflammatory processes. This ferment is able to digest the albumin in placenta, uterus and ovary tissue, in tissue from tumors of the genital organs and, to a lesser degree, muscle albumin.

90. **Electrolytic Treatment of Trigeminal Neuralgia.**—Rethi remarks that most of his patients with trigeminal neuralgia had sinusitis, but in a surprisingly large number of cases the neuralgia was traceable to malaria or syphilis; he expresses surprise that so few seem to think of the possibility of these latter with trigeminal neuralgia. He has often encountered patients with neuralgia rebellious to all other measures which promptly subsided under specific treatment for malaria or syphilis. He has found perineural injection of alcohol very useful but even this fails at times. In one such case he destroyed the nerve by electrolysis, using for the purpose a needle, such as is made for depilation, only that it is longer and is insulated to within 1 cm. of the tip. Half an hour beforehand he injects morphin, then after fifteen mintes he disinfects the field and injects a local anesthetic. Fifteen minutes later he introduces the cathode needle and turns on the current from 0 to 20 or 30 milliamperes. The sitting lasts for fifteen minutes. There was no headache thereafter and none of the three patients thus treated has had any return of the neuralgia. The action of electrolysis is more certain than that of alcohol injections because the nerve is entirely destroyed for a distance of from 1 to 1.5 cm.

Wiener klinische Wochenschrift, Vienna

February 13, XXVI, No. 7, pp. 241-280

96 Cholera at the Seat of War. (Massnahmen zur Bekämpfung der Cholera auf dem bulgarischen Kriegsschauplatz.) R. Kraus.
97 *Conditions Favoring Development of Tuberculous Meningitis. (Entstehungsbedingungen der Meningitis tuberculosa.) H. Koch.
98 Roentgenoscopy of Tuberculosis of the Hilus in Children. E. Sluka.
99 *Pathology of Lordotic Albuminuria. K. Dietl.
100 Has the Mammary Gland an Internal Secretion? (Zur Frage einer inneren Sekretion der Mamma.) J. Schiffmann and A. Vystavel.
101 Roentgenoscopy of the Large Intestine with Tumors in the Kidney Region. (Zur Kenntnis der radiologischen Befunde am Dickdarm bei Tumoren der Nierengegend.) A. Luger.

97. **Tuberculous Meningitis.**—Koch has been studying in 355 cases the conditions which favor the development of tuberculous meningitis. In fully a third there was a history of some acute infectious disease about two months before, fifty in the second month, twenty-five in the first and fifteen in the third month before the meningitis developed. In only two cases could trauma be incriminated, and in only two did there seem to be any connection with a preceding non-tuberculous pulmonary affection. In 45 per cent. of the cases the old tuberculous

process consisted in merely the primary focus and regional lymph-nodes. The predominant influence of the primary infection for the development of tuberculous meningitis later is thus distinctly shown. With few exceptions the old tuberculous process was in the stage of full activity. The conclusion follows that tuberculous meningitis need not be feared unless the organism has been unable completely to conquer the old tuberculous processes. It follows further that the factors liable to bring on the outbreak of the meningitis are of moment only when there is at the same time an active tuberculous process somewhere in the body. The opportunity for massive infection and the age of the individual are important factors; the younger the organism the less its resisting power. With an active tuberculous focus, latent at the time, but ready at any moment to break down the ramparts within which it is enclosed, almost anything may start this, and then the infectious material spreads far and wide.

99. **Orthostatic Albuminuria.**—Dietl calls attention to the importance of vasomotor instability as a factor of equal moment with lordosis in the production of orthostatic albuminuria. The lordosis may cause stagnation in the renal vessels and thus induce albuminuria, but a sound vasomotor system is generally able to compensate for this. Consequently, when a person with orthostatic albuminuria has his vasomotor system toned up, the albuminuria may subside in spite of the persistence of the lordosis. This shows the importance of general tonic measures in treatment of orthostatic albuminuria.

Zentralblatt für Chirurgie, Leipsic

February 15, XL, No. 7, pp. 225-264

102 *Modified Technic for the Roux Gastro-Jejuno-Esophagostomy. O. Uffreduzzi and G. Giordano.
103 *Blocking the Sciatic Nerve. (Die Anästhesie des N. ischiadiens.) P. Babitzki.
104 Osteoplastic Fixation of Paralyzed Foot. (Eine neue Anwendung der freien Osteoplastik in der Fixation des paralytischen Fusses.) G. Frattin.

102. **Modification of the Roux Gastrojejuno-Esophagostomy.**—Uffreduzzi and Giordano have materially simplified the original technic, first making an ordinary Y anastomosis between the intestines outside of the chest and then between the stomach and intestine at the point where they are already in contact. The abdominal incision is on the left side below the costal arch. The pleura is then incised in the sixth or seventh interspace and the esophagus is resected from the cardia to above the stricture and the cardia is then buried. The loop of small intestine is then drawn up and joined to the esophagus. The anastomosis between the loop and stomach is then made outside of the chest as in the Roux technic. In their experiments on dogs the loop retained its vitality when not more than the lower third of the esophagus had been resected.

103. **Blocking the Sciatic Nerve.**—Babitszki states that the sciatic nerve can be palpated through the rectum and the anesthetic injected through the gluteal muscle under control of the finger in the rectum. The spine of the ischium is readily found and locates the nerve just above, after it leaves the shelter of the pyriform muscle. The nerve runs along between the trochanter major and the tuberosity of the ischium and the anesthetic can be injected directly on the nerve along its course. He found the anesthesia complete in from two to five minutes so that the patient did not feel his leg at all. It is just as if the leg did not exist. Babitzki has applied this technic in fifteen cases and with invariable success, even for amputation of the thigh and resection of veins.

Zentralblatt für Gynäkologie, Leipsic

February 15, XXXVII, No. 7, pp. 225-256

105 Prognosis of Puerperium Based on Vaginal Bacteriologic Findings. (Die bakteriologische Untersuchung des Vaginalsekretes Kreissender und seine prognostische Bedeutung für den Verlauf des Wochenbetts.) M. Traugott and M. Goldstrom.
106 *The Biologic Factor in Treatment of the Vagina. (Das biologische Moment bei der Behandlung der Vagina.) F. Kuhn.
107 *Serodiagnosis of Pregnancy. (Biologische Diagnose der Schwangerschaft.) T. Petri.
108 Unusual Symptoms with Pelvic Epidermoid Cyst. (Seltene klinische Erscheinungen einer Beckenbindegewebscyste.) A. Hörrmann.

106. **The Biologic Factors in Treatment of the Vagina.**—Kuhn expatiates on the importance of the acid reaction in the vaginal contents. When this acid reaction can be restored and maintained, morbid conditions right themselves. Nothing is better to accomplish this than sugar solution as he has repeatedly declared. It transforms the alkali producing bacteria into acid-producers and thus restores the acid reaction. A similar phenomenon occurs with glycerin, while the glycerin has the further advantage that it transforms the vaginal mucosa so that it begins to secrete outward where before it was absorbing inwardly; the current is thus reversed. The secretions dilute the glycerin solution and this stimulates a lively growth of bacteria, but they are now acid-producers.

107. **Serodiagnosis of Pregnancy.**—Petri comments on the amazing reliability of Abderhalden's serologic method for determining the existence of pregnancy. It gives information in this line before any other method permits even a presumptive diagnosis. Even a few days after the embedding of the ovum it may be possible to determine the specific ferment and thus establish the gestation. In his experimental research he found a positive response in seven or eight hours after subcutaneous injection and in fifteen minutes after intravenous. The technic and the phenomena involved were discussed editorially in The Journal, Dec. 7, 1912, p. 2073.

Gazzetta degli Ospedali e delle Cliniche, Milan

February 2, XXXIV, No. 14, pp. 137-152

109 Identification by Veins on Hand. (Ancora sulla segnalazione personale.) A. Tamassia.

February 4, No. 15, pp. 153-160

110 Pectineal Hernia. (Ricerche anatomiche a proposito dell'ernia pettinea.) C. Mantelli.

February 6, No. 16, pp. 161-168

111 Application to Surgical Suturing of the Principle of the Binder in Reapers. (L'allacciatura meccanica in chirurgia.) F. Lastaria.

February 9, No. 17, pp. 169-184

112 Relations Between Pulse, Fever and Sweating. (Sul rapporto della frequenza del polso con la fase ascendente e discendente della febbre e con la sudorazione.) G. A. Pari and A. Ponzian.

February 11, No. 18, pp. 185-192

113 Pleural Effusion with Induced Pneumothorax. (Dei versamenti pleurici da pneumotorace.) A. Nardi.

Policlinico, Rome

February 2, XX, No. 5, pp. 153-188

114 Modified Technic for Anesthesia by Intratracheal Insufflation. (Contributo sperimentale alla narcosi per insufflazione intratracheale alla Meltzer-Auer, con apparecchio modificato.) A. D'Avack.

February, Medical Section No. 2, pp. 49-96

115 The Carotid Gland. (Studi sulla ghiandola carotidea di Luschka.) C. Frugoni.
116 Case of Secondary Pneumococcus Peritonitis with Abscess in Spleen. R. Foscarini.
117 Case of Leishman Anemia in Child in Region North of Naples. (Caso di anemia infantile da Leishmania proveniente della provincia di Caserta.) P. Mazzitelli.
118 *Comparative Merits of Tests for Albumin. (Studio analitico comparativo sui metodi clinici per la determinazione quantitativa dell'albumina nelle urine e nei liquidi patologici.) B. Maiolo.

118. **Tests for Albumin.**—Maiolo made parallel quantitative tests for albumin by the Esbach, Tsuchiya and Aufrecht technics and tabulates the findings in six cases. With the Esbach and Tsuchiya technics the findings are modified by the temperature and by the specific gravity of the fluids. The amount of precipitate is inversely proportional to the temperature. Of the three methods, that of Aufrecht is the least reliable for both urine and pathologic fluids. On the other hand, the Esbach and Tsuchiya technics give approximately the same findings with the urine but, with other fluids, Tsuchiya's phosphotungstic acid method is the closest to the actual facts.

Riforma Medica, Naples

January 4, XXIX, No. 1, pp. 1-28

119 *Operative Treatment of Peripheral Lesions which are Affecting the Central Nervous System. G. Ruggi.

January 11, No. 2, pp. 29-56

120 *Induced Albuminuria as Test for Latent Nephritis. R. Scalia.

January 18, No. 3, pp. 57-84

121 Syphilitic Lesions in the Spine. (Caso di sifilide spinale. Indagini cliniche ed isto-pathologiche.) A. Evangelista. Commenced in No. 1.

January 25, No. 4, pp. 85-112

122 Modification of Glycogen in the Liver after Intravenous Injection of Cholin. (Le modificazioni del glicogene epatico in seguito ad iniezioni endovenose di colina.) G. Cavina.
123 *The General Reaction to the Skin Tuberculin Test. (La cutireazione del Pirquet. Importanza diagnostica della reazione generale.) L. Chiaravalloti. Commenced in No. 3.
124 *Chronic Enlargement of the Spleen with Cirrhosis of Liver and Ascites. (Splenomegalie chroniche spleno-thrombosiche.) I. Tansini and G. Morone. Commenced in No. 1.

February 1, No. 5, pp. 113-140

125 Cerebellar Syndrome in Malaria: G. Arena.
126 Abdominal Tumors in Children. A. Lorenzini.

119. **Influence of Peripheral Lesions on the Central Nervous System.**—Ruggi remarks that the clinical importance accorded of late to intestinal auto-intoxication harmonizes with Plato's conception that we each have three souls, and that one is located in the abdomen. Ruggi emphasizes the necessity for seeking or recognizing peripheral influences in the explanation of phenomena apparently of exclusively cerebral origin. Movable kidney in particular may induce psychic disturbances amounting almost to mania, but which disappear permanently when the kidney is restored to the normal place. The dragging on the nerves when organs are displaced downward readily explains the frequent nervous troubles even at a distance. He has always found more or less derangement of the internal genital organs in all his insane female patients with a sagging kidney, entailing auto-intoxication from stagnation of urine in the recurring retention. Variable vasomotor phenomena are also liable to accompany nephroptosis, demonstrating the disorder in the organs with an internal secretion. He has noticed the so-called "dead finger" in several patients with ptosis of the kidney. He warns that a fracture or other lesion after a trauma may cause intense pain although the true diagnosis may escape the medical attendant. In one such case the fracture of the neck of the femur had long escaped detection and the patient had been urged to exercise and go out of doors to help in throwing off her assumed hysteria. Ruggi adds that the injurious peripheral influences may emanate from more than one point. It is not enough to correct one and expect normal conditions to be restored throughout. He reports the case of a young woman who had suffered since puberty and was finally restored to health after fixation of both kidneys, removal of part of both ovaries, and finally hysterectomy after failure of conservative measures. No lesions of any severity were found in any of these organs, yet they were all below par to such an extent as to keep her in almost constant pain and nervous depression. In other cases he strove to modify the circulation and innervation of the internal genitals by resection of the abdominal sympathetic according to his method published in 1899. His experience with this has been invariably favorable. He thinks that resection of nerves or vessels may answer the purpose in place of ovariectomy in certain cases of ovarian trouble. Menstruation persists unmodified. The general practitioner should search carefully for somatic lesions in every case of nervous or mental disease.

120. **Induced Albuminuria as Test for Nephritis.**—Scalia made a subcutaneous injection of from 2 to 4 c.c. of pure white of egg in eighty-four patients with various chronic diseases whose urine was found previously free from albumin. In sixteen patients albuminuria followed the test injection. There was no trace of albuminuria at 1, 3 and 6 p. m. after the injection but at 9 p. m. there was 9.86 per cent. albumin and at midnight 6.28 per cent. The next day there were no further traces of albuminuria. One patient was a merchant of 59 with well compensated valvular insufficiency. In a few robust persons he repeated the harmless injection six days later.

123. **The General Reaction to the Skin Tuberculin Test.**—Chiaravalloti calls attention to the specific increase in the numbers of leukocytes which follows the application of Pirquet's skin tuberculin test. He states that this general reaction in the blood is extremely important from the diagnostic standpoint, as it practically never fails in case of active tuberculosis. It is thus a differential criterion of great utility. He examined the blood two hours after the principal meal, two hours after supper, and the next morning, fasting. Then the skin tuberculin test was applied at 2 p. m. and the blood examined again at the same hours as before. In a typical case the reds numbered 3,800,000 each time before the test and the leukocytes 17,200, 16,000, 15,800. After the test, at corresponding hours, the reds numbered 3,600.000, 3,600,000 and 3.800.00. and the leukocytes 22,000, 24,000 and 18,200. He calls this leukocytosis the general reaction to the Pirquet skin test and regards it as the expression of a general anaphylactic condition. This view conflicts with the general assumption that the skin reaction is a phenomenon of local anaphylaxis. The harmlessness, simplicity and convenience of the Pirquet technic are great advantages, but it frequently proves unreliable. Now, by supplementing it with examination of the blood, it enters on a new sphere of usefulness. He tabulates the findings in thirteen healthy persons, all giving a negative general reaction of this kind, as also five patients with syphilis, seventeen with various diseases and no history of tuberculosis, while it was constantly positive in fifty-one patients with pulmonary tuberculosis, in six with tuberculous peritonitis and in fourteen with a history of old tuberculosis in the family. There were further three patients with pulmonary tuberculosis, one with tuberculous peritonitis and two with tuberculous antecedents who had a negative general reaction although the local reaction was positive. These few contradictory findings merely show that no human tests are infallible. It is possible, he suggests, that when the tuberculous process is localized in the nervous system, as in one of these negative cases, that its defective functioning may explain the lack of phenomena of anaphylaxis. The special diagnostic value of this general reaction in the blood to the Pirquet test is that it occurs only in persons with active tuberculous processes.

124. **Banti's Disease.**—Tansini performed omentopexy plus splenectomy in 1901, in a case of Banti's disease in an advanced stage, with the prompt and permanent cure of the patient, a woman of 42. The syndrome was characterized principally by enlargement of the spleen and anemia, and it was evidently the result of a chronic thrombophlebitis of the splenic vein. The symptoms may suggest primary splenomegaly and exact differentiation is difficult, but splenectomy removes the cause and associated with omentopexy may cure even when there is already pronounced cirrhosis of the liver. The blood-findings after the splenectomy in these cases do not differ from those under other conditions.

Medicina Contemporanea, Lisbon

February 2, XXXI, No. 5, pp. 33-40

127 Acute Laryngitis. S. Teixeira.

Semana Medica, Buenos Aires

January 9, XX, No. 2, pp. 61-124

128 Etiology of Yellow Fever. (Notas de Clinica [illegible]atologica.) P. J. Garcia.
129 Fracture of the Sternum. L. Bard.
130 The Universe Considered as a Single Organism. (La vida universal.) V. Delfino.
131 Systematization of Anatomic and Physiologic Evolution. S. V. de Castro.
132 Compulsory Declaration of Tuberculosis. V. Delfino.
133 Training for the Police in Medicolegal Matters in their Line of Work. (Las modernas adquisiciones de la policia cientifica. La escuela de policia de Rome. Sus funciones.) V. Delfino.
134 Hereditary Syphilis. (Concepto cientifico de la sifilis hereditaria.) B. G. Alvarez.
135 Familial Atrophy of the Optic Nerve. (Ectasia corneal, retinitis pigmentaria y atrofia optica congenitas en tres hermanas.) L. P. Marques.

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SANITATION ON THE CANAL ZONE*

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I am bound to the Baltimore of a former generation by the closest ties of gratitude and friendship. I first came to Baltimore about forty-five years ago—a ragged, barefooted little rebel, with empty pockets and still more empty stomach. My father had gone south with Lee's army. At the fall and destruction of Richmond, my mother's house with all she had was burned, leaving her stranded with six small children. She came to Baltimore and was there assisted and cared for by kind friends. These memories are vivid with me still and can never be effaced.

It is with great pleasure that I take this opportunity of wishing good fortune on their way through life to the men who have taken degrees at Johns Hopkins this year. I still have a vivid recollection of my mental state when I had arrived at a similar period in my own career, about thirty-five years ago. It is a glorious period. All life is before you and any success is possible. I congratulate you with all my heart and wish each and all of you the success in life each most craves.

I shall not attempt to give you advice as to your future. I do not recollect that the advice of the gentleman who addressed us on a similar occasion had very much effect. But I do recollect that we were all very anxious for him to finish. I shall bear this in mind in speaking to you this afternoon. I think that I can make myself more useful and interesting on this occasion by telling something of our work on the Isthmus and by pointing out the ways in which our work, particularly the sanitary work, will be useful in the future.

In the ordinary acceptation of the words, we are not building a canal at Panama. We are building two lakes: one on the northern side of the mountain chain, which is the backbone of the Isthmus, and the other on the south side. The engineers in selecting the location for the canal sought the lowest point in the mountain chain extending from Patagonia to Alaska. This was found to be at Culebra on the Isthmus of Panama. The Isthmus of Panama here runs east and west with a mountain chain running in the same direction. They then took the river rising nearest Culebra on the north, the Chagres, and dammed it. This makes the large northern lake, Gatun. They then found the river which rose nearest Culebra on the south, the Rio Grande, and dammed this, making the southern lake, Miraflores. They then connected the two lakes by means of a canal about 9 miles long, cutting the mountain ridge at Culebra. They then connected the northern lake with the Caribbean Sea by a sea-level canal about 8 miles long, and the southern lake with the Pacific ocean by means of a similar canal.

We now have, commencing on the north at the Caribbean sea, a sea-level canal 8 miles long, connecting the Caribbean sea with the northern lake, Lake Gatun; then south, 23 miles through this lake; then another canal 9 miles long through the mountain ridge connecting the northern lake with the southern lake; then about 2 miles through this southern lake, Lake Miraflores; then another 8 miles of sea-level canal connecting the southern lake with the Pacific Ocean. The level of the lakes is 85 feet above the level of the canals connecting the lakes with the ocean. Locks therefore have to be placed in the dams so as to raise and lower the ships between these levels. This work is now drawing to its close. The chief engineer states that he will be passing ships through from ocean to ocean by July, 1913.

The sanitary phase of this work has always been considered very important. From the first discovery of America, this point had been the place of crossing between the two oceans in the western hemisphere, and therefore there has always been at Panama a large number of unacclimatized Europeans. These unacclimatized Europeans were food for tropical infectious diseases, particularly yellow fever. On the average, for the past four hundred years, there have been more unacclimatized Europeans present in Panama than in any other tropical city in the world liable to yellow fever. Therefore Panama has acquired the reputation of being the most unhealthy spot known. When the United States commenced the building of the canal in 1904, the fact of the very insalubrious condition at Panama had just been sharply accentuated by the recent experience of our immediate predecessors, the French. The French company which had commenced the Panama Canal had kept a large force on the Isthmus for eight years. Their losses from tropical diseases, particularly yellow fever, had been such as to startle all the world. Between the time of the failure of the French company in 1889 and the undertaking of the work by the Americans, two great discoveries had been made in the field of tropical medicine which have practically revolutionized sanitation in the tropics. I refer to the discovery by Ronald Ross and others of the fact that malaria was conveyed from man to man by the bite of the female of a particular species of mosquito. Ronald Ross was an English army surgeon and announced his discovery in 1898. The other was the proof by Walter Reed and his confrères of the theory that yellow fever was conveyed from man to man by the bite of the female of another species of mosquito. Walter Reed was a surgeon in the United States Army and announced the achievement of his board in the year 1901. The discovery that yellow fever was conveyed by a mosquito was an even more important discovery to tropical America than the discovery of the fact that malaria was conveyed in this way. At the time that Reed announced the discovery of the board of which he was chairman, the United States had control of the sanitation of Havana. Practical methods were here worked out whereby Reed's and Ross' discoveries could be made of practical utility. Unexpected success was accomplished as to both yellow fever and malaria. Within a year yellow fever had disappeared from Havana. For a hundred and fifty years before that time this city had never been free from yellow fever. Malaria disappeared more slowly. But now, after ten years of mosquito work, the deaths from malaria in the city of Havana have dropped from an average of 350 per year to an average of about ten. The success in Havana having been so marked, the United States determined to apply the same principles at Panama. Work was commenced in May, 1904; in May, 1906, the last case of yellow fever occurred on the Isthmus.

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* Address delivered at the commencement exercises of Johns Hopkins University, June 11, 1912.

The French, with an average force of 10,000 employees, lost from death during their construction period 22,000 men. We, with an average force of 33,000 men during about the same length of time, have lost from death 4,000.

The French, with an average of 1,600 white employees, lost during their construction period from yellow fever 2,000 men. We, with an average of 5,000 white employees during the same length of time, have lost from yellow fever only eighteen. Our maximum of sickness from malaria was in 1906, when we had in hospital from that disease 821 men out of every thousand of our employees. This number has been steadily reduced till the year 1911, when we had only 184 out of every thousand sick in hospital from malaria.

The general health conditions of the whole community are about those of a healthy community in the United States. The death-rate of the Zone, including the cities of Panama and Colon, for the years 1911, was 21 per thousand.

But what I wish to emphasize particularly is the health condition of the American employees of the commission. During the year 1911 we had 10,489 American whites connected with the commission. Their death-rate from disease was 4.48 per thousand. Of these 10,489 Americans, 6,025 were men and 4,464 women and children. The death-rate from disease among the men was 2.82 per thousand. That among the women and children from the same cause was 6.72 per thousand. I think a still better way of satisfying oneself with regard to health conditions is direct observation of the Ameriican employees. They as a class are rugged and healthy-looking, of good color, and energetic and active in movement. They look more like the farmer and his family of the northwest than like people who have lived in the tropics for four or five years.

It is an established fact that always in the past the Caucasian has wilted and died in the tropics. He has found it almost impossible to rear his children under these conditions, and when he has survived, a degenerate race has resulted. But here at Panama a force of 10,000 Caucasians has lived for the past six years in as good health as similar people live in the healthful parts of the United States. Bear in mind, at the same time, that not only is Panama located in the most tropical portion of the tropics, but by universal consent it has been known as the most unhealthful location in all the tropics. It has borne this reputation for the past four hundred years. For four hundred years the Caucasian has tried to live here and use Panama as a crossing-place; but he has found it impossible to do so. The toll in life has been very heavy when he spent in the jungle of the isthmus even the few days that were necessary for the crossing; and when he attempted to stay longer, as with the French under De Lesseps, the loss was appalling. What has made the difference between invalidism and death in the one period, and robust and vigorous health in the other period? The conditions otherwise remain the same. I am satisfied that this unexpected condition of the American population is due solely to the fact that the American authorities have protected them from the infections of yellow fever and malaria. It seems to me that the effects of this experiment carried out on so large a scale will be far-reaching. The tropics, at present, contain much the largest and most productive portions of the earth's surface. A man's labor in the tropics will bring him in many times the returns that the same amount of labor will produce in the temperate zone. Heretofore he has been kept out of these regions by his sad experiences with regard to the health conditions. Panama is conspicuous as having been known as the most unhealthful place in the world, and also as having had carried into execution within its borders the greatest construction feat man has ever undertaken. It will at once be evident that if the white man can live, work and rear a family under these conditions at Panama, the same can be done in any other part of the tropics. And the tendency will be for man to emigrate, other things being equal, to those parts of the world where he can get the largest return for his labor. The great centers of civilization will develop in these regions, other conditions being the same, where man's labor applied to natural opportunities produces the greatest return, for the reason that under these conditions a greater proportion of the population can turn its attention to the arts, sciences, music, letters and other walks of life that have a softening and civilizing tendency.

I believe, then, that our sanitary work at Panama will be remembered as the event which demonstrated to the white man that he could live in perfectly good health in the tropics; that from this period will be dated the beginning of the great white civilizations in these regions; and that again great tropical empires will be known, such as existed in the early history of man—such as Egypt, Babylon and Nineveh. I hope that the sanitary work at Panama will be remembered as having taught the white man that these things are possible.

Reports have gone out from the Isthmus, both from those in authority and from newspaper writers, to the effect that sanitation has been very expensive; that when the work shall have been finished, sanitation will have cost 5 per cent. of the total expense. This comes about from getting the expenses of the sanitary department confounded with those of sanitation. The sanitary department spends a good deal of money that has no relation whatever to sanitation; for instance, more than half the revenues of the sanitary department are spent on hospitals, dispensaries, etc., things which have no relation whatever to sanitation. It is just as misleading to call such things on the Isthmus "sanitation" as it would be here in Baltimore to charge to the health department the expenses of all hospitals and dispensaries and the incomes of the physicians and nurses. If this were done, the expenses of the Health Department of Baltimore would amount to a very large percentage of the total expense of the city government. As a matter of fact, the sanitation on the Isthmus has cost us about $400,000 per annum. This is a little more than 1 cent per day per capita for the total population; and when we are through, we shall have spent on sanitation about $4,000,000 instead of $20,000,000, as has been stated, 1 per cent. of the total cost of the canal instead of 5 per cent.

I am anxious to have this misunderstanding corrected because the matter has a far wider application than to our local affairs on the Isthmus. If we hope that our work is going to be of assistance to other tropical countries, we must show that the expenses of sanitation are within the limits of their financial ability. If the South American governments are told that it has cost the American government $20,000,000 for the sanitation of this small territory of 500 square miles on the Isthmus for ten years, they will all see at once that a similar work for themselves would be entirely beyond their financial ability. But if they are informed that it has cost the Americans a little more than a cent a day per capita for the work, they will know that they are financially able to do the same. This can certainly be done by all these countries, as far as their larger and infected cities are concerned. As it is a matter that may be of great use to our tropical neighbors, both north and south of Panama, I make no apologies for bringing it up on this occasion.

GUNSHOT WOUNDS OF THE ABDOMEN *

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The greater relative frequency of gunshot wounds of the abdomen in civil practice than in military practice is explicable by the closer range, and by the more accurate aim of the assailant in civil life. Younge[1] reports 1,053 rifle-ball wounds occurring in the Boer War, of which 92 (9 per cent.) were of the head, 85 (8 per cent.) of the chest and 66 (6 per cent.) of the abdomen. My own experience, limited to civil practice, consists of 41 cases, of which 13 (31 per cent.) were of the head, 8 (19 per cent.) of the chest and 13 (31 per cent.) of the abdomen.

The wound of entry is usually to be found in the anterior or lateral aspect of the abdomen, though the bullet may enter from the back, and not infrequently bullet wounds of the chest also penetrate the abdomen. Two patients in this series were shot in the back, one dying of hemorrhage before reaching the hospital, the result of damage done by a 0.44-caliber bullet. In three patients shot in the chest, the abdomen was also involved. Blundering cases of abdominal involvement when the wound of entry shows in the thorax may be avoided by ascertaining the approximate angle at which the bullet entered, the posture of the victim at the time the shot was fired and by bearing in mind the anatomy of the region probably traversed.

A boy, aged 11, while on the ground, was homicidally shot by a companion with a 0.22-caliber rifle, from the top of a 15-foot barn at a distance of about 70 feet, thus giving a marked downward course to the projectile. The wound of entry was in the seventh left interspace in the mammary line. There was no wound of exit. This patient was seen in consultation thirty-one hours post-trauma, at which time he had a pulse of 140; axillary temperature 102.4; costal respiration 60; a greatly distended and tender abdomen; dulness in both flanks; liver dulness elevated; leaky skin; hippocratic facies, and constant vomiting. Enemas had brought some blood. Operation was, of course, not undertaken, and he died forty-eight hours post trauma. An autopsy was not permitted.

A greater number of perforations may be expected if the bullet traverses the abdomen transversely or obliquely than if its direction be anteroposterior.

The more one sees of shot cases the less dogmatic does one become in asserting that any given portion of the body is not involved, irrespective of its remoteness from the wound of entry. Distant organs not even suggested by the wound, the history of the accident or by the early symptoms sometimes lodge a bullet. Such a case I well remember because it proved so chagrining. It is worthy of report, not only as illustrative of the preceding statement, but also on account of its rarity.

A boy, aged 10, was accidentally shot with a 0.22-caliber rifle by his brother at a distance of about 100 feet. They were walking on level ground. The bullet entered the external aspect of the right thigh at its middle third. There was no wound of exit. The wound was cleansed and dressed, and the parents told to bring the boy to the office in a few days. On the third day I was summoned, as the boy complained of intense abdominal pain and inability to defecate. Imagine my surprise, when on arrival, the boy was found dying of peritonitis. Death occurred eighty-two hours post trauma.

It should have been of extreme interest to ascertain the path of the bullet, but as an autopsy was not allowed, the mode of its entry to the abdomen will remain forever unknown. Had the patient been in the hospital, the early signs of abdominal involvement would probably have been noted and the boy given at least a chance for his life, whereas he was in an adjoining town without care—a fact which merely emphasizes the importance of having all cases under trained supervision.

After entering the abdomen bullets traverse that cavity in the straight line of their projection. The posture of the victim at the time of accident and the mobility and contractility of certain viscera will explain the manner in which organs are wounded which lie outside the apparent line of transit when the patient is supine on the operating-table. Though the theory is held by some men of repute, I am unwilling to concede that the soft tissues occupying the abdominal cavity are capable of deflecting a bullet.

It is universally asserted that by reason of the comparative innocuousness of the gastric and upper intestinal contents as contrasted with the bacteria-laden contents of the lower bowel, wounds of the upper abdomen are attended with a lower mortality than are those of the lower abdomen. On account of the abundant lymph channels in the upper abdomen, thus permitting very speedy absorption, as evidenced by the rapidity with which death succeeds the unoperated gastric ulcer perforations and other infective processes of the upper abdomen, and because of the considerable chance of profuse hemorrhage from the liver, spleen, kidneys or large vascular trunks, I am convinced that this statement is without substantial foundation. The following case report is pertinent:

A man, aged 51, was homicidally shot shortly after dinner with a 0.32-caliber, soft-nosed, steel-jacketed bullet at a distance of a few feet. The wound of entry was 2 inches above and a half inch to the right of the umbilicus. The wound of exit was half an inch anterior to the left posterior axillary line and 2¼ inches above the iliac crest. He was operated on four hours post trauma. A median incision disclosed the abdomen filled with blood, stomach contents and feces. There appeared a 2-inch lacerated wound of the lower border of the

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* Read before the Western Surgical Association, Dec. 20, 1912.

[1] Younge: Jour. Royal Army Med. Corps, August, 1904.

liver, which was bleeding but slightly, one wound of the small intestine, two stomach wounds, one anterior and one posterior admitting four fingers, three in the colon and eight in the mesentery. Extreme laceration with ragged edges characterized all wounds and was doubtless due to the explosive effect of the high-velocity bullet which has a penetrating power of 7 inches of solid pine. After repair and careful sponging, suitable drainage was provided. The pulse and temperature steadily rose till death occurred, eighteen hours after the operation. The autopsy showed all sutures holding; the hollow viscera were air-tight and there were no fluid in the abdomen and no macroscopic evidence of peritonitis. It was considered that death was due to toxemia, and that the absorption had been so rapid as not to have permitted the development of the gross lesions of peritonitis usually encountered.

Army surgeons seem to have shown statistically that a greater number of gunshot wounds of the abdomen in war are recovered from under non-operative treatment than under operative treatment. Several factors which do not obtain to so great an extent in civil life contribute to the high mortality of operative cases in war, such as: (*a*) the long time taken to transport the injured, thus making for late operations; (*b*) the various and often jolting means of transport, and (*c*) the poor conditions frequently surrounding the operation. Moreover, I feel that their statistics are delusive, for doubtless many patients die on the battle-field and during transportation whose cases do not adorn the statistics.

Penetration is not always accompanied by visceral injury, as evidenced by the reports of several cases in the literature, and by the following case of my own:

A man, aged 32, was shot with a 0.38-caliber bullet in the abdomen 2 inches to the left and 1 inch above the umbilicus. The wound of exit was 2 inches to the left of the spine on a level with the anterior wound. Operation was refused, orders wantonly disobeyed, and yet a symptomless recovery ensued.

Nevertheless, in every case of penetration of the abdomen by a bullet, multiple perforations of the viscera are to be assumed, and prompt surgical exploration is demanded.

The symptoms usually mentioned are not the symptoms of perforation, but are signs of hemorrhage or peritonitis and in the ordinary case are not to be awaited. By the ordinary case is meant one which shows a wound of entry to the abdomen. The occasions when there is apt to be difficulty in deciding the treatment will arise from an uncertain diagnosis; when the wound of entry is so placed as not to indicate clearly whether or not the abdominal cavity has been invaded. For instance, gunshot wounds of the back or thorax without a wound of exit may perforate any of the organs of the abdomen. In such a case one would necessarily rely on symptoms, the more so if the history of the case were defective so one could not reasonably be led to any deduction. Hemorrhosis, hematuria, hematemesis, tympany, gas in the abdominal cavity, shock, rapid pulse, pain, muscular rigidity, etc., are then signs of the greatest significance, particularly the pain and rigidity. Given such a case with indications of probable involvement of the abdomen, symptoms, which as previously mentioned signify either peritonitis or hemorrhage, should not be waited for, but the operation should be proceeded with at once.

The site of the incision may occasionally, if the wounds of entry and of exit are both at one side, be placed laterally; though usually, in order that the entire intestinal tract may the more easily be examined, the median incision is indicated.

Needlessly long incisions, evisceration, rough handling of the intestine and long exposure are to be condemned. Much time may be wasted, however, by attempting a thorough search through an insufficient aperture; therefore I always have an opening sufficiently large to permit rapid work, regardless of its length. Also, while disapproving unnecessary evisceration, yet in the presence of an abdomen full of blood, I do not hesitate to turn out intestines abundantly, to expedite finding the source of the hemorrhage, which I think should first be checked if profuse, and the intestinal perforations, from which contents may effuse, attended to after the bleeding has been controlled. This is at variance with the advice often promulgated, some maintaining that while searching for the bleeding point more intestinal contents may be expelled by manipulation, thus enhancing the danger of infection. I am convinced that this is an exaggerated danger, for if the bowels are treated with the gentleness which should characterize their handling, then the tonically contracted intestine remains *in statu quo*, which is Nature's own device to prevent expression of contents. Moreover, if the intestines be outside the abdominal cavity, as they sometimes are, the objection does not hold. Further, even though there were to be some discharge from the intestine openings, in the presence of a copious hemorrhage, the danger of increased peritoneal soiling is of less importance than the danger of immediate death from hemorrhage, and the method advocated is the proper one to pursue. Should there be but inconsiderable bleeding, there manifestly is no occasion to search for its origin, but repair of the intestinal wounds should be proceeded with methodically, and the bleeding will likely have ceased by the time the several wounds have been repaired. If hemorrhage is profuse one may be confident that its source is to be found elsewhere than in the hollow viscera, and the search should without delay be directed, as suggested by the line of transit, to the solid viscera, mesentery, omentum or large vessels.

Wounds of the urinary bladder and gall-bladder permit immediate extravasation, as do large wounds of the stomach, whereas most shot wounds of the intestine will show little or no extravasation during the early hours following injury by reason of the tonic contraction.

Wounds of the liver and spleen are dangerous primarily on account of hemorrhage. Hepatic bleeding is usually controllable by catgut sutures, or rarely tape sutures may be necessary. Hemorrhage from the spleen is more difficult to control. Packing or suture may be tried, but if these measures fail one need not hesitate to perform splenectomy, as the results of this operation have been very satisfactory.

Wounds of the kidney may, if the renal vessels have been severed, or if great destruction of the kidney substance has been inflicted, require nephrectomy. Lesser wounds of the kidney, and injury to the pelvis or ureter require suturing, and in all cases efficient drainage through the loin should be provided.

Wounds of the pancreas are always accompanied by injuries of other viscera; their management is difficult and consequently they present a high mortality. They should be packed and provided with abundant posterior drainage, even if anterior drainage is also supplied.

Wounds of the stomach or intestine may show only a single opening, which can happen if the bullet perforates at or near the apex of a fold, though usually there are two, one of entry and one of exit; so it is a safe rule to search for an even number of holes in the hollow viscera. Should there be difficulty in finding the posterior opening in the stomach, or should there be doubt as to its existence, a simple means of determination is suggested by Martin.[2] A purse-string suture is introduced about the anterior wound as for closing, and a rubber tube inserted, when the purse-string is tightened about the tube. Salt solution is then introduced into the stomach through the tube, and should a posterior opening exist, the solution escaping into the lesser peritoneal cavity would readily announce the fact. As Martin says, the disadvantage of washing out the gastric contents, thus further contaminating the lesser sac, is outweighed by the manifest advantage of knowing whether or not there is a second opening. I think, however, that this expedient would be a rare requisite. The possibility of having single openings, as mentioned, is well illustrated by the following case which presented two such injuries, thus still adhering to the general rule of having an even number of perforations:

A boy, aged 13, accidentally shot with a 0.22-caliber rifle, was seen in consultation with Dr. J. A. Jeannotte, six hours after the accident. The bullet entered 1½ inches below and 1 inch to the left of the umbilicus. The wound of exit was 1¾ inches below and 1 inch posterior to the posterior superior spine of the ilium, and 1¼ inches to the right of the median line. He presented all the signs of internal hemorrhage, with a pulse of 140. He was operated on seven hours post trauma. A long median incision disclosed an abdomen full of blood and a small amount of semifluid feces. Most of the small intestine was hastily rolled out, the blood scooped out with the hands and the abdomen sponged so as to discover the source of the hemorrhage, which was found to be three perforations of the mesentery. These were sewed up, and afterward fourteen perforations of the small intestine, two of which were single, i. e., the bullet had caught the apex of a fold and made a rather long opening as compared with the others, in two different portions of the intestine. The intestine, being outside, was washed clean of feces before being returned. The abdominal cavity was sponged dry and the incision sutured, leaving an opening at the lower angle from which a drain to the pelvis protruded. The Fowler position was maintained for three days. Recovery was slow but uncomplicated.

Trimming the bruised edges of intestinal wounds, as advised by some, I deem unnecessary, as it requires time, which may be of great import. Moreover, these edges are easily infolded, and if reasonable care be exercised that the stitches penetrate healthy tissue, there need be no feeling of insecurity. A word of caution may not be amiss: as previously mentioned, in all shot cases of the intestine seen early, the intestine will be found in a state of spasticity, resembling in size the small intestine of a dog. It is important therefore to be careful in suturing the openings that not too much tissue be infolded, as the bite of the suture is apt to be much deeper in the contracted bowel than the inexperienced intends or realizes. Bearing the fact in mind and exercising ordinary caution will guard against this danger.

It would seem hardly necessary to insist on thorough exploration of all the abdominal viscera, but not a few cases are on record which have been lost by overlooking a distant perforation which resulted in a fatal peritonitis. It is well also to look for more than one bullet wound, as a second one will occasionally be found. In some pistol fights the combatants mean to kill, more than one shot is fired and not infrequently two bullets find their target.

Whether or not to drain should be determined by the general principles which govern drainage in all abdominal conditions. If there has been but little peritoneal soiling and there is no oozing, I think it is better to close up tight. If there is considerable oozing, or if there has been extensive peritoneal soiling, then drainage is indicated. If in doubt it is safer to drain.

As stated in the beginning, there were thirteen cases in this series: seven patients were operated on and six were not. With the exception of the one who refused operation and recovered—a hundred-to-one hazard—the patients not operated on either died of hemorrhage before they could be removed to the hospital, or were moribund when first seen. Ten cases involved only the abdomen, and three involved both the thorax and abdomen. These three patients died. Only one was operated on, when the diaphragmatic, stomach and mesenteric wounds were repaired. The patient died of secondary pulmonary hemorrhage twenty hours after the operation. After the exclusion of this case, which I think is proper as it involved both the thorax and abdomen, and because the thoracic injury was alone responsible for death, six cases of gunshot wound of the abdomen with intestinal perforations are left; all patients were operated on within eight hours of the accident, with one death, a mortality of 17 per cent.

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[2] Martin: Ann. Surg., 1907, xlv, 669.

A STUDY OF THE TOXICITY OF THE SALICYLATES BASED ON CLINICAL STATISTICS*

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This study was undertaken with the hope of clearing up some of the traditions concerning the therapeutic use of salicylates. It is believed by some clinicians that certain of the salicylates are not so toxic as others. There is also a common idea that the toxicity is different — either greater or smaller — in rheumatic fever than in other conditions. Other factors which are but vaguely understood are the relation of age, sex and race to the toxic dose of the salicylates, the influence of the dose on the occurrence of albuminuria and idiosyncrasy.

For this study the clinical records of the medical wards of Lakeside Hospital were made available through the courtesy of the medical staff and hospital officials. All of these records have been systematically kept practically since the establishment of the hospital. The fact that they were kept with no definite aim for such an investigation as this helps to insure the complete impartiality of the data.

The records of about four hundred patients were secured, all of whom were aged 16 years or over. The desired information about each patient was briefly abstracted on small cards which were then used in the compilation of the data by the statistical method.

The "median" or "mean" toxicity was calculated by the method of Laplace. As explained by Scripture,[1] this method gives more useful results in biologic statistics than does the ordinary arithmetical average. In determining the median dose, all the doses in a given group are arranged in ascending order, for instance, 45, 60, 60, 140 grains (quantities of Diplosal received by four individuals between 30 and 45 years of age as shown in Table 4). There being four cases, the middle or median dose would be between the second and third of the series, namely 60 and 60. Had there been five doses, the middle value would be the third number, 60. Exactly the same procedure is used, however large the number of cases in a group.

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* From the Pharmacologic Laboratory, Medical School, Western Reserve University, Cleveland.

* This investigation was undertaken at the request and under a grant of the Committee on Therapeutic Research, Council on Pharmacy and Chemistry, American Medical Association.

[1] Scripture, E. W.: The New Psychology, 1897.

The chief results of the investigation may be summed up as follows: It has been possible to state definitely what is the mean toxic dose of the different salicylates; that there is practically no difference between the toxicity of the synthetic and natural sodium salicylates and oil of gaultheria (oil of wintergreen), but that apparently there is some difference with Diplosal and aspirin. The toxic dose of the salicylates was not modified by certain factors, such as the black and white races; ranges of ages between 16 and 75 years; male and female sexes (considering the weight), various diseased conditions, and therapeutic response.

I. MEAN TOXIC DOSES OF THE VARIOUS SALICYLATES

In this hospital the routine of administration of the salicylates aims at the attainment of symptoms of intoxication by the drug. That is, the salicylate is given in doses of from 10 to 20 grains every hour until symptoms of intoxication begin to appear, when it is stopped. In this way from 200 to 250 grains would be administered within twenty-four hours. Intoxication is indicated by the appearance of headache, nausea, vomiting, ringing in the ears or deafness, rarely delirium and hallucinations, and sometimes diarrhea. The salicylate is usually given in conjunction with sodium bicarbonate as a prophylactic against acidosis. The urine is regularly examined for the presence of albumin, casts, acetone and diacetic acid.

In the records, the individual toxic symptoms are frequently not enumerated. The phrase "toxic with salicylates" was commonly used, and this has been accepted in lieu of a statement of the train of the symptoms of intoxication.

The results (Table 1) indicate the mean toxic doses of the different salicylates for both sexes. Table 2 shows the relative doses of the preparations for the two sexes.

TABLE 1.—THE MEAN TOXIC DOSES OF THE VARIOUS SALICYLATES

Preparation	Males (Adult)			Females (Adult)		
	Mean Toxic Dose (gr.)	Number of Doses *	Number of Different Individuals	Mean Toxic Dose (gr.)	Number of Doses *	Number of Different Individuals
Synthetic sodium salicylate.	180	317	205	140	203	128
Natural sodium salicylate.	200	9	7	135	8	2
Methyl salicylate (oil of gaultheria).	120†	16	4	120†	19	5
Acetylsalicylic acid (aspirin).	165	4	2	120	13	5
Salicylosalicylic acid (Diplosal).	100	12	5	83	3	1

* Used for calculating the mean. † Minims.

The Relative Toxic Doses for Males and Females.—Expressing the toxic dose for females as percentages of the toxic dose for males gives for synthetic salicylate 78, aspirin 73, oil of gaultheria 100, and Diplosal 83. This shows that the toxic dose of the salicylates is approximately 80 per cent. of that for males, corresponding very well with the average adult difference of weight in the two sexes (Vierordt)

TABLE 2.—RELATIVE TOXIC DOSES FOR THE TWO SEXES

	Males	Females
Diplosal	100	83
Oil of gaultheria	120	120
Aspirin	165	120
Synthetic salicylate	180	140
Natural salicylate	200	135

The Relative Toleration of the Different Salicylates.—This may be expressed as percentages of the tolerance of the synthetic salicylate (200 grains); accordingly the toxic dose of Diplosal is about 50, and oil of gaultheria and aspirin about 60 per cent. of that of synthetic sodium salicylate. Conversely, the efficiency of Diplosal is about twice; that of oil of gaultheria and aspirin about one and two-thirds times that of sodium salicylate.[2]

II. RANGE AND DISTRIBUTION OF TOXIC DOSES OF THE SALICYLATES

Besides the mean toxic dose, I have plotted the range and distribution of the toxic doses of the salicylates. These are shown for the synthetic salicylate in the curves of the chart, which was constructed from the data appearing in Table 3. The other salicylates have been tabulated in Table 4.

TABLE 3.—RANGE AND DISTRIBUTION OF TOXIC DOSES OF THE SYNTHETIC SALICYLATE

Range of Dosage (gr.)	Males			Females		
	Mean Toxic Dose (gr.)	Number of Doses	Number of Individuals	Mean Toxic Dose (gr.)	Number of Doses	Number of Individuals
0-20	...	..	..	20	1	1
20-40	...	..	..	35	2	2
40-60	60	10	8	60	9	8
60-80	80	9	8	80	15	14
80-100	100	19	19	100	19	18
100-120	120	36	34	120	43	38
120-140	140	33	32	140	26	26
140-160	160	48	47	160	27	27
160-180	180	32	31	180	20	19
180-200	200	56	53	200	25	19
200-220	220	18	16	210	5	4
220-240	240	10	10	240	2	2
240-260	255	10	10	260	4	4
260-280	280	9	9	280	1	1
280-300	300	13	10	300	4	4
300-320	320	3	3	...	..	..
320-340	335	4	4	...	..	..
340-360	360	2	2	...	..	..
360-380	...	..	..	...	..	..
380-400	...	..	..	...	..	..
400-420	415	3	3	...	..	...
420-440	...	..	..	...	..	..
440-460	...	..	..	...	..	..
460-480	480	1	1	...	..	..
1,300	1,300	1	1	...	..	..

Synthetic Salicylate in Males.—The curve shows that the extremes of toxic doses were 60 and 480 grains. In one case the unusually large dose of 1,300 grains was necessary to produce toxic symptoms. It is seen that the toxic dose ranged between 100 and 200 grains for 197, or 65 per cent., of male individuals. Between 200 and 300 grains the toxic dose was distributed among 55 individuals, or about 18 per cent.; below 100 grains, among 35 individuals, or about 12 per cent.; above 300 grains, among 14 individuals, or about 5 per cent.

Synthetic Sodium Salicylate in Females. — The extremes of dosage here were 20 and 300 grains. The toxic dose ranged between 100 and 200 grains for the majority of individuals, namely, 129, or about 69 per cent.; below 100 grains for 43 individuals, or about 23 per cent.; above 300 grains for 15 individuals, or about 8 per cent.

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[2] The salicylic acid content of the different salicylates is as follows: sodium salicylate, 85.6 per cent.; Diplosal, 106.2 per cent.; aspirin, 77 per cent., and methyl salicylate (oil of gaultheria), 90.7 per cent.

TABLE 4.—RANGE AND DISTRIBUTION OF THE TOXIC DOSES OF OIL OF GAULTHERIA, "NATURAL" SALICYLATE, DIPLOSAL AND ASPIRIN

Range of Dosage (grains or minims)	Oil of Gaultheria		Natural Salicylate		Diplosal		Aspirin	
	Number of Males	Number of Females	Number of Males	Number of Females	Number of Males	Number of Females	Number of Males	Number of Females
10-20	..	.	.	1	..	..	.	..
20-40	..	..	..	..	..	1	..	1
40-60	1	1	..	1	4	..	..	..
60-80	1	3	1	1	..	2	..	3
80-100	2	2	1	.	2	..	1	1
100-120	3	4	..	1	1	.	..	2
120-140	3	..	..	..	2	.	1	1
140-160	..	2	1	1	.	..	1	1
160-180	2	..	1	..	..	..	.	2
180-200	1	3	2	1	1	..	..	..
200-220	..	..	.	..	..	..	..	..
220-240	..	1	..	1	1	..	..	..
240-260	1	1	..	..	..	..	1	..
260-280	..	..	..	..	..	..	..	..
280-300	..	..	..	1	..	..	..	..
300-320	..	..	..	..	..	..	..	..
320-340	.	..	2	..	..	..	..	..
340-360	..	1	..	..	..	..	..	..
360-380	..	..	1	..	..	..	..	..

The data in Table 3 and the course of the curves in Figure 1 indicate that more males than females tolerate higher doses of the synthetic salicylate, and that more females than males become toxic on smaller doses. For instance, between a range of 100 to 140 grains, 64 females, or 50 per cent., became toxic as against 66 males, or 33 per cent.; between 140 and 200 grains 65 females, or 50 per cent., became toxic as against 131 males, or 67 per cent.

Other Salicylates.—These are shown in Table 4. With oil of gaultheria (wintergreen), for most individuals (male and female) the range of dosage seems to lie between 100 and 200 minims. This appears to be about the same for aspirin, that is, between 100 and 200 grains, but somewhat less in males for Diplosal in which the greatest number of individuals tended to become toxic with a dosage of less than 100 grains. Concerning Diplosal, "natural" salicylate and aspirin, the number of doses and cases is so small that deductions are rather insecure.

Conclusions.—The toxic dose of the synthetic sodium salicylate for most male and female individuals (about 68 per cent.) lies between 100 and 200 grains. Outside of this range, comparatively small and large doses are confined to the minority. Practically the same holds true for the oil of gaultheria. As for the other salicylates, aspirin, Diplosal and "natural" sodium salicylate, the cases are too few to justify any conclusions except those shown by their general average (Table 1).

III. ABSENCE OF RELATION BETWEEN THE TOXIC DOSE OF SALICYLATE AND AGE (16 YEARS AND OVER)

The mean toxic dose, number of doses and the number of different individuals were ascertained and tabulated with respect to ranges of years. This was done for males and females and for each of the five different salicylates, as shown in Table 5.

This shows a close uniformity between the toxic doses corresponding to the different ranges of ages. This is especially true when the number of cases is large, as with the synthetic salicylate; here the toxic dose for all ages in males approximates the mean, 180, and in females the mean, 140.

As far as the other salicylates are concerned, the toxic doses corresponding to the ranges of ages also compare favorably with their mean toxic doses as recorded in Table 1. When large differences in the toxic doses appear, it is to be attributed generally to the comparatively small number of cases.

Conclusions.—The toxic dose of the different salicylates is not influenced by age between 16 and 75 years.

IV. APPROXIMATELY IDENTICAL TOXIC DOSE IN DIFFERENT RACES

In connection with this, data on only the synthetic salicylate were available. The mean of nine doses given to black adult males was found to be 180 grains, which corresponded exactly to the mean toxic dose (180 grains) for white adult males. With black adult females, the mean toxic dose of three records was 120 grains, against the mean toxic dose of 140 grains for white adult females.

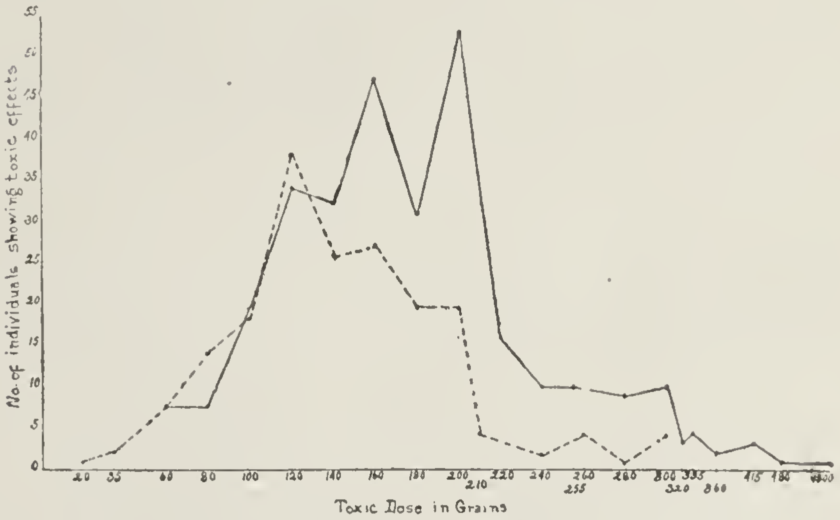

Fig. 1.—Chart showing range and distribution of the toxic doses of the synthetic salicylate. The continuous line represents males; the broken line, females.

TABLE 5.—RELATION OF TOXIC DOSE TO AGE

Range of Years	Males (Adult)			Females (Adult)		
	Mean Toxic Dose (gr.)	Number of Doses	Number of Different Individuals	Mean Toxic Dose (gr.)	Number of Doses	Number of Different Individuals
	SYNTHETIC SALICYLATE					
16-20	160	41	27	140	55	35
20-30	200	96	65	120	66	46
30-45	160	133	87	120	46	31
45-60	200	42	30	160	33	16
60-75	165	4	3	145	3	2
	"NATURAL" SALICYLATE					
16-20	200	1	1	216	4	2
20-30	260	2	2	40	2	1
30-45	200	5	5	90	2	1
45-60	75	1	1	...	..	..
	OIL OF GAULTHERIA					
16-20	180M	1	1	200M	6	4
20-30	120M	5	2	100M	6	5
30-45	120M	8	5	110M	7	5
45-60	180M	1	1	...	..	..
	ASPIRIN					
16-20	180	2	2	180	1	1
20-30	150	2	2	120	8	4
30-45	...	..	.	103	3	2
45-60	...	..		100	1	1
	DIPLOSAL					
16-20	120	2	2	55	2	2
20-30	98	3	2	80	1	1
30-45	60	4	4	...	..	..
45-60	153	3	2	...	..	..

Conclusion.—There is practically no difference between the toxic doses of the synthetic salicylate for adult individuals of the black and white races.

V. PRACTICAL IDENTITY OF TOXIC DOSE OF DIFFERENT SALICYLATES IN VARIOUS DISEASED CONDITIONS

This is shown in Table 6. In all conditions in which there were three or more cases, the toxic dose of the synthetic salicylate ranged between 150 and 220 grains for males, and between 135 and 180 grains for females. Practically the same holds true for the "natural" sodium salicylate, the toxic dose for males being 200 grains and for females 150 grains. The same holds also for the oil of gaultheria, the toxic dose for males ranging between 146 and 180 minims; and for females between 100 and 160 minims. The number of cases for aspirin and Diplosal is too small to warrant the drawing of definite conclusions.

TABLE 6.—RELATION OF THE TOXIC DOSE OF THE DIFFERENT SALICYLATES TO DISEASED CONDITIONS

Diseased Condition	Males (Adult) Mean Toxic Dose (gr.)	Males (Adult) Number of Doses	Males (Adult) Number of Different Individuals	Females (Adult) Mean Toxic Dose (gr.)	Females (Adult) Number of Doses	Females (Adult) Number of Different Individuals
SYNTHETIC SALICYLATE						
Rheumatic fever	180	226	151	140	114	70
Subacute rheumatism.	160	41	29	135	36	27
Syphilitic arthritis ..	218	12	3	...	...	..
Gonorrheal arthritis..	170	4	3	180	6	5
Sciatica	150	8	8	140	6	6
Infectious arthritis...	220	6	4	150	5	4
Arthritis deformans..	75	1	1	170	12	5
Other conditions* ...	176	21	15	119	11	11
"NATURAL" SALICYLATE						
Rheumatic fever	200	8	8	150	5	2
Other conditions† ...	158	3	2	90	1	1
OIL OF GAULTHERIA						
Rheumatic fever	180M	5	4	160M	13	9
Gonorrheal rh'matism.	100M	8	4	...	...	..
Other conditions ‡ ..	146M	3	3	100M	3	3
ASPIRIN						
Rheumatic fever	173	3	3	130	8	4
Other conditions §...	140	1	1	108	5	4
DIPLOSAL						
Rheumatic fever	120	7	7	75	2	2
Other conditions ¶...	68	5	3	40	1	1

* Among males, rheumatic spondylitis, muscular rheumatism, chorea and rheumatic fever, rheumatic purpura, gout, cerebral rheumatism, chorea alone, acute tonsillitis, influenza, acute synovitis; no diagnosis in one case. In females, acute tonsillitis, chorea; no diagnosis in one case.

† In males, gonorrheal arthritis. In females, chronic arthritis, subacute arthritis.

‡ In males, subacute rheumatism, chorea, rheumatic spondylitis. In females, subacute rheumatism, chronic arthritis, acute arthritis.

§ In females, gout, chorea, subacute neuritis, neuritis and polyarthritis. In males, tonsillitis.

¶ In males, subacute arthritis, infectious arthritis. In females, tonsillitis.

Conclusions.—As far as the synthetic salicylate is concerned, the toxic dose is practically the same in various diseased conditions in adult males and females. This probably holds true for the other salicylates.

VI. RELATION OF THERAPEUTIC EFFECT TO TOXIC DOSE OF THE SYNTHETIC SALICYLATE

It would be of considerable practical importance to know if a given patient with a given diseased condition will be therapeutically benefited by the average toxic dose of a salicylate. To gain some idea concerning this the data were examined with a view to determine what, if any, relation exists between a single toxic dose of the synthetic salicylate and the "therapeutic response" in various diseased conditions. By "therapeutic response" is understood the clinical therapeutic result obtained after a toxic dose of the salicylate. The "therapeutic responses" were arbitrarily divided into three classes:

1. Complete therapeutic response, which refers to a complete disappearance of the objective symptoms, such as swelling, tenderness and redness of the joints involved, return of the temperature to normal, diminution of the pulse-rate and respiratory rate, absence of sweating; and abatement of the subjective symptoms, such as pain in the joints, the return of the sensation of well-being and the return of the use of the affected parts.
2. Incomplete therapeutic response, which refers to a partial abatement of the subjective and objective symptoms as mentioned above.
3. No response, by which is meant no change in the progress of the diseased condition during the course of salicylate medication.

In this connection only the synthetic sodium salicylate was investigated, since the number of cases in which the other salicylates were used was so small that no definite conclusions could be drawn.

Conclusion.—Table 7 shows that the therapeutic response in various diseased conditions does not modify the toxic dose of the synthetic salicylate. This is true for both males and females, although there appears to be a tendency toward smaller corresponding doses among the females.

TABLE 7.—RELATION OF THE THERAPEUTIC EFFECT TO THE TOXIC DOSE OF THE SYNTHETIC SALICYLATE

Diseased Condition	Therapeutic Response	Males (Adult) Mean Toxic Dose (gr.)	Males (Adult) Number of Individuals	Females (Adult) Mean Toxic Dose (gr.)	Females (Adult) Number of Individuals
Rheumatic fever	Complete....	200	75	180	33
	Incomplete..	173	16	150	6
	No.........	250	1	140	1
Subacute rheumatism.	Complete....	160	8	150	8
	Incomplete..	180	4	120	5
	No.........	147	3	105	2
Sciatica	Complete....	...	..	...	..
	Incomplete..	160	6	110	2
	No.........	120	1	115	2
Other conditions..	Complete*...	159	9	80	1
	Incomplete†.	228	5	152	2
	No‡........	188	2	142	5

* The conditions represented here are as follows: Males, one case each of infectious arthritis, rheumatic spondylitis, muscular rheumatism, acute tonsillitis, gout, influenza, one case with no diagnosis and two cases of rheumatic purpura; in females, acute tonsillitis, one case.

† In males, one case each of synthetic arthritis, cerebral rheumatism, acute synovitis and two cases of gonorrheal arthritis; in females, one case each of arthritis deformans and chorea.

‡ In males, one case each of chorea and arthritis deformans; in females, two cases each of infectious arthritis and gonorrheal arthritis, and one case of arthritis deformans.

VII. THERAPEUTIC EFFICIENCY OF TOXIC DOSE OF SYNTHETIC SALICYLATE GREATEST IN RHEUMATIC FEVER

Table 8 indicates that the therapeutic efficiency of the synthetic salicylate is greatest in acute rheumatic fever, in which it gave complete therapeutic responses in 81.8 per cent. of males and females, and complete failure in only 1.6 per cent. In subacute rheumatism, the efficiency of the salicylate is not so great as in the acute fever. About one-half of the cases showed complete therapeutic responses, and 16.6 per cent. no responses. In sciatica, no case with a complete therapeutic response is recorded and 27.2 per cent. showed no responses whatever.

TABLE 8.—THERAPEUTIC EFFICIENCY OF THE TOXIC DOSE OF THE SYNTHETIC SALICYLATE IN DISEASED CONDITIONS

Therapeutic Response	Acute Rheumatic Fever		Subacute Rheumatism		Sciatica		Other Conditions *	
	Number of Cases	Per Cent.	Number of Cases	Per Cent.	Number of Cases	Per Cent.	Number of Cases	Per Cent.
Complete...	108	81.8	16	53.3	0	0	10	41.6
Incomplete..	22	16.6	9	30.0	8	72.7	7	29.1
No.........	2	1.6	5	16.6	3	27.2	7	29.1
Total.....	132	....	30	....	11	....	24	....

* See foot-note to Table 7.

For other conditions the therapeutic efficiency of the synthetic salicylate appears to be quite variable, and inasmuch as the number of cases for any particular condition was very small, no definite conclusions could be drawn for the individual condition. Collectively, 41.7 per cent. showed complete responses, 29 per cent. none whatever.

Conclusions.—The therapeutic efficiency of the synthetic salicylate is greatest in acute rheumatic fever. Subacute rheumatism and other conditions are also often relieved completely, but the percentage of complete successes is not nearly so great, and the percentage of failures much higher. In sciatica no complete relief was obtained, but the majority of patients showed more or less relief.

VIII. FREQUENCY OF OCCURRENCE OF ALBUMINURIA AFTER TOXIC DOSES OF SYNTHETIC SODIUM SALICYLATE IN FEBRILE AND AFEBRILE CONDITIONS

The administration of salicylate is believed by some to cause renal irritation and albuminuria, while others believe that it may lessen albuminuria in rheumatic fever. Our data on this point were not wholly satisfactory, for in no case was there a record of the observation of albumin before administration of the salicylate. This, in general, holds for all the urinary statistics such as the presence or absence of casts, blood, acetone and diacetic acid. Notwithstanding these difficulties, an attempt has been made to throw some light on the occurrence of albuminuria in connection with salicylate.

The occurrence of albuminuria in afebrile conditions in connection with medication, such as the toxic dose of a salicylate, presumably would be due to the use of the drug. The absence of albuminuria under similar conditions would indicate that there is no relation between the medication and albuminuria.

The results are shown briefly in Table 9. It will be seen that in males albuminuria is much more frequent in febrile than in afebrile conditions. This suggests strongly that the albuminuria is due to the fever rather than to the salicylate. What part, if any, the salicylates play in the production of the albuminuria can be settled only when more carefully collected data are available.

IX. INDIVIDUAL IDIOSYNCRASY TOWARD TOXIC DOSES OF THE SYNTHETIC SALICYLATE

The clinical data presented in this paper show that the toxic dose of the synthetic sodium salicylate ranges between 100 and 200 grains for the majority of adult individuals of both sexes. Many of the records, however, showed variations in dosage below 100 and above 200 grains. These records were examined to ascertain what, if any, relations exist between these variable doses and such factors as age, sex, race and diseased conditions. The effect of repeated dosage in the same individual was also studied.

TABLE 9.—OCCURRENCE OF ALBUMINURIA IN SALICYLATE MEDICATION

Diseased Condition	Males		Females	
	Total Number of Individuals Tested for Albumin	Per Cent. Showing Albumin	Total Number of Individuals Tested for Albumin	Per Cent. Showing Albumin
Rheumatic fever.....	138	67	86	82
Subacute rheumatism.	26	13	23	52
Other febrile conditions *	22	68.2	15	73.3
Other afebrile conditions †	13	23	13	69

* In males: gonorrheal arthritis, 3 cases; infectious arthritis, 5 cases; tonsillitis, 1 case; syphilitic arthritis, 3 cases; muscular rheumatism, 2 cases; chorea plus rheumatic fever, 3 cases; rheumatic spondylitis, 2 cases; cerebral rheumatism, 1 case; acute synovitis, 1 case; influenza, 1 case. In females: gonorrheal arthritis, 4 cases; infectious arthritis, 5 cases; tonsillitis, 6 cases; rheumatoid arthritis, 1 case.

† In males: gout, 1 case; chorea, 1 case; arthritis deformans, 1 case; rheumatic purpura, 1 case; no diagnosis, 1 case. In females: chorea, 1 case; arthritis deformans, 5 cases; chronic rheumatism, 2 cases; subacute rheumatism, 1 case; no diagnosis, 1 case.

Table 10 indicates that there is no relation between these different factors and idiosyncrasy to toxic doses of the salicylate. It is seen that the total number of doses representing ranges below 100 grains is greater among females (71 per cent.) than among males. On the other hand, the total number of doses ranging above 200 grains is greater for males (80 per cent.) than for females. This would indicate, in general, a somewhat greater susceptibility of females to small doses, and greater resistance of males toward larger doses of the salicylate. There is a uniform distribution of young and old male individuals (ranging between 19 and 54 years) for doses of from 220 to 480 grains. One man, aged 29, required the exceptionally large dose of 1,300 grains. Practically the same is true of the females; that is, ranges of years vary between 17 and 52 years, and doses between 210 and 300 grains. As to toxic doses below 100 grains for males, the toxic doses range between 50 and 90 grains and the ages between 16 and 50 years; for females, the doses range from 20 to 90 grains and the ages between 16 and 60 years.

TABLE 10.—RELATION OF IDIOSYNCRASY AND AGE, AND OF IDIOSYNCRASY AND RHEUMATIC FEVER

	Males		Females	
	Small Doses	Large Doses	Small Doses	Large Doses
Range of dosage.	50 to 90 grains.	220 to 480 grains.	20 to 90 grains.	210 to 300 grains.
Number of doses.	19	71	32	13
Range of years.	16 to 50 average, 28	19 to 57 average, 30	16 to 60 average, 32	17 to 52 average, 29
Percentage of rheumatic fever	80 per cent.	65 per cent.	11 per cent.	16 per cent.

The majority of the diseased conditions in both sexes are represented by acute rheumatic fever. The small number of other conditions is uniformly distributed among the ranges of small and large doses in both males and females.

There is practically no relation between race and the different doses so far as the small number of individuals of other than the white race permits the drawing of any conclusions. Nearly all of the individuals belonged to the white race.

Accurate statistics as to the body-weight were not available.

Many of the patients received repeated toxic doses of the salicylate. These were divided into two groups: (1) those who became toxic with doses which varied but little (by less than 60 grains); (2) those whose toxic doses varied considerably (more than 60 grains). The data have been placed in Table 11, which shows the doses in order of their administration at the bedside. This shows that by far the greater number of patients with idiosyncrasies (71 per cent. of males and 60 per cent. of females) belong to the second or variable group; that is, their tolerance varied greatly at different times. There is scarcely any tendency among the doses to be arranged in ascending or descending orders, so that use of salicylates does not increase either tolerance or susceptibility.

TABLE 11.—INDIVIDUAL IDIOSYNCRASY TOWARD THE SYNTHETIC SALICYLATE

Number of Case	Females	
	Several Toxic Doses Approximately Constant	Several Toxic Doses Variable
6458	....	100 ; 1,300
9345	....	340 ; 480 ; 260 ; 280 ; 200
11060	340 ; 300	....
2462	....	330 ; 135
9250	....	330 ; 60 ; 160 ; 200
10246	....	320 ; 280 ; 160 ; 180
10206	280 ; 300	....
2917	....	195 ; 75
3626	....	150 ; 255
10207	....	180 ; 300 ; 120
9334	260 ; 200 ; 240	....
6482	....	100 ; 60 ; 240
2611	....	265 ; 300 ; 80 ; 180 ; 120
10366	280 ; 220 ; 220	....

Number of Case	Males	
	Several Toxic Doses Approximately Constant	Several Toxic Doses Variable
3155	....	110 ; 300 ; 300 ; 190 ; 150
9338	....	140 ; 180 ; 260
11119	....	100 ; 260
3123	....	180 ; 190 ; 260 ; 285 ; 300 ; 13
2652	....	160 ; 30 ; 60
10416	80 ; 100	....
8406	....	80 ; 160
3496	....	120 ; 80 ; 55
6136	60 ; 60	....
2824	40 ; 90 ; 70	....
7164	80 ; 70	....
5630	....	60 ; 120 ; 100 ; 180 ; 200
7544	120 ; 80	....
7737	100 ; 80 ; 120	....
3728	....	300 ; 80

CONCLUSIONS

The differences found in the toxic doses of the synthetic salicylate below 100 and above 200 grains, and their variability, cannot be attributed to the influence of such factors as age, sex, race and diseased condition. There are no relations between small and large doses of the salicylate and increased susceptibility and resistance, respectively, in the same individual. There is no demonstrable habituation to the synthetic sodium salicylate.

SUMMARY†

1. The mean toxic doses of the different salicylates for adult males and females, respectively, are 180 and 140 grains of the synthetic sodium salicylate; 200 and 135 grains of the natural sodium salicylate; 120 minims of the oil of gaultheria (methyl salicylate); 165 and 120 grains of acetylsalicylic acid (aspirin); and 100 and 83 grains of salicylosalicylic acid (Diplosal). For females the toxic dose of the salicylates is approximately 80 per cent. of that for males.

The toxic dose of salicylosalicylic acid is about 50 per cent.; that of methyl salicylate and acetylsalicylic acid about 60 per cent. of that of sodium salicylate.

2. The toxic dose of the synthetic sodium salicylate for the majority, or about 68 per cent., of individuals of both sexes lies between 100 and 200 grains. Practically the same is true of the methyl salicylate.

3. The toxic dose of the different salicylates is not influenced by age between 16 and 75 years.

4. The toxic dose of the synthetic salicylate is the same in white and colored races.

5. The toxic dose of different salicylates is practically the same in various diseased conditions.

6. The therapeutic response in various diseased conditions does not modify the toxic dose of the synthetic salicylate.

7. The therapeutic efficiency of synthetic sodium salicylate is greatest in rheumatic fever and, not infrequently, partial relief and even complete relief are obtained in other conditions.

8. Presumably, there is no relation between the occurrence of albuminuria in febrile and afebrile conditions and toxic doses of the synthetic salicylate.

9. Individuals show idiosyncrasy toward toxic doses of the synthetic salicylate, but no connection was found between these idiosyncrasies and the factors of age, sex, race and diseased condition. The idiosyncrasy generally varies in the same patient, and is not influenced by previous salicylate medication.

I wish to express my thanks to Professor Hoover, chief of the medical clinic, to the hospital authorities, who kindly permitted the use of the hospital records, and to Dr. H. L. Taylor, resident physician, who in many ways was helpful to me in securing material. I am very grateful to Professor Sollmann for many valuable suggestions, and to him and to Dr. Hoover for criticizing the manuscript.

AUTOSEROTHERAPY IN SEROFIBRINOUS PLEURISY

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At the International Medical Congress in Rome in 1894 Dr. V. Gilbert stated that since 1891 he had treated tuberculous pleurisy with effusion by the subcutaneous injection of a small amount of the fluid withdrawn from the pleural cavity with an aspirating syringe. He found that within a few days after this injection, which he called "autoserotherapy," the serofibrinous exudate in the pleura disappears and the patient recovers. This method of treatment has been rather slow in gaining recognition, and was almost forgotten. During recent years, however, there have been reports from various clinics in Europe tending to show that there is great value in autoserotherapy, and its general adoption by the profession has been strongly urged. The animal experiments recently performed by Georg Eisner[1] show quite conclusively that there is a scientific basis for this mode of treatment, and that in experimental pleurisy autoserotherapy is of great value. Indeed, it appears from Eisner's experiments that it is not only the withdrawal of the fluid which mechanically stimulates absorption, as has been maintained by some, but it is the subcutaneous injection of the fluid that is responsible for the absorption of the exudate in autoserotherapy.

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† The numbers of the summary correspond to those of the sections of the text.

During the last four years I have tried this method of treatment in twelve cases of pleurisy with effusion, and although I cannot say that it is a specific, because it has not cured every patient, I believe that it has sufficient merit to warrant its more general adoption.

The technic is that of exploratory puncture. All antiseptic precautions must be strictly observed in the preparation of the instrument and the field for puncture. An ordinary aspirating syringe is used. The patient is placed in a sitting position and the needle is inserted at a place where the fluid is most likely to be found. After withdrawal of a syringeful of fluid the needle is immediately reinserted into the subcutaneous tissue of the chest, preferably the interscapular space, and the fluid is slowly injected. The fluid may also be injected in other regions, such as the cellular tissue of the abdomen or in the lumbar region, etc. A better way is the following: After aspiration of a few cubic centimeters of fluid from the chest the needle is not completely withdrawn, but turned around perpendicularly to the chest wall and inserted into the subcutaneous tissue at the site of the puncture and the aspirated fluid is slowly expelled. Some operators have thus injected, with large syringes, 10 or 15 c.c. and more of fluid under the skin. I have usually been satisfied with from 2 to 5 c.c., and have found it just as satisfactory in suitable cases as the injection of larger quantities. In fact, I am convinced that the quantity of fluid injected is not of importance. In some cases the injection of large quantities has been of no avail, while in suitable cases 2 c.c. of fluid were effective in inaugurating a process of absorption which soon terminated in a cure.

In suitable cases within twenty-four hours after the injection there is observed an improvement in the general condition of the patient; an increased diuresis, an amelioration of the dyspnea, and the physical signs show that the upper level of the fluid in the chest begins to sink, and within a week or ten days no fluid at all can be discovered. Some writers have even stated that after autoserotherapy there is less likelihood of the formation of the large fibrous bands so common after aspiration of fluid from the chest, which are responsible for many discomforts in later life. In my experience this could not be proved. Indeed, it appears to me that, except for the absorption of the exudate, autoserotherapy has no effect. Some patients developed tuberculosis of the lungs later on, while those who were tuberculous at the time they suffered from pleurisy continued in about the same condition, as if they had had no pleurisy in the course of their trouble.

In some cases a single injection is sufficient to effect a cure within several days, in others it may be necessary to repeat the procedure several times before the fluid is absorbed completely, while in some others, though proportionately few, as was already stated, autoserotherapy is of no use at all. On the other hand, no dangerous or even threatening symptoms have ever been observed by any one who tried this method of treatment, which may be considered altogether innocuous.

Nine of the twelve cases which I have treated were distinctly benefited. In one the result was doubtful, and in two it failed utterly. The first case was one in which the effusion in the chest had been present for four weeks, showing the usual effects of a large effusion—displacement of the neighboring organs, dyspnea, slight fever, anorexia, debility, etc. Seven hours after the first injection of 3 c.c. of pleural fluid the fever increased 1.4 F., but the next morning it dropped to 99.8 F., and twenty-four hours later it was normal and remained so indefinitely. The quantity of urine was increased; the appetite and the general condition of the patient improved to such an extent that he wanted to walk out on the third day, which he had not ventured during the preceding month. The upper level of the fluid, which before autoserotherapy had reached the fifth thoracic spine posteriorly, began to sink, reaching the seventh thoracic spine within three days, and ten days after the injection no fluid could be found by the usual methods of physical examination. The disappearance of the palpatory, percutory and auscultatory signs went hand in hand with the disappearance of the fluid in the chest, and the displaced organs (the heart, liver, etc.) showed a rapid regression to their normal positions. Considering that for a month before the injection the fluid showed no tendency to absorption, and that after this mode of treatment nothing else was done to assist absorption, it would seem that the injection may be safely credited with the cure of this case.

In another case, that of a child of 5 with a pleural effusion filling about three-fourths of the right chest and producing profound dyspnea, etc., the results of autoserotherapy were even more striking and convinced me of its great value. During the three weeks that this effusion was in the chest, exploratory puncture was performed twice, and once 7 ounces of fluid were aspirated with a Potain apparatus, but the fluid reaccumulated within three days. Soon after the injection of 3 c.c. of fluid into the subcutaneous tissue of the chest the effusion began to show signs of absorption and disappeared within a week. That autoserotherapy was responsible for the cure in this case appears to be beyond question. Some writers have said that the removal of even a small quantity of fluid stimulates absorption and that inasmuch as about 80 per cent. of cases of pleurisy with effusion tend to spontaneous recovery, which is about the percentage of cases cured by autoserotherapy, the latter mode of treatment is of no value. But in a case in which exploratory puncture was done twice, and aspiration of a comparatively large quantity of fluid once without any effect, while the injection of 3 c.c. of fluid was the starting-point for the absorption of the exudate, autoserotherapy can be considered of great value.

In a case showing an effusion reaching posteriorly to a level of the sixth thoracic spine, 4 c.c. of fluid were injected subcutaneously on the twelfth day after the onset of the disease. I saw this patient again two days later and found the level of the fluid at the angle of the scapula, and ten days later no fluid at all could be found by the usual methods of physical exploration. In this case the quantity of urine voided increased within six hours after the injection. The temperature, which was of a remittent type, 99 to 100 F. in the morning and 101 to 102.5 F. in the evening, was but slightly affected by the disappearance of the effusion. After the absorption of the fluid in the chest it was noted that early in the morning the temperature was slightly subnormal, 96.5 to 98 F., and 100 to 101 F. in the evening. A tuberculous lesion in the left apex, as well as some friction sounds and defective motion at the left base, were diagnosed.

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[1] Eisner, Georg: Experimentelle Untersuchungen über Autoserotherapie, Ztschr. f. klin. Med., 1912, lxxvi, 34.

In the case of a child 4 years old the effusion had existed three weeks before autoserotherapy was applied. The right chest was filled with fluid up to the third rib, the heart was displaced to the left, the liver pushed downward, etc. The fever was rather high, reaching 104.5 F. on some days, and for two weeks before autoserotherapy was applied it was never found lower than 102 F. Within twenty-four hours after the first injection the fever dropped to 101 F., the dyspnea was greatly relieved and the rate of respiration dropped from 40 to 28 per minute. The upper level of the fluid sank, reaching the seventh rib on the sixth day, but remained there for a week. Another injection was then made, and repeated every two days for the next two weeks, when no fluid could be found in the chest, the child making an uneventful recovery.

An interesting case was that of a young man of 25 who came to my office for advice concerning the suggestion given him by a physician, that he must leave for the mountains because of tuberculosis of the lungs. Physical exploration of the chest revealed an effusion in the left pleura extending up to the sixth thoracic spine. This was immediately confirmed by an exploratory puncture. I did not completely withdraw the needle, but immediately turned it and injected the fluid contents of the syringe, about 3 c.c., into the subcutaneous tissue at the site of the puncture. The patient's history was rather suggestive. He had been coughing for three months, had slight fever, malaise, and later dyspnea on the slightest exertion. At no time had he had any acute pain in the chest. He had lost 18 pounds in weight during the three months. Treated at first for bronchitis, he was finally advised to go to the mountains to cure what was considered pulmonary tuberculosis. My request that he call again within twenty-four hours was disregarded by the patient, but he showed up again ten days later, telling me that he could not call on the appointed day because he was too sick to leave his bed on a rainy day. But on the next day he began to improve, his strength showed signs of returning, his appetite was improving and the dyspnea had almost disappeared. While before the injection he could not sleep on his right side, he noted that during the last three days, one week after the injection, it made no difference to him on which side he reclined. His cough and expectoration increased, but he did not complain because, as he put it, he found it easier to "bring up phlegm." He gained 4 pounds in those ten days. The level of the fluid was now at the seventh thoracic spine. Another puncture with reinjection of the fluid was made, and the patient was given a prescription calling for 5 grains of potassium iodid three times a day. Within four weeks his condition had improved to the extent that he could resume his work, that of a watchmaker. I examined this patient one year later and found him in excellent condition, except for some defective resonance and faulty motion at the right base, which remained as traces of his pleurisy.

But not all my cases of autoserotherapy were successful. In one patient with a large effusion in the right side the injection of 5 c.c. of fluid on alternate days six times did not relieve the condition at all. On the contrary, the amount of fluid in the chest increased in spite of the treatment, with a concomitant aggravation of the general condition, especially the dyspnea. The displacement of the mediastinum, liver, etc., was extreme, so that tapping of the chest had to be done; 30 ounces of fluid were withdrawn on one occasion and 20 on another. Although at each tapping I reinjected about 10 c.c. of the fluid under the skin, I cannot say that the eventual disappearance of the effusion could be attributed to the autoserotherapy in this case. In another case of advanced pulmonary tuberculosis in an old man under my care in a hospital several injections of rather large quantities of fluid, 10 to 15 c.c. each time, had no effect. Aspiration had to be resorted to on repeated occasions, but the pleural cavity refilled quite promptly, until finally a fatal issue relieved the man of his severe sufferings.

On the whole, it appears to me, judging from the twelve cases of pleurisy which I have treated by this method, that autoserotherapy is an excellent means at our command in cases of serofibrinous pleurisy, and should be tried in every case of pleural effusion. While not all patients will be cured, in some the course of the disease may be shortened, while others, who would otherwise suffer severely for weeks, may be greatly relieved.

Altogether there have not been reported a sufficient number of cases in medical literature to place autoserotherapy on a firm foundation as a specific in pleurisy with effusion. Besides the few cases reported by Gilbert[2] and Fede,[3] who were the first to suggest this method of treatment, there have also been reported successful cases by Schnütgen,[4] Geronzi,[5] Joseph Dodal,[6] Zimmermann,[7] Dumitriu,[8] Sarcinelli, Enriquez, and Durand and Weil.[9] Tchigayeff[10] reports fifty-six cases in which forty-two were quickly and completely cured; in eight the success was incomplete, and only in six could the treatment be considered a failure. Tchigayeff concludes that the sooner the treatment is begun, the surer one is of succeeding and the quicker the cure. In his experience, amelioration of the subjective difficulties was a constant phenomenon. It was evident that in tuberculous patients pleural effusion was absorbed, yet there was no apparent influence on the course of the lesion in the lung. M. Marcou[11] reports 160 cases. He observed an increase in the temperature of about 1° F. during the evening after the injection, but beginning with the next morning the fever would drop and keep on sinking till it reached the normal limits. Marcou is emphatic in his statements that he observed a prompt arrest in the progress of the disease after autoserotherapy, although he could not assign any specific action to this mode of treatment. Rudisch,[12] of New York, reports three cases which were successfully treated by autoserotherapy, and says that he is sufficiently encouraged to urge its more extensive application.

The question how autoserotherapy promotes the absorption of pleural effusions has been a source of speculation to various writers. As already stated, some authors (Nassetti,[13] Szurek,[14] Arnsperger,[15] Hochhaus,[16] etc.) are under the impression that all the reported favorable cases do not prove that the subcutaneous injection of the fluid is responsible for the absorption of the exudate. It is argued that about 80 per cent. of all cases of pleurisy with effusion recover spontaneously, and inasmuch as autoserotherapy cures about the same proportion of cases, it cannot be concluded that it is superior to expectant treatment. Other writers have argued that the absorption of an exudate often takes place after an ordinary exploratory puncture, that is, through mechanical stimulation, and that in autoserotherapy a small quantity of fluid is always withdrawn, thus creating conditions favorable for the absorption of the exudate. But as I have shown, there are cases in which repeated exploratory punctures and even tappings were not effective, while autoserotherapy promptly stimulated complete absorption of the exudate.

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[2] Gilbert: Gaz. d. hôp., 1894, p. 560; L'autosérothérapie de la pleurésie sérofibrineuse, Rev. méd. de la Suisse Rom., 1910, p. 24.

[3] Fede: Riforma Med., xxii, No. 39.

[4] Schnütgen: Die Autoserotherapie bei serös-fibrinöser Pleuritis, Berl. klin. Wchnschr., 1909, No. 3, p. 97.

[5] Geronzi: Med. ital., Napoli, 1907, ii, No. 4.

[6] Dodal, J.: Zur Autoserotherapie bei exudativer Pleuritis, Wien. med. Wchnschr., 1910, p. 455.

[7] Zimmermann: Zur Autoserotherapie der exudativen Pleuritis, St. Petersburg med. Wchnschr., 1909, No. 34, p. 461.

[8] Dumitriu: Spitalul, Bucharest, 1910, No. 15.

[9] Durand and Weil: Bull. et mém. Soc. méd. d. hôp., June 4, 1904.

[10] Tchigayeff: Russk. Vrach, 1910, No. 51.

[11] Marcou: L'autosérothérapie pour activer l'absorption des épanchements pleuraux, Presse méd., 1909, No. 71, p. 627.

[12] Rudisch, J.: Autoserotherapy in Chronic Pleurisy with Effusion, Med. Rec., New York, April 8, 1911.

Gilbert,[2] the discoverer of this method of treatment, believes that the exudate, especially in tuberculous pleurisy, contains the specific toxins of the tubercle bacilli, and many other writers have accepted this view. Some think that the exudate contains specific antibodies which accumulate in the chest, and that when injected subcutaneously they are absorbed immediately into the circulation and exert an influence on the absorption of the fluid. Others think that there is in pleurisy an accumulation of autolytic products of cell metabolism which, when injected subcutaneously, bring about absorption of the exudate. This appears to be confirmed by the observation of Zimmermann[7] that after autoserotherapy there is to be found a striking leukocytosis. In a case in which Zimmermann made careful blood-counts, he found that before the injection of the pleural fluid the number of leukocytes was 8,500, while soon after the injection the number rose to 10,312. Within twenty-four hours the number of leukocytes again fell to normal. After another injection, four days later, the leukocyte count rose again from 7,812 to 15,000. This observation would seem to confirm the suggestion made by some that the accumulation of autolytic products in the exudate—synthetic albumins and products of cell metabolism—are responsible for the absorption of the exudate after autoserotherapy (Senator and Schnütgen). Zimmermann's experiment, showing that an injection of a solution of peptones brings about a leukocytosis and also an increased diuresis, just as after autoserotherapy, is confirmatory of this view.

None of these theories has been proved. But the recent experimental investigations by Georg Eisner[1] tend to give a scientific foundation to autoserotherapy. Eisner performed some interesting animal experiments with a view of ascertaining the mode of action of this therapeutic procedure. He induced pleurisy in rabbits by injecting sterile oil of turpentine into the pleural cavity, and by another method produced tuberculous exudates in guinea-pigs. His results throw some light on the mechanism of autoserotherapy. Thus, he found that while most clinicians observed an increase in the temperature of the patients after autoserum injections, animal experimentation did not work in this manner. He did, however, find a decided influence on the leukocyte count. After every injection of the sterile exudate the number of leukocytes manifested a decided tendency to rise. In some experiments this leukocytosis appeared within twenty-four hours after the injection, while in others it was three or four days before it became evident. Injections of tuberculous exudate were always followed by a sudden and marked increase in the number of leukocytes which lasted one day and receded just as quickly. In one case the increase in the number of leukocytes reached seven thousand, while in other cases the increase oscillated between three and four thousand. Control experiments showed no influence on the leukocyte count.

From his animal experiments Eisner concludes that there is beyond any doubt an increase in the number of white blood-cells, independent of any elevation of temperature, after the injection of tuberculous serum derived from a pleural exudate. It must, however, be borne in mind in this connection that hypodermic injections of sterile oil of turpentine often produce leukocytosis. Eisner could not find any trace of oil of turpentine in the pleural fluid obtained in his experiments, but as he tested this point only by the odor of the exudate, it cannot be stated positively that the fluid did not contain oil of turpentine in a high degree of dilution.

The suggestion that autolytic products of cell metabolism are the cause of the reaction after autoserum injections cannot be seriously considered, because of the short duration of the exudate at the time the experiments were made. Eisner is inclined to the hypothesis that the cause of the reaction was the presence of specific bodies in the exudate which were the cause of the increased leukocytosis. Whether there were also other bodies (autolytic products of cell metabolism) cannot obviously be definitely stated; nor is it definitely ascertained what kind of specific tuberculous bodies are active in such cases.

CONCLUSIONS

Autoserotherapy appears to be worthy of further and more general trial. Considering that it is absolutely devoid of any danger, that there have never been observed the slightest unfavorable effects on a patient, and that it can be performed by any one who can make an ordinary exploratory puncture, it ought to be tried in every case of pleural effusion in which the fluid is not purulent. Indeed, inasmuch as in practically every case of pleurisy showing signs of effusion exploratory puncture is to be done with a view to determining the character of the fluid in the pleural cavity, it is advisable, when the contents of the pleural cavity are found to be serous, that the needle should not be withdrawn completely, but that when its point is brought to the subcutaneous tissue it should be injected then and there. The quantity of fluid to be injected subcutaneously need not be very large; from 2 to 5 c.c. is quite enough. In favorable cases it will be observed that within two or three days the subjective symptoms — the pain, the dyspnea, the prostration, etc.— will be ameliorated or will entirely disappear, while physical exploration of the chest will show that the upper level of the fluid will be lower than it was before the injection. Within a week or ten days the fluid in the chest will disappear altogether in about 80 per cent. of cases. In some patients it may be necessary to repeat the treatment several times every two or three days before any salutary effects are evident. In about 10 or 15 per cent. of cases this mode of treatment seems to fail, but even here no harm is done to the patient.

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[13] Nassetti: Riforma med., 1908, No. 39.
[14] Szurek: Med. Klin., 1909, No. 44, p. 1665.
[15] Arnsperger: Therap. d. Gegenw., 1911, p. 495.
[16] Hochhaus: Deutsch. med. Wchnschr., 1909, No. 42, p. 1819.

SOME OLD PELVIC INFLAMMATORY DISEASES

THEIR NON-SURGICAL TREATMENT, WITH REPORT OF CASES

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Under the title, "Some Old Pelvic Inflammatory Diseases," I desire to call attention to a few affections of the pelvic organs which are commonly met by the general practitioner, but which he gives very little consideration or entirely overlooks in his management of diseases of the pelvic organs. I refer especially to chronic perimetritis with adhesions, chronic parametritis, shortening of the uterosacral ligaments with consequent retrodisplacement of the uterus, and lastly old pelvic cellular exudates. Kelly states that it is of the utmost importance that the general practitioner recognize clearly all his cases of pelvic inflammatory disease, so that proper treatment can be begun and these chronic sufferers relieved of their symptoms; but unfortunately, many of these conditions are not properly understood, no diagnosis is made, and the patient is given the usual routine treatment of tampons and douches.

We may divide our pelvic inflammatory cases into two classes. In the first class, we find among our patients some who are of a highly sensitive nature, and therefore difficult to examine, as any pressure, however slight, causes pain, which makes them so contract and stiffen the abdominal muscles as to render negative almost any method of examination. With a little patience, however, we can gain the confidence of these patients by the assurance that we do not intend to cause them any unnecessary suffering, and after their fears are allayed, we can gradually make a fairly thorough examination.

In the second class, we find the extraordinary cases. In these, the patient may have even wide-spread adhesions involving nearly all of the pelvic organs, yet may not suspect any pelvic disease, until some irregular menstrual function causes her to seek advice. Patients of this class can be thoroughly examined, a correct diagnosis made and appropriate treatment given.

The symptoms complained of in the diseases just mentioned consist of the usual train of gynecologic symptoms — dysmenorrhea, backache, leukorrhea, vague and obscure pains associated with headache, nausea and general malaise. The same symptoms may be caused by a variety of other pelvic diseases, as endometritis, salpingitis and ovaritis, so that the success of the treatment depends entirely on correct diagnosis. These forms of pelvic inflammatory disease may begin as an acute inflammation of the pelvic cellular tissue, or they may be chronic from the beginning and their cause may be puerperal, traumatic or from gonorrheic or other infections.

The diagnosis of chronic perimetritis with adhesions is made by bimanual examination. The outside hand is placed behind the uterus and holds that organ against the bladder, while, with the inside hand, the examiner presses his fingers between the folds of the uterosacral ligaments. He can then feel, if the uterus is held firmly with the outside hand, bands of adhesions running from the body of the uterus to the floor of the pelvis. There may be a number of these small fibrous bands and they feel about the size of heavy wrapping-cord. These adhesions when stretched or palpated are quite painful. This method is also employed when determining the condition of the uterosacral ligaments. These are felt in the culdesac of Douglas, just behind the cervix; when enlarged by inflammatory changes, they are much thicker, firmer and larger than usual and are very sensitive to pressure or stretching. The shortening or thickening of these two ligaments naturally pulls back the uterus, causing its retrodisplacement and, instead of finding the uterus forward near the symphysis, the examiner finds it drawn so far back in the pelvis that he is barely able at times to palpate it. This is the condition which is the cause of so many backaches in women which cannot be cured by tampons, hot douches, sitz-baths, etc. By bimanual traction and massage, the replacement of fixed retroverted and retroflexed uteri is accomplished, and absorption of adhesions is brought about in cases in which very little or no relief can be expected from any other method of treatment.

The system of treatment in the Allgemeines Krankenhaus in Vienna for the conditions mentioned above, which I have followed for the past year, is as follows: while the index and middle fingers of the left hand (or for obvious reasons the index-finger) steady and support the cervix by slightly lifting it up, the right hand by a series of rotary movements gently massages the uterus through the abdominal wall. The movements are all from the shoulder, the hand, wrist and elbow being free and not stiff. These movements are performed slowly, ten to fifteen times at the first treatment and, if no unusual pain or soreness follows, the same treatment can be carried out three times weekly, until the patient is relieved of her symptoms. Even in patients with rigid abdomen, the operator is able after a few treatments to massage the whole posterior body of the uterus, thus improving the blood-supply of the pelvic viscera and at the same time stretching the adhesions which keep the uterus in an abnormal position and lengthening the uterosacral ligaments. By the same series of movements through the abdominal wall, a retroverted uterus which is movable can be brought forward; the only change made is to place the inside fingers against the anterior portion of the cervix and push posteriorly, at the same time bringing the uterus forward, and installing a suitable pessary with the outside hand. Massage of this kind is also indicated in puerperal cases of retroversion, in which the uterus is heavy and congested. The muscular tone of the uterus is thereby improved and exudation and improved circulation result.

CHRONIC PARAMETRITIS

At the sides and on the floor of the pelvis between the peritoneum of the pelvis and the fascia which it overlies, there is a layer of loose fibro-areolar tissue which is spoken of as the pelvic cellular tissue or parametrium. This is very often attacked by a specific or septic infection. These attacks may be acute or they may be chronic from the beginning. After treatment the inflammation either is resolved or causes atrophy or cicatrization of the cellular tissue.

Of lateral parametritis there are two forms, anterior and posterior. The anterior is more rare and sometimes extends over the surface of the bladder to the anterior wall of the abdomen. Chronic parametritis is sometimes found in virgins, the infection usually coming from the rectum; or the first attack may be due to an invasion from the intestinal tract about the appendix which eventually extends to the pelvic viscera. The causes are the same as in chronic perimetritis and shortening of the uterosacral ligaments. Freund gives as additional causes persistent masturbation, long-continued physical and mental suffering and malnutrition; he states that a diminution of elasticity and an atrophy of the pelvic cellular tissue and the internal genitalia follow. Schultz has described a form of the disease called posterior parametritis, in which the folds of Douglas are short and inelastic. The symptoms in these cases are also similar to those described as occurring in chronic perimetritis, with the addition that these patients very often complain of dyspareunia.

DIAGNOSIS OF PARAMETRITIS

The diagnosis is made by palpation of the parametrium. When the examiner stretches with the fingers painful or sensitive areas which show evidences of narrowing or contraction the patient, as in the case of perimetritis, will complain of pain similar to that which she sometimes suffers. Scars in the vaginal vault, extending from the cervix, may be readily felt on palpation.

It is almost the usual routine with me to consider pain and tenderness, associated with swelling of the vaginal vault, the result primarily of diseased adnexa. In a great number of cases this is correct, but if one does not bear in mind the possibility of the existence of other diseases, grievous mistakes in diagnosis and treatment may be made. There are no hard-and-fast rules by which one may be guided in differentiating these conditions, but the physician must make a systematic examination, taking into consideration all the tissues and organs which are likely to be affected as the result of septic or specific inflammation.

A right-side parametritis can be, and often is, mistaken for appendicitis, as pressure low down in the right quadrant of the abdomen will elicit pain in both conditions; but, knowing the history of the case thoroughly, if we bear in mind the fact that the two affections frequently coexist, then by placing the examining finger in the vagina, putting the parametrium on a stretch, and at the same time the other hand over McBurney's point, the diagnosis can be easily made. Pelvic massage is absolutely contra-indicated in any acute inflammatory condition, in recent pus collections, in fibroids, ectopic pregnancy or in tubo-ovarian disease. My object, therefore, in relating the following cases is chiefly to show how often chronic conditions other than diseased uterine adnexa are met and how they can be relieved by pelvic massage.

CASE 1.—Mrs. N., aged 35, married five years, no children, one miscarriage at seven months, came under my care in January, 1910. Family history was negative. The patient denied all knowledge of gonorrheal infection. She had always been well up to three years previously, when she suffered for six months with mucous colitis and fermentative dyspepsia. She now complained of backache which was increased by moving around or standing, and pains situated deep in the right side of the pelvis, which occurred before, during and after menstruation, the latter lasting for a day or two at the most, the color of the menstrual fluid being very dark.

Vaginal examination showed the uterus anteflexed and retroposed. On bimanual palpation, the whole right vaginal fornix was found swollen, painful and tender to pressure and I stated in my notes at that time that, undoubtedly, the right tube was involved.

I treated the patient with tampons, saturated with boroglycerid, twice a week for two months and once a week for one month longer, besides giving her douches and tonics. She improved somewhat in general health, felt much stronger and not so nervous, but still continued to have backaches and pain during menstruation.

I did not see this patient again until November, 1911, when she stated that she still had the same symptoms and that, six months previously, she had been confined to her bed and told that she had appendicitis but that she had refused an operation. On examination I found the uterus anteflexed, but still further back in the pelvis than when I examined her two years prior to this time. I found the parametrium on the right side contracted and very painful and sensitive, the right tube only slightly enlarged, the ovary not palpable.

On examining the culdesac of Douglas, I felt numerous bands of adhesions running between the uterosacral ligaments, parallel with the uterus, which accounted for its being retroposed. I treated her on six or seven different occasions by pelvic massage, but the fourth week she failed to appear; a little later when she called she told me frankly that she did not see how those treatments were going to relieve her suffering, but that at her last period she had menstruated better than she had in three years and so had decided to continue treatment until she was well.

After three months, during which time I massaged the parametrium on the right side and, by bimanual traction and massage was able to stretch the adhesions that were keeping the uterus displaced posteriorly, I managed to bring the uterus to its normal position and thereby relieved the backache and the pain with which she had suffered. I met her a few weeks ago on the street, and she said that she felt perfectly well and now menstruated without pain and that the flow lasted three full days.

CASE 2.—Miss K., aged 21, called at my office, October, 1911. Family history was unimportant. She gave a history of having had pneumonia one year ago in March. For two years past she had had considerable pain in the right side for two days previous to menstruation, the flow being very scant, the time of its appearance irregular and the duration never over a day and a half. She soiled no more than two napkins during this period. She was unable to work the day after the pains came on. Six months previously she had been operated on for appendicitis, with the understanding that this would relieve the pains in her side.

Examination showed that, in addition to her other troubles, she had a simple goiter. Her appearance was decidedly anemic. There was a presystolic murmur of the heart, and her pulse was at all times over 100. Urine analysis was negative. Examination of the abdomen disclosed a small sinus in the appendicular scar, which was discharging because the remnants of a stitch had been left behind. The abdomen on the right side showed tenderness and sensitiveness to pressure which extended above McBurney's point. Patient denied having had gonorrhea or miscarriage. Vaginal examination showed the uterus somewhat enlarged, retroverted and very tender. The right side showed considerable thickening and swelling of the pelvic cellular tissue with the presence of an old exudate. In this case, not being able to palpate the tubes, I was not sure that there might not be a pyosalpinx. I gave the patient a very careful pelvic massage which caused her some pain. I then prescribed hot sitz-baths and tonics and advised her to keep off her feet for two weeks; this she said she could not do. I continued this treatment for four months, at the end of which time the mass on the right side had entirely disappeared. The patient suffered very little pain; the flow was increased to two and a half days, and she was able to work every day while menstruating.

CASE 3.—F. M., aged 29, German, single, first came under my observation eight years ago. Her mother died of cancer of the breast, aged 51. Father died of chronic interstitial nephritis, aged 65. The patient had had the usual diseases of childhood but had always been well up to her twenty-first year. Her menses appeared at 14 and she was perfectly regular for the following seven years; she then began to suffer with cramp-like pains and a dull heavy ache in the left pelvic region. She also began to have backache, especially, if she had to be on her feet for any length of time. After her menses stopped there appeared a milky discharge. At each succeeding period these symptoms increased and the pain continued at intervals in her side, even after she stopped flowing. After a time she suffered from pain daily, so that she was unable to lift anything without holding on to her side. The gonorrheal discharge persisted. During the first day of menstruation she was compelled to remain in bed. She had been under treatment for three months when she came to see me, giving the above history.

Vaginal examination showed the uterus small and acutely anteflexed. There was extreme tenderness on both sides of the vagina; in fact every part touched was sensitive, and the tubes and ovaries could not be palpated. Examination of secretion taken from the cervix showed gonococci. I then gave the customary tampon treatments with hot douches, tonics, fresh air, etc., with an application of 10 per cent. silver nitrate solution to the cervical canal. I continued to treat the patient at least once a week for nearly a year. She improved in strength, suffered very little with backache but was compelled to remain in bed during the first day of menstruation.

On November, 1911, she again came to my office and said that she would like to begin treatment as she was just as bad as before and had lost nearly forty pounds. On examination at this time I found the uterus still undersized and anteflexed. There was not so much tenderness and pain from the examination; the tubes and ovaries could be easily palpated bimanually, showing no evidences of enlargement or tenderness; but running from the cervix, both right and left, scars of the parametrium were very easily felt, together with a shrinking of the cellular tissue. Placing the parametrium on a stretch caused so much pain that I took more care not to overstretch it. The diagnosis made was of parametritis on both sides and hypoplasia of the uterus. I gently massaged the parametrium on both sides, making the movements away from the uterus; then I inserted a tampon of boroglycerid to relieve as much of the congestion as possible and advised daily sitz-baths with rest for the remainder of the day. At the next visit the patient said that she was sore and tender for two days after her last treatment but after three or four applications of pelvic massage she did not experience further discomfort as a result of the treatment. I continued this method twice a week for two months and then once a week for five months. In two months the pains preceding and following the periods were relieved, as was the backache, and at the end of the sixth month the patient was entirely free from pain and was able to attend to her work on the first day of menstruation, which she had not been able to do for a period of eight years; she said, "I can now lift ordinary objects without having to double up with the pain in my side."

The leukorrheal discharge was not influenced to any marked degree by treatment, and as I could not promise a cure by curettage, she stated that she would let that continue so long as she was free from pain, and that she would stick to her douches which she had done religiously, never having omitted the use of the vaginal douche a day for eight years.

Case 4.—Miss S., aged 21, consulted me Feb. 17, 1912. Family history was negative. The patient had never been sick, beyond the ordinary diseases of childhood and some slight attacks of fermentative dyspepsia. She stated that she began to menstruate when 11 years old, and that her menstruation was regular and without any disturbance to her health until she was 18, at which time she noticed that she had, during menstruation, pains on both sides of the pelvis and that these pains continued between the periods and increased and made her suffer more while on her feet.

She was then examined by a physician in another city, who told her that the uterus was tipped back against the rectum. She took treatments for two months, without relief, before she came to this city. She then placed herself under the care of a physician here, who tried various pessaries to hold the uterus in position, but without success. The following month she had a ventrofixation performed. After she was able to be up and around, she was again placed on tampon treatments, but while she got some relief from the backache, the pains before and during menstruation were not relieved, the discharge continued and she was sick and nauseated on the first day of menstruation. She denied having had any gonorrheal infection or miscarriages.

Examination showed a long narrow vagina and a cervix eroded over its whole area; from the patulous canal exuded a thick, tenacious yellowish discharge, which could be removed only by an alkaline solution. The uterus itself was normal and in proper position. Bimanual palpation revealed tubes of normal consistency. The left parametrium was contracted and had numerous scars running from the cervix, which was very painful and tender when stretched. The right parametrium, anteriorly, was also painful and sensitive but was not so contracted as the left. I applied pyroligneous acid to the cervix and massaged the parametrium on both sides. I continued pelvic massage twice a week for four months, after which time I gave one treatment a week for two months. I also applied tampons containing boroglycerid and ordered hot sitz-baths once a day.

At the end of six months' treatment the patient had no pains in her side, was not sick and nauseated while menstruating, and now flowed for five days instead of seven. The discharge, which was undoubtedly due to the cervicitis, stopped very quickly, and the erosions on the cervix yielded quickly to the applications of pyroligneous acid. The only inconvenience which the patient suffers now is from a slight pain for a few hours at the time of the appearance of the flow.

I have had two other cases similar to the above, about which I shall not go into the details. One patient, a married woman, complained of pain above the appendix and examination of the abdomen showed that she was very tender and sensitive to pressure around and above McBurney's point. Bimanual examination showed shortening and thickening of both uterosacral ligaments. The uterus was drawn up and lying to the right side, where the fundus could be felt, lying over the appendicular region. Bimanual massage completely relieved this condition in a few months.

The other patient, also a married woman, following the birth of her only child, had infection and a perineal tear, the right levator muscle being torn completely through. She had considerable scar tissue in the right parametrium which was improved by massage, after which I brought the levator muscles together, relieving her of all her pelvic symptoms.

I realize that the report of these half dozen cases does not form a sufficient basis from which to draw exact conclusions concerning the treatment of pelvic diseases; still, the good results obtained speak favorably for that system of pelvic massage which is the routine treatment in some of the large foreign clinics for old pelvic inflammatory conditions.

508 James Street.

HOW MAY WE REDUCE THE MORTALITY FROM CANCER OF THE UTERUS?

WITH SPECIAL REFERENCE TO TREATMENT AND TO PUBLICITY THROUGH THE LAY PRESS

H. J. BOLDT, M.D.
NEW YORK

We may first ask, What is cancer? At this time we know only that it is a new growth, made up of elements which, single, are normal in the human organism. In the disease termed "cancer," these elements are in abnormal sites and are grouped abnormally. The principal avenue for the dissemination of cancer elements, we have learned, is that of the lymphatic system, since those glands become affected quite early in the immediate neighborhood of the morbid growth. We are told that cancer elements may also be disseminated by the bloodstream; but of this we have no conclusive proof, and I myself have some doubt as to its correctness.

Unfortunately but little progress has been made in cancer research, despite the fact that a very large number of scientific professional men have closely applied themselves to the study of the dreaded disease. That it is of parasitic origin—caused by a microscopic germ—we have no proof whatever. Indeed, the cause of cancer is still a dark mystery. We know nothing definite concerning it; and but very little of what we do know of the disease is of practical value to those afflicted with it. In fact, the only statement of practical value that we can now make is this: When the growth is in a very early stage and accessible to the knife of the surgeon, it may, in a large number of instances, be removed permanently by this means.

Regarding cancer of the uterus, of which I wish now to speak particularly, we know that, while no period of life is exempt from it, the years between 40 and 50 are the most common for its occurrence.

Most members of the medical profession being agreed that when cancer is diagnosed in an early stage it can frequently be cured permanently, the responsibility then rests on us to make diagnoses sufficiently early, if the patients present themselves to us for examination.

SYMPTOMS

We know that cancer is most insidious in its onset. So insidious is it that many patients with cancer of the uterus have no marked symptoms at all until the disease has passed beyond the limit of operability. Yet, on the other hand, we have seen patients who were treated with local applications for "ulcerations" of the uterus until too late for a radical operation without a hint from the physician that it might be a serious condition. Then, too, there have been cases which were not even examined, the patients being told that the profuse or prolonged menstruation or the intermenstrual loss of blood was caused by "change of life." They were given internal remedies and told to take the medicine until they were better.

We know that a cancerous degeneration sometimes occurs on the surface of an erosion; but, in the very early stage, we can make a positive diagnosis only with the aid of a microscope. And, right here, I want to emphasize the importance of a competent pathologist, because occasionally the diagnosis is very difficult and only an expert can correctly interpret the findings.

There are no early symptoms peculiar to the incipient stage of cancer of the uterus. The earliest symptoms of uterine cancer are leukorrhea and atypical bleeding. The atypical bleeding may manifest itself in "spotting" after sexual intercourse—particularly in the type of cancer known as "cauliflower growth" (or epithelioma of the portio vaginalis), in prolonged menstrual flow, in irregular intermenstrual bleeding or in return of bleeding from the genitals after the menopause.

Leukorrhea is, as a rule, an earlier symptom than bleeding. This is particularly true of epithelioma. When the new growth has progressed to the stage of disintegration, we necessarily have more or less atypical bleeding, sometimes amounting to profuse hemorrhage—this cannot occur until the new growth begins to break down—and the leukorrhea becomes more profuse, putrescent and irritating. When the atypical bleeding manifests itself only in prolonged or more profuse bleeding at the menstrual period, in women in whom the disease occurs before the menopause, the abnormal loss of blood is probably caused by inflammatory changes in the endometrium.

Every woman who is "spotting," who has atypical losses of blood from the genital tract, who has profuse leukorrhea, particularly when past the fortieth year—and still more important is even the slightest loss of blood in women who have passed the menopause—should be carefully examined, because these symptoms are also early symptoms of cancer. When a physician is in doubt about the diagnosis, he should, in justice to his patient, get the opinion of a recognized specialist.

Cervical tears, accompanied by erosions, should be treated locally, and the laceration repaired, because, occasionally, such condition becomes the seat of cancer.

When a patient with cancer of the uterus is examined, the rectovaginal examination should always be used, because only with it can the parametria be properly palpated.

A cystoscopic examination should always be made in uterine cancer, although one cannot rely on the infallibility of the result of the examination, since at times it will be found that the bladder is markedly involved when the cystoscope failed to show such extent of the disease. To a certain extent, then, we must consider every abdominal operation for cancer of the cervix an exploratory operation. We know that cancer, if left to its natural course, is fatal in nearly all instances. Only occasionally there occurs a case of spontaneous cure by some means not yet clear to us. We also know that if the growth is diagnosed so early that the surgeon can remove all affected parts, a large number of patients are cured permanently by operation.

Cancer of the uterus is frequently so far advanced by the time a patient consults a physician that a radical operation with any hope for a cure of the disease is impracticable. Indeed, in many cases a palliative operation is all that can be done.

PUBLICITY

This brings up the question as to what are the most effectual means of reducing the high rate of mortality from cancer of the uterus. Next to the tuberculosis problem, this is the most important problem that has come recently before the medical profession, and particularly before those who make a specialty of diseases of women. The general answer, stated briefly, has been: Knowledge of the early symptoms of cancer of the uterus should be disseminated through the medium of the newspapers and magazines. So strongly was this emphasized on a number of occasions that, at the Clinical Congress of Surgeons of North America, held recently in this city, a committee was appointed to devise a method of securing such publicity.

Since 1905 efforts have been made through the American Medical Association to reduce the mortality from cancer of the uterus, and in The Journal will be found a short summary[1] of the chief points in connection with the disease, as reported by the committee.

The report of the committee at the Boston meeting[2] is ideal. If publications are to appear in the lay press, the method recommended by the committee is the only one that is strictly ethical. The printing of articles with the name of the medical writer attached is, in my opinion, reprehensible. All articles, from A to Z, should, as suggested in the report, bear the stamp of approval of the American Medical Association.

While it is evident from the excellent report of the Board of Public Instruction on Medical Subjects[3] presented to the members of the House of Delegates of the American Medical Association that difficulties were encountered in connection with the general publicity question, nevertheless, I believe that, to a degree, conditions have changed, and that the obstacles there mentioned could readily be overcome, simply by placing matters in the hands of men possessing influence with the lay press. Thus the publications, if decided on, could be made in harmony with the high standard required by the majority of the medical profession.

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[1] The Journal A. M. A., July 22, 1905, p. 283.
[2] The Journal A. M. A., June 16, 1906, p. 1878.
[3] The Journal A. M. A., June 19, 1909, p. 2057.

To repeat: Nothing should appear in the lay press save that which meets the approval of the American Medical Association. A few months' delay is of no great significance.

In this publicity undertaking we are following in the footsteps of Germany, where the dissemination of knowledge by similar means was begun by Dührssen of Berlin, many years ago, and, later, on a more extensive scale, by Winter of Königsberg. Without discussing the merits of the proposed plan, which on the surface appears admirable, I come at once to the practical side and ask what has been the result in Germany of publicity disseminated in this way?

During the past summer I had an opportunity to converse with a number of men who are connected with university hospitals there and who studied carefully the question of publicity. Those to whom I put my questions assured me that they did not find any advantageous result. They had seen no larger percentage of operable cases, since the "Winter" circular letters had been sent out, and since the lay press had published articles written by Winter on the subject of uterine cancer. What they had observed, following the general publicity in the lay press, was that "a goodly number of neurasthenic women were made more nervous and consulted physicians in fear of cancer."

It is my opinion, strengthened by this information obtained abroad, that we are not likely to get under observation a larger percentage of incipient cases of cancer of the uterus by giving the cancer symptoms to the public through the medium of the lay press. On the contrary, it is more than likely that of the large number of women suffering from leukorrhea, those of the neurasthenic type will simply acquire an aggravation of their nervousness, with this result: They will rush to physicians for examination, and, if told they have no malignant disease, will be distrustful, and seek the advice of others. I am convinced, therefore, that the better way—the only rational way, indeed—is to impress on the profession the grave importance of being conscientious in the matter of examination, and never superficial.

Let the teaching on this particular subject to the laity come from the family doctor and not through newspapers and magazines. We know that since the public has been educated to the danger of cancer of the female breast, women, as a rule, do not hesitate to submit to an operation for such afflictions. How has the public been instructed in this case? Certainly not by the lay press, but by physicians in direct intercourse with their patients. And as a result of this teaching, the word has gone from woman to woman: "If you have a lump in your breast, lose no time in consulting a doctor"!

Formerly I too regarded such publicity as is now advocated the best means of securing a larger percentage of operability. But, since learning the experience of confrères abroad, I have become convinced that a far better way is the one I have not infrequently advocated heretofore, when speaking or writing on this subject. To bring about a lower mortality from cancer of the uterus it is only necessary that members of the medical profession should use in practice what they so well know in theory concerning the occurrence of first symptoms in this dread disease.

From my own point of view more practical benefit would be gained by impressing on physicians the grave risk of treating with internal or local medication, before having made sure that no malignant condition was present, a patient who has even the slightest suspicious symptom. The family physician, in his confidential relation, is the one to teach women the danger of neglecting to consult if even the slightest suspicious symptom be present. That the training of the profession, particularly of the younger members, in this direction, is already beginning to bear fruit is shown by the increase in the number of women seeking consultation for the purpose of diagnosis as to the presence or absence of cancer.

It is of far greater importance that, in all instances in which there is the slightest suspicion, the general practitioner shall *make absolutely sure that cancer is not present,* rather than that he shall definitely diagnose its presence. Only through such conscientious method will gynecologic surgeons be enabled to get tangible results from their efforts to guide their professional brethren in this direction. Nor until the medical profession becomes resolved that in cases that present even the slightest subjective or objective symptom of cancer, it is the moral duty of the physician to use every available method to negate a cancer diagnosis, before he allows the patient to pass from under his observation, shall we be able to reduce the mortality from uterine cancer. If, however, we can bring about such scrupulous practice as this, I am confident that the percentage of radical cures by operation will increase 50 per cent.

Of every curetting the scrapings should be examined. From every cervix that appears suspicious of cancer enough should be excised for a microscopic examination.

When the diagnosis of cancer has not been positively excluded such patient should be constantly under the observation of her physician.

TREATMENT

A diagnosis of cancer of the uterus having been made, what is the best method of treatment?

Without hesitation I favor the extended abdominal operation for the greater number of patients. The exceptions to this general rule are patients who are very obese; cases of cancer of the body of the uterus, when the uterus is freely movable, and cases of incipient epithelioma of the vaginal part of the cervix. (In somewhat advanced cases of cancer of the cervix, it is impossible to determine, with certainty, from what part the disease originated.) But in connection with the latter class of patients the personal point of view enters very largely into the determination of the incipient stage, operable cases, the border-line cases and the inoperable cases.

Recently I saw the extended abdominal operation done on a patient from whom a small area from an eroded portio vaginalis had been excised, and the pathologist's diagnosis was cancer. From what I saw, I would have called that an instance of the incipient stage of cancer, and subjected the woman to a vaginal hysterectomy. Patients in whom the disease had passed what I would designate as the incipient stage should be operated on by the abdominal route; and the operation should be done extensively; the parametria and enlarged glands should be removed also. The ordinary panhysterectomy —the original Freund method of extirpating a cancerous uterus—is inadequate. The old technic of vaginal hysterectomy is on a par with the operation known as "Freund's operation" so far as remote results are concerned, and it is superior in primary results.

In women who are so obese that it is obvious that an abdominal operation will be technically undesirable, the vaginal operation devised by Schauta, in connection with the paravaginal section described by Schuchardt, should be the method of choice. By the latter method, although the glands cannot be extirpated, yet the parametria may be removed, and quite extensively, though not so extensively as by the abdominal route.

Border-line cases are those in which the disease has advanced so far that while one may find it possible to extirpate the cancerous uterus, it is very doubtful—indeed, improbable—that all malignant structures can be removed. Though some operators unhesitatingly operate radically on such patients, I do not favor the extended abdominal operation under these circumstances, since the primary mortality necessarily is very great, and the remote results are comparatively still more unfavorable. I believe that in cases of this character a palliative operation with an actual cautery is better for the patient, just as in instances at once diagnosed as inoperable by radical means.

In consideration of treatment, *x*-ray therapy is clearly entitled to a place. That numerous patients with cancer in other locations have been benefited by such treatment and that some have been cured is unquestionable, and particularly is this true of epithelioma of the skin.

Thus far, although I have had a number of women subjected to the treatment, I have not seen an instance of marked benefit from the *x*-ray in uterine cancer; but Bumm[4] reports a very interesting observation:

> A woman 46 years old had atypical bleeding and pain in the left side since February, 1912, for the relief of which she came to the clinic in May. The woman was obese and anemic; the cervix was tumid and fixed; the finger came into a rimose cavity with broken-down masses, which, on the left side, was in continuity with the vagina and the parametrium. On examination per rectum it became evident that from the cancerous mass a voluminous infiltration proceeded, going from the left, posteriorly, to the pelvic wall and immobilizing the cervix. Because of the diffuse character of the infiltration a removal of the cancer did not seem possible, and the case was assigned to Roentgen treatment because of inoperability.
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> During the months of June and July the patient was treated at intervals of from one to two days, according to the method described by Haendly at the June meeting of the Berlin Gynecologic Society. In September the treatment was resumed. When, about the middle of October, I reexamined the patient, who had up to that time been receiving 800 Holzknecht units = 1,600 Kienboeck, I was surprised at the improvement in the general and local condition. The patient asserted that the bleeding had ceased entirely; that the discharge, which had lost its putrescent odor, had diminished, and that the pain had quite gone. Instead of the former large crater there was now only a narrow cavity, in which the penetrating finger found no granulating masses. The cervix was hard and callous; the former diffuse infiltration toward the left side was transformed into a hard tumor, which could be well distinguished from the pelvic wall; and it and the cervix were mobile. Under these circumstances operation seemed possible. It was advised; and on October 22 it was done.
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> At the vaginal preparatory treatment but little tissue could be scraped away with the sharp spoon, as it came into contact everywhere with hard, creaking tissue.
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> When the abdomen was opened the pelvic peritoneum was found whitish and callous; the adnexa were agglutinated into one mass with the corpus uteri and could be liberated only with scissors.
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> The hardening and callousness increased on going downward toward the tissues that were the more exposed to the rays. It was necessary to liberate the left ureter with scissors from out of a whitish glistening callosity. The enucleation of the cancerous nodule in the left parametrium left a large cavity, which extended down to the levators; but, because of the marked circumscription of the nodule, the enucleation was accomplished with ease. On both sides enlarged, hard glands were removed from the trunks of the vessels. Smooth convalescence.
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> From a clinical point of view the case described shows that by vaginal raying large doses may be administered without causing burns of the mucous membrane; and that under the influence of intense raying a hardening of the tissues of the vaginal vault, the cervix and the pelvic connective tissue occurred, which not only hindered further dissemination of the cancer but also after expulsion of the cancerous masses, effected a purification of the cancerous crater and a cessation of ichor and hemorrhage. As the result of the tissue sclerosis the diffuse infiltration of the parametrium became sharply circumscribed from the surrounding structure, and the formerly inoperable cancer became operable.
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> While the sclerotic changes and retrogression of the cancer-dissemination could also be clearly seen and palpated in the sectioned specimen, the microscopic examination disappointed us somewhat. The lining of the cervical wound-cavity showed everywhere a thin, not visibly changed, layer of proliferating cancerous tissue, which was surrounded first by a thin layer of strongly celled infiltrated tissue and then by a voluminous layer of sclerosed connective tissue, which almost entirely superseded the muscle lamellae. In the parametrium too—in, and even outside of the callus cancer—nests were found; the sclerotic glands were free.

A detailed description of Bumm's case is given because of the importance of the findings in connection with the *x*-ray treatment.

Frequently reports have been published with the statement that inoperable cancer is made operable by this means. But why, I ask, are these patients operated on when improvement is evident? Even taking Bumm's case as an example, might it not be that a continuance of the treatment would have resulted in a complete cure?

We need much more work and observation of this character. I earnestly urge that, when in this class of patients a formerly inoperable cancer becomes operable, the treatment be continued and the results noted. Unfortunately, among my own inoperable cases, I have not seen any so improve under Roentgen therapy as to become operable.

SUMMARY AND CONCLUSION

We know nothing definite as to the cause of cancer.

There are no symptoms which, alone, are characteristic of cancer of the uterus.

The onset of the disease is so insidious that sometimes the neoplasm has progressed to a stage beyond the hope of cure by any kind of operation, before the appearance of a symptom sufficiently marked to cause the patient to seek advice.

The promulgation of knowledge regarding cancer of the uterus through the lay press, as advised at the last meeting of a large national gathering, cannot bring about a lowering of mortality from uterine cancer to such extent as would be the case if the medical profession—the family physician—did the teaching directly.

Information regarding cancer of the uterus in its early stages, through the lay press, is likely to do more harm than good, because there are no characteristic symptoms that apply to that disease alone, and because the principal early symptom, leukorrhea, is one that is present so often in women in whom there is not the slightest suspicion of uterine cancer that such lay articles are likely to aggravate the nervous symptoms already existing in many, and make neurasthenics of some who are not ill.

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[4] Bumm: Zentralbl. f. Gynäk., Nov. 23, 1912.

The family physician must be urged to realize that, in all instances in which there is the slightest suspicion of cancer, his obligation to his patient is to ascertain, by all diagnostic means at his command, that cancer is *not* present, rather than to affirm a cancer diagnosis.

When the diagnosis of cancer has been made, an operation for the relief, or the cure—as the case may be—should be undertaken as soon as possible, since, with our present knowledge, surgery offers the best prospect for the patient.

39 East Sixty-First Street.

REPORT OF A CASE OF PNEUMOCOCCUS MENINGITIS WITH NORMAL CEREBROSPINAL FLUID

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The diagnosis of meningitis in recent times, thanks to lumbar puncture, has been greatly facilitated. That the cerebrospinal fluid is the mirror of the exudative and transudative phenomena occurring in the vascular apparatus of the pia and arachnoid is generally believed. The positive diagnosis of any form of cerebrospinal meningitis is never justified unless the specific microorganism is found in the cerebrospinal fluid.

The dictum of Dunn[1] of Boston that "without lumbar puncture a diagnosis of cerebrospinal meningitis is absolutely without value for scientific, statistical or therapeutic purposes" deserves repetition. It is believed almost generally that negative findings also, if extending over the late stages of the disease, will uniformly enable the absolute exclusion of meningitis. It must now be admitted that positive findings alone in this regard are conclusive, and that an encephalitis and meningitis may be present with a normal fluid. This does not apply to the tuberculous variety, as we now know that, in the later stages, tubercle bacilli are invariably to be found in the cerebrospinal fluid, though at times with difficulty.

Recently Oseki[2] encountered cases of pneumonia in which at necropsy microscopic examination showed a meningo-encephalitis of which there had been no symptoms whatever during life. A similar condition was found in other infectious processes, including typhoid fever. In a series of ten cases of pneumonia this condition was found in four. This means, undoubtedly, that in the past many of our pneumonia patients, whose nervous symptoms have usually been interpreted as meningismus, were really suffering from lymphocytic and leukocytic infiltration of the brain and meninges.

REPORT OF CASE

Baby P., male, aged 1 year, an inmate St. Ann's Infant Asylum, suffered from an attack of measles when 2 months old. May 14, 1911, four weeks previous to the present illness the patient contracted influenza accompanied by a wide-spread maculopapular eruption. Koplik spots were absent. He did not seem to recover entirely from this attack. His nutrition had always been below normal; weight was 14 pounds. He presented the usual signs of rickets. On the 14th day of April I was asked to see him. The nurse stated that she had noticed him failing the previous four days; he would not take his bottle as usual and had been having fever. The onset had been gradual following closely on the attack of influenza.

Physical Examination.—The infant was suffering from malnutrition and rickets the latter evidenced by craniotabes, rosary, and enlargement of the epiphyses at the wrist and scoliosis. There was marked prostration and pallor; pulse 150, respiration 50, slight expiratory grunt, excursion of the alae nasi, temperature 103.5. Baby took but little nourishment; no exanthem or enanthem. Chest and Abdomen: The right chest posteriorly gave marked dulness extending from the spine of the scapula to the liver. This dull area presented marked resistance to the examining finger and extended around the chest to the midaxillary line; Skoda's resonance was not elicited beneath the clavicle. The left chest posteriorly gave normal resonance; no paravertebral triangle of dulness. Anteriorly over right and left chest normal resonance. On auscultation over dull area bronchial breathing heard. Over left chest normal breath sounds except that they were somewhat intensified. Cardiac impulse not palpable, apex-beat located with stethoscope in fourth interspace in mamillary line. Heart sounds clear and distinct, second pulmonic sound slightly accentuated. Liver above at sixth rib, below not palpable. Spleen palpable two finger-breadths below free costal borders. Abdomen neither distended nor unusually flattened. Diarrhea not present. A puncture made over the dull area of right chest withdrew 8 c.c. of clear serous fluid.

Examination of Nervous System.—Baby in a stupor; pupils equal, moderately dilated, reacting to light; no spasticity of the legs, some resistance of the right thigh to passive flexion and extension; knee-jerks increased, no ankle-clonus; Kernig's sign absent, Babinski's sign present; contralateral leg reflex, identical and reciprocal, absent; Brudzinski's neck sign present, rigidity of the neck, no opisthotonos. Marked tendency to opisthotonos if infant was placed in prone position. Fontanelle open about the size of a dime, level with the skull. No paralysis of the extremities; no ptosis, nystagmus, lagophthalmus or facial paralysis. Lumbar-puncture withdrew 4 c.c. of a clear serous fluid drop by drop under less than normal pressure. The bacteriologist, Dr. John W. Marchildon, reported no microorganisms in the fluid and no increase of the cell content. The next morning the general condition of baby was much worse. Prostration more marked, respiration 42, pulse 120, temperature 99.8. Neck sign still present. Death occurred that evening.

Diagnosis.—Bronchopneumonia with exudative pleurisy. Owing to the character of the fluid removed by lumbar puncture, and the frequency of the symptom-complex (meningismus) in infectious processes, the diagnosis of meningitis was not made. The most important single symptom which spoke for this was Brudzinski's neck sign. Absence of a bulging fontanelle spoke against this diagnosis.

Necropsy.—Brain: There did not seem to be a marked increase of the cerebrospinal fluid; the ventricles were not at all distended. Meninges: Convexity and parietal surface of frontal lobe extending back to the parietal lobe was covered by a thick fibrinopurulent exudate. The base was not involved. The exudate showed an organism corresponding in all respects to the pneumococcus. Lungs: Left lung normal, right lung, posterior and lateral surface of middle and inferior lobe consolidated. The pleura covering this consolidated area was occupied by a very thick fibrinopurulent exudate the exact counterpart of the membrane covering the brain. The chest contained 15 c.c. of clear serous fluid. Nothing special in the other organs. Anatomic diagnosis: Bronchopneumonia, fibrinopurulent pleurisy, pneumococcus meningitis of convexity.

Holt[3] has reported a case of pneumococcus meningitis with anatomic findings (meninges) identical with this one in which the cerebrospinal fluid was sterile throughout the course of the disease. He remarks (January, 1911): "We are accustomed to place so much reliance on lumbar puncture that the possibility of the existence of acute meningitis with a normal fluid is rather difficult to grasp."

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[1] Dunn: Cerebrospinal Meningitis, Its Etiology, Prognosis and Treatment, Am. Jour. Dis. Child., February, 1911, p. 95.

[2] Oseki: Beitr. z. path. Anat. u. z. allg. Path. (Ziegler's), 1912, iv, 538

[3] Holt: Observations on Three Hundred Cases of Acute Meningitis in Infants and Young Children, Am. Jour. Dis. Child., January, 1911, p. 26.

In casting about for an explanation of the failure of the cerebrospinal fluid to show the characteristic changes, it would not be necessary to assume a shutting off of the spinal canal. The thick and tenacious character of the pseudomembrane covering the brain with almost no liquefaction of this exudate is sufficient to explain the reason for the failure of the cerebrospinal fluid to reveal the actual condition.

From what has been said above, the following conclusions seem justified:

1. The positive diagnosis of pneumococcus meningitis may be impossible during life.
2. A normal cerebrospinal fluid may be obtained throughout the disease.
3. Anatomic changes (encephalitis, meningitis) occur oftener than usually believed and are the explanation of symptoms from the side of the nervous system which we have regarded in the past as functional (meningismus).

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THE GRAFTING OF PRESERVED AMNIOTIC MEMBRANE TO BURNED AND ULCERATED SURFACES, SUBSTITUTING SKIN GRAFTS

A PRELIMINARY REPORT

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The use of this tissue for grafting to denuded areas finds its justification in that it is essentially an embryonic offshoot of the skin and is histologically built up of dermal elements.

It is more logical for this purpose than tissues of other animals, being "human" and, as just stated, of skin derivation and hence homologous. It also seems better than freshly cut skin-grafts, eliminating the use of the razor and anesthetic as well as the entailed secondary wound with its numerous inconveniences. Besides these advantages, should this method be found as useful to others as I have found it, there is a negative advantage of inestimable value in that there is no harm done should there be no "take."

Dr. Nicholas Sabella, who cooperated with me in my early efforts to perfect this plan of treatment has been using the amniotic covering of the umbilical cord and that portion of the amnion immediately adjacent to its fetal attachment where it is found to present "amniotic caruncles" which comprise islands of stratified epithelia closely resembling true skin. His results have also been gratifying in the extreme.

The histology, in brief, is that of a smooth, glistening membrane made up of two layers loosely connected and freely movable between the thumb and index-finger. The outer layer, of chorionic origin, is mucofibrous, and the inner, of true amniotic origin, is made up of a single layer of cuboidal epithelia. It is this side of the sac with which we are most concerned, as it is the one which will adhere to the denuded surface, being simply an extension of embryonic skin.

The technic of preserving and fixing the grafts was suggested to me by Dr. Alexis Carrel, who also described his method in a recent paper.[1] In this paper he deals with the preservation in latent life of various tissues, including skin-grafts removed from an infant which had died during labor, and describes his experiments with various mediums such as isotonic sodium chlorid solution, Locke's and Ringer's solutions, defibrinated blood, serum, confined human air and petrolatum. The last and Ringer's solution were chiefly employed, and in these mediums the tissues were placed immediately after their removal from the organism and maintained at a temperature between —1 and + 7 C. (between 30.2 and 44.6 F.). The color and consistency remained normal for several weeks and even after from seven to ten months the microscopic appearance of the arteries was not markedly modified.

In my experiments I have adhered to the above technic but have employed petrolatum and also liquid petrolatum for jars from which parts of an entire amniotic sac were being cut from day to day for cases as they presented, thus avoiding the necessity of reheating the jars after each session, which would have been necessary were I using the thicker medium. Individual tubes of petrolatum containing small specimens are, however, better for stock purposes keeping much longer, as they are exposed to the air for the first time—except before their immersion—just when needed.

Another important aid from the same source was the recommendation of a wax dressing—mixture of paraffin, beeswax and castor oil—to hold the graft in close apposition to the granulatory surface and cause it to conform accurately to the minute inequalities thereof.

The freshly obtained amniotic sac is washed of all blood in a normal saline solution, dried between layers of sterile gauze and immediately immersed in petrolatum which has been raised to the melting point over a water-bath. Liquid petrolatum will serve well when a specimen is to be cut many times and used up within a few weeks. The receptacles are stored on or near ice as soon as possible.

When the denuded surface has been thoroughly cleansed of all secretion and bits of tissue, a section of the graft is spread smoothly, care being taken to press out all air-bubbles. Care should also be exercised that the amniotic or glistening side be placed in apposition to the wound.

The wax, having been warmed to just the degree necessary to liquefy, is now applied with wooden applicators wound with cotton so that a whisk of nearly an inch in length may be saturated and then drawn across the graft without disturbing its position. A fresh applicator is used for each dip to prevent contaminating what remains, and also because the wax hardens immediately on exposure, and the cotton would soon become covered with hard wax and no longer be a soft brush. An outer dressing of cotton and bandage is all that is necessary for protection and absorption.

After two days when the dressing is removed it is found that what seems to be the entire graft is adherent to the wax. This, however, is not what happens. On microscopic examination of this adherent tissue it is found that only the outer or chorionic layer has come away. The two layers have separated and the inner or true amniotic cellular tissue has been taken up by the raw surface.

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[1] Carrel, Alexis: The Preservation of Tissues and Its Applications in Surgery, The Journal A. M. A., Aug. 17, 1912, p 523.

Thus far the conditions treated have not held closely to any one group but have included varicose ulcers, burns, scalds and denudations of traumatic origin.

Ulcers.—These were generally varicose ulcers of the leg of all stages of infection and depth of erosion, and in nearly every instance it was necessary to "clean up" before grafting could be thought of. Iodin or strong solutions of potassium permanganate followed with a wet dressing of mercuric chlorid solution 1:2,000 left on two days generally sufficed to subdue the odor and encourage a more healthy appearing surface. After this procedure it is often found useful to stimulate by rubbing briskly with dry gauze, thus removing all sluggish granulations and detritus. The application of the graft and wax with a thick and smoothly applied outer dressing was usually done as described, but occasionally the wax covering was extended over the entire leg below the knee for the better maintenance of the circulation. While the results were much better than anything seen in our experience with other methods, there was not the diffuse even take over the ulcerated surface which occurred in other cases. There were numerous spots or islands of skin and edges which were healthy and grew in rapidly.

Burns and Scalds.—When all bits of dead skin and all foreign matter had been carefully removed and the tissue applied and left on two days, there was almost without exception an even and diffuse adaptation of the graft. In this group, however, there were only eleven cases; these included all degrees, but none more extensive in area than 9 square inches, approximately, and none situated on the face.

Traumatic Denudation.—One case was treated with so satisfactory a result as to justify a more complete description. In this instance the left hand of a laundry worker was caught in a machine and then quickly pulled out, denuding the palmar aspect of the ring and middle fingers throughout the length of the two terminal phalanges. The raw surfaces were grafted but once and after two days were found diffusely and entirely covered with healthy skin so that no further treatment was necessary other than a dry protective dressing, the skin being yet delicate. This case demonstrates the action of this mode of treatment at its best advantage, there being no unhealthy condition of the underlying tissue. In spite of the fact that there is but one case in this group I am encouraged to believe that the result could not have been obtained in any other way, and that the graft took immediately.

In conclusion it is proper to acknowledge that the experiments have been limited to such cases as herein described and that electric, *x*-ray or extensive burns of any sort have not been tried.

Should the amniotic graft do as well or nearly as well as true skin, it must commend itself for general use, obviating, as it seems, the necessity of an anesthesia and the production of a secondary wound with no certainty of the outcome for its justification.

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Newspaper Medicine.—The recording by the lay press of a heroic deed or wonderful act on the part of a physician or surgeon is highly desirable, for it increases the respect in which the profession should be held; but there is no excuse for assisting a writer to project a half-baked truth or an incomplete discovery on the necessarily ignorant public.—B. Joseph in *Vermont Med. Monthly.*

MEDICAL EDUCATION AND THE HOSPITAL [*]

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Mr. President and Members of the Æsculapian Club: I am delighted to have the opportunity of meeting you and honored by the invitation to address you on the subject of medical education and the part the hospital takes or should take in the making of the modern physician. I accept the fact that this invitation is not extended to me as a personal honor, but because for ten years as chairman of the Council on Medical Education of the American Medical Association, I have been on the firing-line in the battle to elevate the standard of medical education in this country; and I take it that you desire to hear the story that these swiftly moving years have written; to hear what has been accomplished, what the existing conditions are, and what still remains to be done in order to place medical education in America on an acceptable basis; and especially what part the hospital will play in this development.

I shall not deal with statistics or with the rehearsal of ancient history, but I shall attempt to draw a rough sketch of medical education as it was when many of us began to study medicine, in order that we may compare it with the opportunities offered and the courses required in our better schools to-day. In the early eighties, a medical student could graduate after attending two courses of lectures of from twenty-six to thirty weeks each. In many schools an additional year's preparatory reading with a preceptor was required, making three years in all, but as a matter of fact the year with the preceptor too often meant little or nothing in the way of medical education. Once in a while, however, this preceptor year under some old Hippocrates of a general practitioner was the best of all and molded and directed the student's medical career. These courses of lectures were repeated year after year, the second year of the course being a repetition of the first. They were given, in the better schools at least, by masters of their subjects, men who knew the medicine of their time and who knew how to impart this knowledge as well as it could be imparted by lectures. Little was done in the way of laboratory work or in the dispensary or hospital. Read the clinical lectures of Trousseau, the lectures of Paget, the surgical pathology of Billroth; and those of you who did not live through this period can form some idea of the character of the medical teaching done in America by their contemporaries, by such men as Samuel D. Gross, Austin Flint, Marion Sims, Henry Bigelow, N. S. Davis, Moses Gunn and a host of others. It has become rather the fashion to belittle the early American medical schools and the medical teachers who taught in them. Surely this is not warranted by the facts. Medicine was not as yet a science. These old masters taught well what was then known. They struggled under a heavy load; many things which seem clear to the first-year medical student to-day were dark, unsolved problems to them. Do not criticize these men; they were great men. Do not criticize their medical schools and their methods of teaching; they were in keeping with the knowledge of their day.

The truth is that in thirty years a revolution has occurred; a new and great science, the science of medicine, has been born; and the change has been so rapid and so great that even those of us who are not old can reach back and touch the dark days when medicine was not a science. To us the disciples of Æsculapius, there has come with this wonderful change a great opportunity and a great responsibility—to develop a scheme of medical education which will keep pace with the rapidly advancing science of medicine.

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[*] Address before the Æsculapian Club of Harvard University at Boston, Dec. 7, 1912.

In the old days when the two- and three-year medical courses consisted almost altogether of didactic lectures, seven to ten men with a lecture room or two could conduct a medical school at little expense and as a profitable business. As a result in this growing country medical schools sprang up wherever the rapidly increasing population offered opportunity. The number of schools organized must have been four or five hundred in all during the course of our history. When the American Medical Association first seriously grappled with the problem of medical education through THE JOURNAL of the Association the number of medical schools was 166, about as many as in all the rest of the world. As medicine assumed the dignity of a science it became necessary to put the medical school on a university basis. Since the appointment of the Council on Education a continuous effort has been made by the American Medical Association, largely through publicity in its JOURNAL, to better the situation, and with the assistance of the state licensing boards, the association of American Medical Colleges, the Carnegie Foundation and some of the universities, great improvements have been made. The number of medical schools has been cut down from 166 to about 110 and it seems probable that this number will be shortly reduced to 90 or less as the majority of the state licensing boards have this year refused to recognize thirty or more of the poorer schools. It also seems probable that this number will eventually be reduced to about 60 or 70 schools, which will then all be on a sound university basis.

In addition to the reduction in the number of schools other very great advances have been made. Between fifty and sixty schools now require the students to take one or two years of premedical work in physics, chemistry and biology in addition to a four-year high-school course before beginning the study of medicine. The course has been lengthened to four years in all American medical schools and a large proportion of the graduates from our better schools now serve a year or more as hospital interns before beginning the practice of medicine. Except in a few states, graduation from a recognized medical school requiring four years of study is demanded before the applicant can take the examination for license to practice medicine. Strange at it may seem, Massachusetts and Tennessee are about all the territory still left open to the non-graduate. Within a few years, therefore, we shall have in America about sixty or seventy medical schools. The medical student, after leaving high school, will be required to spend one or two years in the study of physics, chemistry and biology in the university, two years in the laboratory, two years in the clinical branches of medicine, and two years as intern—in all six or seven years in preparation for the practice of medicine.

Before leaving the subject of preliminary education I want to criticize one requirement which has been adopted at Harvard, namely, that of a bachelor's degree for admission to the medical school. There is no fair reason why the anomalous American college course should be sandwiched in between the secondary school and the medical department of the university. Life is too short to compel the waste of two or more years in this way. If a bachelor's degree is required and a hospital internship added, the average age of the class at graduation will be 28 or 29 years—too late an age for a man to begin to try to make a living. In Germany the student begins the study of medicine when he is between 19 and 20 years old; he takes a six-year course, which includes one year in physics, chemistry and biology and one year as an intern in a hospital; he thus secures his license to practice by the time he is 25 or 26 years of age. Twenty-five is a much better age at which to begin the practice of medicine than 28 or 29. I should much prefer to have an intern come on my service in the hospital at 25 than at 29. This is a very serious question and I feel sure from the comparative studies that I have made that it is a mistake to make a bachelor degree requirement. A much better plan is to make one or two years of university science the maximum requirement and even then this should not be generally adopted unless it can be associated with such a saving of time in the secondary school that the average medical student can complete his course by the time he is 25 or 26. I would suggest the adoption at Harvard of the six-year combined course; that is the two-year university science requirement for admission and the intern year as an integral part of your course. Another reason for adopting this plan, and a very strong one, is this: the Harvard medical school should sustain the same relation to New England that the medical department of Berlin does to Prussia or that the medical department of Munich does to Bavaria. It should train the medical men of New England. In order to do this it must be a large medical school and graduate a large number of men. (The Munich school has 2,000 and Berlin 1,800 medical students.) Harvard can never do this with a bachelor requirement which means completion of the medical course at 28. It can do this, however, on the Berlin and Munich basis.

The development of the science of medicine came with the birth of modern pathology and bacteriology and with rapid advances in anatomy, especially in histology and embryology, and in physiology and in the effort, just begun, to make a modern scientific pharmacology. These so-called laboratory branches of medicine have made great strides in the last thirty years. The development of these sciences has made the science of medicine possible. Acknowledging fully the great debt medicine owes to these laboratory branches and without seeking to belittle them in any way, I desire to claim the highest place for clinical medicine itself, the science which utilizes the sciences of anatomy, physiology, pathology, bacteriology, pharmacology, chemistry, physics—in fact, all knowledge—in the effort to seek the cause of disease, to prevent disease, to cure disease, and to relieve the individual of suffering and deformity. I have sometimes heard my laboratory friends say that the only purely scientific side of medicine is the laboratory side, the research side, and once one of them said to me: "What have the clinicians done to compare with the cure of diphtheria by antitoxin?"

What have the clinicians done? Take but a hurried glance at medical history and you will find that the clinicians discovered vaccination, introduced anesthesia, and discovered antiseptic and aseptic surgery; a clinician, Ogston, even discovered the pus microbe; the clinicians have saved thousands of lives by a clinical study of the cause and cure of appendicitis, a work in which your own Reginald Fitz took a leading part. More lives are saved by modern surgery each year in appendix lesions alone than are saved by all the specifics so far discovered by the laboratory workers, including those for diphtheria, cerebrospinal meningitis, and hydrophobia. Think of the thousands of lives that have been saved by the clinician through modern aseptic surgery each year! As a clinical triumph which compares favorably with the introduction of antitoxin in diphtheria take the saving of 90 per cent. of our cases of general peritonitis early operated on as compared with the former mortality of over 90 per cent.; consider the splendid piece of clinical research work of Kocher in the surgery of the thyroid gland for which he received the Nobel prize; the modern kidney work controlled by the *x*-ray and other scientific means of diagnosis; the modern bone work made possible by the *x*-ray and aseptic surgery; and the stomach work, gall-bladder work, prostate work, etc.; and in the specialties think of the magnificent work that has been done in neurology, pediatrics, eye, ear, nose and throat, dermatology, orthopedics, in fact in every department of clinical medicine.

I do not wish to make any unkind comparisons or to detract in any way from the splendid achievements of our laboratory colleagues. I do want, however, at the beginning of this discussion to insist that the patient, the living, human being with his diseases, is the unit about which the science of medicine is built; that the study of this living, human being is just as scientific as the study of a rabbit or a guinea-pig or a test-tube full of pathogenic germs; that the hospital and dispensary can and should be as scientifically conducted as the teaching laboratory; that clinical research is as scientific as laboratory research; that the highest type, the ultimate object of all medical research is clinical research in which the effort is made to discover the cause and cure of disease. I must insist also that the scheme of medical education must be directed by the medical man, the clinician, assisted by, but not controlled by, his colleagues in anatomy, physiology, pathology and pharmacology.

In the development of a scheme for teaching modern scientific medicine we must as the first essential have the patient and a place to study him in; that means that the medical school must be located in a large center of population and must be built in and around the dispensary and hospital. We must have the necessary facilities to employ the modern refined means of diagnosis; this means clinical laboratories. We must have facilities to study disease in culture and in animals; this means research laboratories. These clinical and research laboratories must be in connection with and a part of our dispensaries and hospitals. In order to prepare our students for the study of clinical medicine, laboratories of anatomy, physiology, pathology and pharmacology must be provided, so far as possible in close contact with the hospital and dispensary. We must have trained clinical and laboratory teachers. One of the great needs in this country is a system such as has been developed in Germany for the training of teachers and research men. German medicine has been made preeminent by the young men from 25 to 35 years of age working as assistants, devoting five, ten or even fifteen of the best years of their lives to one department of medicine, mastering it, developing it, making themselves trained teachers and research men, capable of stepping into the shoes of their chief, or of filling a chair in some other university. We must adopt the same plan in this country.

To my mind the two great problems which now confront us here in America in medical education are: first, the need of a scheme for the development of trained teachers in medicine; and second, the need of the right sort of affiliation between our great hospitals and university medical departments, and the education of hospital trustees to the importance of the educational research functions of the hospital.

The first need as I have already stated I think can best be met by adopting the German plan of having assistants serving many years in one department. This should be applied in both laboratory and clinical departments. It is very desirable that the teacher of anatomy or physiology, pathology, etc., in a medical school should be a man with a complete medical training, including a hospital internship. It is essential for him to have the medical point of view. It is a mistake to put a man direct from the laboratory sciences, no matter how brilliant, into a clinical chair. Laboratory training is most desirable but these men in addition to their laboratory training should serve their five or ten years of apprenticeship as assistants in clinical work.

In solving our second problem, we may again turn to Germany for aid. In this country the medical school has been developed independently of the hospital. In England the medical schools were developed in the hospital, the attending medical men forming themselves into a faculty to teach medicine. In Germany I think we find the right relationship. In no German city is there more than one university and therefore no German city has more than one medical school, as all the German medical schools are medical departments of the twenty German universities. It has not been difficult therefore in Germany to make a close affiliation between the great municipal hospitals and the medical departments of the universities. This is the condition which we should strive to bring about in this country.

This cooperation of the municipal hospital and the general hospital supported by private endowment with the medical department of the university must be brought about in America, and how this is to be done is one of the most vital problems presented at the present time to our great charity hospitals and our universities. The welding of the great charity hospital and the medical department of the university is one of those affiliations which is of great mutual benefit. That such cooperation is of service to both institutions and to the community at large is well shown by a study of the great clinics in the German universities where such combinations exist. We must bring about such a condition of affairs in our great American cities. Wherever I have discussed this matter I have been met by two classes of arguments: one, that on account of our political situation it will never be possible to take our great municipal hospitals out of political control; and another (presented by a group of men, especially laboratory men who know little about clinical medicine and hospital conditions) that the ideal solution would be for each university medical department to have its own university hospital and provide its medical students with patients just as it provides them with test-tubes and guinea-pigs in the laboratory. What is clearly the answer?

This question must be looked at from the broad point of view of the community as a whole; from that point of view it is an economic wrong for the university to conduct a hospital for the sole purpose of teaching and research, and a sociologic crime for the municipality to conduct a hospital as a boarding-house for the care of the sick without any regard for the educational and research functions of the hospital. In the interest of the community, therefore, this union of forces is demanded. The hospital should provide for the care of the sick and the university should provide for the teaching and research function of the great hospital. The two bodies, the administrative and the medical, each have their separate functions to perform. They need not and must not conflict. And it is only by working together in the same institution that the [illegible] results can be obtained. This solution is the only correct one. It must come about because it is the right solution. We must bring about as soon as possible these affiliations between our universities and the great hospitals which are so fortunately situated that they can secure the advantages of such university connection.

The medical school must enter into a partnership arrangement with the hospital and dispensary. In cities where there is but one medical school this will be an easy matter; in cities like New York, where there are several schools which will probably continue, a plan of cooperation must be entered into. Our municipal hospitals must be taken out of politics. The best practical way of meeting this problem is to make a long contract or arrangement between the hospital and the medical school, giving the medical school the right to nominate the attending staff subject to confirmation by the hospital trustees. This medical staff should then have charge of the medical arrangements of the hospital. The salaries of these men should be borne by the university and not the hospital. Special facilities for teaching should be provided by the universities, but the expense of conducting clinical laboratories and research laboratories in the hospitals should be borne by the hospital as a part of its own work. The medical management and the hospital management must work together as partners and not in the position of employees and employer. A small executive body composed of the head of the board of trustees, the hospital superintendent, the head of the training school and two or three medical men should meet often, at least once a month, best at the hospital at lunch-time, and discuss all the important business so that there can be good team-work among the various departments of the hospital. The medical service of course must be continuous and each department should be under a single head, who should also have charge of that particular subject in the college and in the dispensary. Appointments and promotions should be made on the nomination of the president of the university, the dean of the medical school and the head of the department, these of course to be confirmed by the trustees. In each clinical department, the three functions, the teaching of medicine, the training of teachers and research workers, and research itself should be developed. Each man in the department should be doing clinical work, teaching and research work.

In addition to a large general hospital the medical school should make affiliations, as done here at Harvard, with special hospitals, orthopedic, children's, maternity, eye and ear infirmaries, hospitals for infectious diseases, etc. There are two other points which I should like to discuss.

First, who should be appointed as hospital attending men and as clinical teachers?

Second, how should the hospital with its outpatient department be used in teaching medicine?

The answer to the first is that we should appoint the strongest man who can be secured for the place. In regard to this question there has been during the last few years a somewhat heated discussion. Shall we appoint men to our clinical chairs who will devote their entire time to teaching, hospital work and research and who shall do no private practice for fees and whose income shall be limited entirely to the salary of his chair? This position has been under consideration by a number of university authorities and was championed quite strongly by Abraham Flexner in some testimony given before the Royal Commission which recently investigated the subject of university teaching in London. I think the men who take this view do not fully understand the situation. Flexner, as I understand his testimony, cited, as examples where this was carried out, the clinicians of Johns Hopkins and of the German universities such as Friedrich Müller of Munich. As a matter of fact in neither Germany nor Johns Hopkins are the clinicians restricted in any way in their personal right to employ their medical and surgical skill as they see fit. It is of course unfortunate when, as sometimes happens, a clinician called to a chair in an important university proceeds to capitalize the reputation of the university and makes it pay handsome dividends into his own pocket; but on the other hand it would be unfortunate for American medicine if our great university clinicians were placed in a position where their services were rendered exclusively to the poor, and the well-to-do were deprived of them. Here again we must turn to Germany as a model. I am quite willing to accept Friedrich Müller as an example to be followed here. Müller himself does not think that it would be well to deprive the clinical teacher of the right and opportunity to do a limited amount of private practice. He believes that the university teaching and hospital and research work should have the first call on the teacher's time and that he should devote the greater part of his hours and energy to these. On the other hand he feels that to deprive the clinical teacher of the right to practice would separate him from the medical profession, and he would soon lose the broad point of view of medicine so necessary in one who is training medical practitioners.

I feel that it would be a very great mistake to put our clinicians on a rigid salaried basis and divorce them from the practice of medicine. It would fill our university chairs with mediocre men and deprive the medical school of the services of the best brains in clinical work. Besides it is not necessary, in order to insure the best clinical teaching and research work, to deprive the clinician of his right to charge for his services. Make provision in the teaching hospital so that the head of the clinical department can have a consulting room and a few private rooms. Let him take care of his private cases with the same team and laboratory with which he does his charity work. A man who pays a fee for an operation or a consultation is just as valuable a unit in a clinical research as the charity patient. It is unfortunately true that in this country we have not as yet developed the right type of clinical teacher in our medical schools. We should do as they do in Germany: fill the clinical chairs with men who are university professors, and who will devote the necessary time to teaching and research. In addition to the clinical teachers of the university type the medical school should utilize as extramural instructors the well-trained clinicians with good hospital and dispensary appointments in outside institutions.

How should we use the hospital and dispensary for clinical teaching? In the present period of reorganization of medical teaching in this country there is a tendency to try out a number of different plans, and we have naturally turned to Germany and Great Britain for models and have tried out some original ideas of our own. I do not think that we could do better than adopt the general plan of the German university medical school, which so far is the best that has been developed. It is not perfect and I think we can improve on it in several particulars, especially in better supervision of the students and in the far greater value of the intern year in America as compared with the present compulsory hospital year in Germany. The hospital year has not been satisfactory in Germany so far because the permanent assistant has crowded out the intern and given him no opportunity. In the ideal seven-year course in medicine which will shortly be the generally adopted medical course in this country, four years will be devoted to physics, chemistry, biology, anatomy, physiology, pathology and pharmacology, and three to clinical medicine, the first two in the medical school, the last in internship in the hospital. How shall we handle these three clinical years?

From my study of this subject during the last ten years I have been forced to the conclusion that there is little place for a scheme of elective studies in the undergraduate medical course. The medical man, no matter whether he is to be a general practitioner, a specialist, a medical teacher or a medical research man, must have as a foundation to build on at the very least that general knowledge of the sciences which can be obtained in the limited time of the medical course. The time is so short, there is so much to learn, that if he makes an attempt to specialize he necessarily neglects some phase which is essential to a well-rounded view of the entire subject.

First, in these clinical years provision should be made to continue the studies of anatomy, physiology, pathology and pharmacology as applied to clinical medicine, as well as for taking up the purely clinical subjects. The method of dismissing these subjects after a term or two of work is a great and serious mistake. The fundamental sciences on which medicine is based should in some form be carried throughout the entire course. In this way much better team work can be done between the physiologist, for instance, and the teacher of clinical medicine and surgery. Possibly I can best illustrate my conception of the clinical course by outlining the clinical work in the department of surgery with which I am most familiar.

In the third and fourth years of the medical college course proper there can be fairly assigned to surgery from five hundred to six hundred hours, that is from two hundred and fifty to three hundred hours each year. How can this amount of time be best employed? The ground that must be covered includes courses on surgical anatomy, surgical pathology or principles of surgery; regional surgery, including the surgery of the head, neck, thorax, abdomen and extremities; operative surgery on the cadaver and animals; orthopedic surgery, genito-urinary surgery, dispensary clinics, large amphitheater demonstration clinics and small ward hospital clinics. In passing let me say a word in defence of the amphitheater clinic which has lately been criticized and in some schools done away with. I believe that here as in Germany we must retain the large amphitheater teaching clinic of the chief as the back-bone of each clinical department. Visit the teaching clinics of von Eiselsberg, of Garré, of Kocher, of Krause, of Müller and you will find them the most instructive and the most essential work of their courses. The large amphitheater clinic of the chief must of course be supplemented by small section work done by assistants and by the other courses above outlined. Now when you make provision for all of these courses, what is there left of the five hundred or six hundred hours which have been allotted to the surgical department? Very little time to give a thorough hospital training. The point I want to make is that in a well-organized surgical course there is not enough time in the third and fourth years to give a thorough hospital training to the senior student. The only way out of the difficulty is to add a hospital intern year and make it an integral part of the medical course. There is another reason, too, why this should be done and a very important one, especially as applied to the department of surgery, and it is this: that the young medical man can in fairness to the patient and to himself handle serious hospital surgical cases only when he has become a part of the medical or surgical machine which is providing proper medical and surgical care for the patient; that is when he is a hospital intern.

The dispensary offers the best opportunity for the clinical teaching of the third and fourth years and it is usually the most neglected. Of the two a complete well-organized teaching dispensary is of more importance to a medical school than the hospital. The dispensary should be under the direct control and management of the chief of the department and his assistants, and if properly utilized it will furnish the bulk of the material needed in undergraduate clinical instruction. I do not wish to belittle in any way the value of the clinical training in the hospital; but the point I desire to make is that the amount of time that can be allotted to hospital work in a well-rounded medical curriculum of four years is so small that at best it is but an introduction to the real hospital work which must follow, that is that of the hospital intern. Is it possible to provide hospital internships for all the graduates in medicine? The Council on Medical Education is now looking into this matter fully and within a year or two will make a report on the relation of the hospitals of this country to medical education, and with special reference to the question of a compulsory intern year.

We can say now, however, that there are more than four thousand hospitals in the United States with more than two hundred and fifty thousand beds. There are at present about four thousand men graduating each year in medicine. Estimating twenty-five patients to each intern, this would make places for ten thousand interns or would furnish the four thousand graduates places in the better 40 per cent. of the hospitals. The requirement for the intern year will come from the state licensing boards. Each medical school should see that a committee on the intern year makes a list of acceptable approved hospitals open to its students and that each student is provided with a hospital appointment; if possible some affiliation between these hospitals and the medical school should be made so that the faculty can keep in touch with the hospital and student and satisfy themselves that the hospital service is of value and that the man has done acceptable work as an intern.

I have had the pleasure and opportunity in the last two days of looking over your medical school, your hospitals and dispensaries. I believe that you have here in Boston an opportunity to develop one of the great medical schools of the world. In order to accomplish this you must build on a broad foundation. The three great functions of a medical school must be recognized as essential and each one properly performed, the making of practitioners of medicine, the production of trained teachers and research men and lastly medical research work itself. Make your school so big and broad that its great opportunities will not be limited to a few men but will produce well-trained scientific practitioners for the large territory that is within your sphere of influence. Develop a great number of trained teachers and research men who will carry the torch to other institutions and other communities. Seek to master the great unsolved problems of the cause and cure and prevention of disease so that from your laboratories and clinics there may come great medical truths that will prove of service to all mankind.

As individuals and as a university take an active, enthusiastic part in the great progressive movement which has been initiated and is being carried on by the American Medical Association, which has for its purpose the raising of the standards of the profession and the securing to the public the great benefits offered by modern, scientific medicine.

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THE PHILOSOPHY OF MASTICATION

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The chewing of our food is a subject of more or less interest to all of us. Beginning with the precept inculcated in every nursery, we are constantly admonished throughout life that thorough mastication is a prerequisite to health; while a rather recent school of thought contends that the whole process of bodily nutrition is markedly affected by the preliminary treatment of food in the mouth.

Mastication is an entirely voluntary act, while the performance of swallowing is a complicated reflex movement, which may be initiated voluntarily, but is, for the most part, completed independently of the will. Under normal conditions the presence of moist food on the tongue seems essential to the completion of this act, and I might add that a pleasant taste, coupled with a favorable mental attitude, still further facilitates the passage of food down the esophagus.

Too rapid eating, or tachyphagia, is a frequent fault, and has no doubt caused many digestive qualms, besides being the starting-point of many chronic disorders of the alimentary tract. This I admit. What I do *not* admit, however, is the necessity for slow, deliberate and systematic mastication as a sine qua non for health in every individual, irrespective of temperament or station in life; nor do I believe it conducive to the best work of the digestive organs that a hard-and-fast rule be enjoined, whereby a certain stated period must be devoted to the mastication of a meal, regardless of the pleasure of the masticator.

From time to time apostles of deliberate mastication, or bradyphagia, have appeared on the horizon, the most prominent of these being Mr. Horace Fletcher, whose work, "The A. B. Z. of Our Nutrition," is so largely devoted to this topic, and who so well pleads its cause, that slow eating has come to be called "fletcherism"; and to chew and insalivate food until it liquefies in the mouth is to "fletcherize" it, according to the nomenclature.

Mr. Fletcher is an American, who, when middle-aged, obese, dyspeptic and discouraged, discovered that by slow and deliberate eating his health improved, and began to elaborate this supposedly new principle. Asserting that he literally chewed himself back into health, he also argued that by the extreme mastication and insalivation of food, appetite is satisfied with a much smaller amount than is ordinarily craved, while at the same time bodily and mental well-being is greatly enhanced.

Mr. Fletcher was really anticipated by Mr. Gladstone, who, as the first advocate of this fad in England, attributed much of his success in public life to the fact that he had always made it a rule to give every tooth a chance, counting thirty-two bites for each morsel.

Under Mr. Fletcher's skilled exploitation, mastication as an art has grown and budded and blossomed until it has become a new theory, so popular that any one seeking to impede its continued fruition is considered by many either an iconoclast or an ass.

As regards the protein constituents of food, insalivation exerts but little effect. We well know that either the pepsin and hydrochloric acid in the stomach or the trypsin beyond will attend to them, if they are decently comminuted, and their stay in the mouth need be only long enough to originate those psychic impulses which Pawlow has shown us regulate the subsequent flow of digestive juices. Carnivorous animals and reptiles habitually bolt their food, and zoologic history furnishes no record of any psychic forms of dyspepsia in these creatures. The essence of salivary digestion is the transformation of starch into sugar by the action of the ptyalin, and that process, though inaugurated in the mouth, continues until the whole of the stomach contents has become acid. The time of salivary digestion is brief, and to be effectual should be energetic. No more should be expected of it than a preliminary act. The pancreatic and other juices beyond the stomach will care for the starches, if only the psychic centers forward the tidings as received by the gustatory senses.

As to the method or comparative rapidity of chewing, I might say, and say correctly, it is to a great extent temperamental. As some people can perform a stated task, and perform it well, in half the time required by slow-moving individuals; and as some people move quickly, speak quickly and think quickly, so they also chew quickly, but well. By those ardent and strenuous spirits who are happiest when in the busy turmoil of competitive struggle, the act of mastication is naturally performed briskly, but none the less adequately. To that other class, who desire to meander through life in a leisurely way, "far from the madding crowd's ignoble strife," to those semivaletudinarians whose gastronomic powers are under constant mental scrutiny, fletcherism promises the fountain of youth.

Another objection to interminable mastication is the brevity of life. In one place Mr. Fletcher relates that one-fifth of an ounce of a young onion required 722 chews before it disappeared through involuntary swallowing, and Dr. Kellogg mentions a patient who cheerfully spent never less than an hour and a half in masticating his one small daily meal. To insist that busy men, those whose shoulders and minds bear the burdens and cares of government, commerce or literature; whose eager intellects are conquering the earth, the sea and the air — to insist that these should be subjected to a wearisome mastication of inanimate food, is a delusion and a snare, an anachronism in our twentieth-century civilization, and a frittering away of priceless time.

A short while ago there consulted me a cadaverous-looking dyspeptic, who informed me that, up to his retirement from active business five years ago, he had never experienced a digestive discomfort. During his laborious years he ate his breakfast hurriedly, so as to get to the store betimes. His lunch was snatched at a nearby restaurant, while his evening meal was frequently rushed by some important engagement. The finer details of mastication never entered his head, nor did he realize that he was "digging his grave with his teeth," until so informed by an overzealous friend acquired in his new life of leisure. The small seed, once sown, took root in his idle mind, and, with little else to do, he devoted himself assiduously to fletcherizing his food and safeguarding his health. The result of this was a morbid introspection, which transformed a robust, alert business man into a puny, whining invalid, full of pains and obsessions, and with every waking thought short-circuited on his stomach. That this is not an uncommon case any observant physician will testify.

The students of digestion and nutrition, guided by the beacon lights furnished by Pawlow and Cannon, are each year according more and more potency to the psychic factors involved in every function of those organs, and benighted indeed is the intellect that can comprehend only the mechanic and chemic aspects of these all-important questions. When an appetizing meal is placed attractively before a hungry diner, both the eyes and the olfactories set in motion the preliminaries to the digestion of that meal. As each mouthful is received by the waiting gustatory tract, it is chewed and insalivated just enough to promote easy deglutition, and to allow its savory taste and aroma to be thoroughly appreciated. In the meanwhile numerous messages are being sent to the stomach, pancreas and other organs concerned, informing them in language perfectly intelligible how much and what kind of aliment is being sent them to digest. Should the messages be of cheerful import, these organs set to their tasks with alacrity, performing them with such ease and dispatch, that the fortunate owner need not know that he even owns a stomach.

On the other hand, should the same meal be taken with severe gastronomic contemplation, and with arduous and lengthy mastication, the message may be "flashed" to the same waiting organs: "Your master has lost confidence in you, the mouth and teeth will take over the most of your former duties, and hereafter you will be under constant mental surveillance." It is easily understood that under such conditions digestion is performed in a halting, complaining and unsatisfactory manner, and well may we say that "the last state of that man is worse than the first."

A certain amount of necessary chewing is advisable, as evidenced by the conformation of the human teeth. If the chemical functions of the stomach are deficient, or if the outlet is greatly constricted, fine mastication and thorough insalivation are highly beneficial. Fletcherism is also allowable in those lackadaisical creatures whose tastes are gently epicurean, and who possess the desires of a Lucullus, minus the initiative. Let these harmless souls chew to their heart's content, for they need some fad, and this one can harm no one unless it be themselves.

To the great majority of every-day Americans, a simple injunction as to good teeth and ample mastication is entirely sufficient. But to those ardent beings who move impetuously through the drama of life, whose every act is intense and every movement like a flash—to these fletcherism is a thorn in the flesh, causing them to worry and chafe like a spirited horse held back by a cruel bit.

Each division of the alimentary tract has its rightful duties in the life-scheme of nutrition, and the magnification of any one is liable to prove an opening wedge for various digestive ills, that, like jealousy, furnish the food they feed and grow on.

As we cannot by thought add one cubit to our stature, so let me close with the paraphrase, "No man can by taking thought add energy to his stomach."

Pure Milk a Community Problem.—The milk business is not the farmer's but the community's business, and unless the members of a community work together for good milk they will never have it.—Horatio N. Parker, M.D., in *Child Welfare Bull.*

SPASM OF THE LUMBAR MUSCLES

A DIAGNOSTIC SIGN IN INFLAMMATION OF THE KIDNEY

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The study of visceral reflexes offers a fruitful field in diagnosis. It is strange that the sensory, motor and trophic changes dependent on reflexes caused by visceral diseases have not been worked out more carefully. The motor changes due to appendicitis, diseases of the gall-bladder, and ulcer of the stomach and duodenum have long been known; but similar changes due to disease in other viscera have been suggested very slowly. I called attention to a resistance in the muscles of the right half of the abdomen, particularly the upper portion, when the ileum is the seat of a tuberculous involvement.[1] I have also pointed out the spasm of the lumbar muscles when the kidney is the seat of a tuberculous involvement.[2] It must be remembered, however, that these reflexes are not peculiar to tuberculosis, but are present whenever any inflammatory condition is present in these viscera. I have also pointed out that the same motor visceral reflex is to be found in the presence of inflammations affecting the lungs and pleura, and that it can be detected in the muscles of the neck and chest. Much of our stimulation to the study of visceral reflexes, as well as our knowledge of them, comes from Ross, Head, Egger, Mackenzie and Bálint in Europe, while I have urged their importance in America.

The principle of these reflexes is simple, although it does not seem to be generally understood. The reflex is segmental in character; that is, while individual fibers of the nerve may take their origin from more than one segment of the cord, the fibers from only a single segment may be involved without disturbing the remaining fibers. Therefore, the entire nerve is not necessarily involved in the reflex, but only certain fibers of it. From this we can plainly see that one muscle of a group, or a portion of a muscle may show spasm, while the rest of the group, or the other portion of the muscle does not, although the entire group or entire muscle is supplied by filaments from the same nerve. Only those fibers of the nerve are involved which take their origin from the cells affected by the stimulus as it comes from the cord through the fibers of the sympathetic which supply the inflamed portion of the viscus. Therefore we should always expect reflex motor, sensory, trophic and even secretory phenomena to be expressed through the nerve fibers coming from a segment of the spinal cord when the particular cells of that segment which give them their origin are irritated. Thus, for example, when the viscera (or any part of a viscus), which are supplied by sympathetic nerve fibers from the third cervical segment of the spinal cord are inflamed, some of the cells which give origin to motor, sensory and trophic fibers in the same segment will be irritated by the impulse carried to the cord through the sympathetic fibers, and produce motor, sensory and trophic changes in the parts which these fibers supply. The same is true of any other segment of the cord which gives origin to nerve fibers supplying the viscera. It only remains for us to work out the areas carefully. Future investigations will undoubtedly show definite areas for motor, sensory and trophic disturbances which we shall be able to assign to each organ or part of organ.

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[1] Pottenger, F. M.: Interstate Med. Jour., May, 1911.

[2] Pottenger, F. M.: Muskelspasmus und Degeneration, ihre Bedeutung für die Diagnose intrathorazischer Entzündung und als Kausalfaktor bei der Produktion von Veränderungen des knochernen Thorax und leichte Tastpalpation, Beitr. z. Tuberk. (Brauer's), xxii, No. 1, 1912, 1; Muscle Spasm and Degeneration and Light Touch Palpation, Mosby & Co., St. Louis, September, 1912.

My method of study has been entirely clinical. By palpation I have endeavored to find the motor and trophic changes. In the presence of acute inflammation the reflex shows as a spasm of the muscles while, if the inflammation becomes chronic, degeneration occurs, the soft parts atrophy and changes occur even in the bones, cartilages and joints, which can safely be attributed to trophic disturbances.

Head, Egger and others have proved the sensory changes in the skin. Bálint from the Koranyi Clinic in Budapest has studied the muscle changes by means of their electric reaction. In 1903 he published the fact that in the presence of pulmonary tuberculosis there was a difference in the electrical reaction to both the galvanic and the faradic current in the chest, arm and neck muscles on the side of the involvement. In a recent paper Bálint and Egan[2] published further studies with reference to the electrical reaction of the muscles in case of inflammation of the kidney, gall-bladder and ulcer of the stomach and duodenum and promises for a future paper which shall be a complete study along this line. This work will undoubtedly add to our knowledge of diagnosis of visceral inflammations.

The kidney reflex (muscle spasm) which I wish to describe is not very difficult to elicit. It is found by placing the patient on a comfortable stool or chair so that his feet are flat on the floor. He is then instructed to sit erect, but relaxed, so that the lumbar muscles are not put on a stretch. These muscles are now examined by light palpation. Any difference in tension should be observed. If one kidney is the seat of an inflammatory process, the muscles on that side will be firmer than normal. If both kidneys are inflamed the lumbar muscles on both sides will be firmer than normal to the touch. It is often plainly visible that the muscles on the affected side are larger and stand out more prominently than the corresponding muscles on the other side. The most important thing to remember in looking for the spasm here, the same as in examining the muscles of the abdomen, chest or neck, is to have the muscles relaxed. The muscles which are being examined, as well as those with which they are being compared, must be relieved of all tension, otherwise errors will creep in.

The importance of these reflexes is self-evident. At a glance one has a suggestion that a kidney may be inflamed, or the seat of a stone or a tuberculous process, or some other inflammation. In tuberculosis of the kidney, when operation is considered, this is of special value. It will prevent the disaster which sometimes occurs when after one kidney is removed, it is found that the other one is also involved. The importance of this is evident from the fact that a tuberculous kidney does not always cast off bacilli. Catheterization of the ureters and a failure to find evidence of tuberculosis in the catheterized urine does not prove that the kidney is not tuberculous. The presence or absence of spasm of the lumbar muscles, however, or a normal or altered electrical reaction, as determined by Bálint will unquestionably be of value in these cases. With the experience that I have had with tuberculosis of the kidney, since announcing this reflex, I am sure that no kidney should be removed for tuberculosis, except as a life-saving measure, if the lumbar muscles on the other side are the seat of spasm.

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[2] Bálint, Rudolf, and Egan, Ernst: Ueber Veränderungen der elektrischen Reizbarkeit der Muskeln bei Erkrankung verschiedener Organe, Berl. klin. Wchnschr., Dec. 2, 1912.

A CASE OF SPASTIC PARAPLEGIA, WITH DORSAL ROOT SECTION FOR PAIN AND SPASTICITY

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Patient.—J. C., aged 37, single, admitted Oct. 6, 1910, to the Buffalo General Hospital. Family history, negative. Usual diseases of childhood. Railroad accident at the age of 7 leaving right ankle ankylosed. Typhoid at 17; recovery complete. At 19, acute rheumatism of joints of legs for six months; another attack at the age of 21, which lasted nine months; recovery. Two attacks of gonorrhea at ages of 23 and 25, leaving moderate stricture; chancre at age of 35; patient had been treated for that and for the stricture.

Present Illness.—For some time past, patient had a sensation about the body like a girdle pain and some numbness of the legs; had some trouble in walking. Sept. 25, 1910, he felt a sudden shock like an electric current go through the body; abdominal muscles grew tense; patient had to be taken home and later entered the General Hospital. Complaint: girdle pain, tense abdominal muscles and trouble in walking.

Examination.—Large, well-nourished man. Heart slightly enlarged with some arteriosclerosis present. Urine normal. Wassermann positive. Slow dragging walk. Sensation good; knee-jerks exaggerated, doubtful clonus, no Babinski. Probable diagnosis, hysteria; later diagnosis changed to spastic paraplegia, due to syphilis of the cord.

Treatment and Course.—The patient remained at the hospital for several months, receiving general treatment and three doses of salvarsan. The hysteric symptoms continued, and gradually positive signs of spinal cord involvement appeared and increased. In May, 1911, he was admitted to the Erie County Hospital. At this time spastic paraplegia was marked, with flexion and adduction of the legs. Patient complained of severe pain in the abdomen and legs; he was unable to stand or walk, spasticity was extreme; reflexes were increased except at right ankle, which was stiff from ankylosis. There was some voluntary motion in the left leg, and partial loss of control of the sphincters. The patient remained in bed, complaining bitterly of pain, drawing sensations and constipation. The spasticity increased until he could be lifted from the bed like a board, all the muscles, especially the abdominal and erector spinae, in a state of extreme contraction. On account of the increasing pain and spasticity, unrelieved by treatment, it was decided by Drs. Putnam and Kauffman that section of the posterior roots was indicated. The site determined on was the lower dorsal region, as the symptoms were centered in that area. If this operation should afford partial relief, a second operation was anticipated in the lumbar region.

Operation.—Oct. 13, 1911, by Dr. Le Breton; ether anesthesia. Incision from the eighth dorsal to the first lumbar vertebrae. Spinous process of the twelfth dorsal removed, trephine applied to its base, and button of bone excised; rongeur used until the dura was bared from above the ninth to the first lumbar vertebra; dura opened; flow of clear fluid; posterior roots cut, ninth, tenth, eleventh, twelfth and first lumbar, each side, resecting when possible portions of the roots. Catgut to dura, muscles and skin; no drainage.

Postoperative History.—The following day the spasticity had disappeared everywhere; reflexes absent; loss of bladder control complete; loss of control of the left leg; complaint of great drawing pain inside of the abdomen.

One week later, partial return of bladder and leg control. Area of anesthesia across the abdomen from navel to upper thighs, about corresponding to the lower intercostals, iliohypogastric and ilio-inguinal nerves, also a narrow area across the lower back. The edges of the wound separated slightly with some serous oozing.

Two weeks later, some purulent discharge from under the skin reaching to the muscles beneath.

December 16: Wound healed. Loss of weight and strength; complaint of severe pain constant; patient states that the pain in the abdomen is worse than ever; slight return of spasticity in all muscle groups and of the reflexes.

December 23: Patient very costive; pulse 116; loss of strength; patient states that he wants to die; very hysterical; spasticity returned all over and very severe; anesthesia across abdomen as before; bedsore on buttocks.

Jan. 4. 1912: Condition bad.

January 26: Death from inanition and exhaustion. A necropsy could not be obtained.

COMMENT

The indication for this operation is the necessity for relieving pain or spasticity or both. This case seemed ideal because of patient's age and general strength and the fact that both the pain and spasticity were so marked and kept increasing in intensity. On account of the hysterical element it was sometimes hard to believe what the patient had to say about the severity of the pain, but the spasticity had to be felt to be appreciated. The reason for the report of the case is the fact that in the area most complained of, that is the abdomen, there was no relief from pain—the patient maintaining to his death that it was worse than before; and the fact that within ten weeks' time the spasticity had completely returned, the recti abdominis looking like bowstrings.

In the recent literature on posterior root section, an article by W. A. Jones[1] gives the best idea of the consequences of this operation, as he summarizes in a useful way the experiences of others. The majority of these report partial or complete success, but some had been disappointed by the return of the pain or spasticity after the operation. The explanation of the return of pain is that the lesion is central to the root section or that the pathway for pain sensations may lie elsewhere than in the posterior roots. The explanation of the return, partial or complete, of the spasticity is not well understood. Nor has it been understood why in one case there occurs anesthesia, in another hyperesthesia, and in yet another, no changes in sensation.

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POLIOMYELITIS IN GUINEA-PIGS*

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P. H. Roemer[2] has noticed that guinea-pigs in his laboratory frequently died of a paralysis which was very similar to that of epidemic poliomyelitis. On studying the cause of this paralysis he found a non-bacterial, filterable virus which could be transmitted from guinea-pig to guinea-pig, and which caused, after an incubation period of nine to twelve days, a flaccid paralysis, usually of the hind legs, with involvement of the bladder. Microscopically this condition also resembled the pathologic picture of poliomyelitis in man. No other investigators report any successful results in this species of animals.

Oct. 11. 1912. Monkey 20 (*Macacus rhesus*) was injected with an emulsion of the cord of a monkey that suffered from poliomyelitis of a very high virulence, obtained through the courtesy of Dr. Clark of the Rockefeller Institute. This injected monkey was placed in a cage with a wire bottom. October 14 the animal, which was sitting in a corner of the cage, was reported ill. The cage containing the monkey was placed by one of the attendants on a cage in which there were guinea-pigs. October 15, I found the monkey suffering from a paralysis of the muscles of the neck and apparently unable to raise its head which was hanging down. There was also a marked paresis of all four extremities and a discharge was dripping from its nose. October 16, two guinea-pigs were reported paralyzed in their hind legs and died the same night. A necropsy was done the following day on the monkey, which later on examination showed marked lesions in the cord, characteristic of poliomyelitis.

One of the guinea-pigs, dead when I saw it, was in the position with outstretched hind limbs in which it was described to have been while alive. The other was, unfortunately, through mistake, brought down to the crematory by one of the attendants before I could get hold of it. A necropsy was done in Guinea-Pig 1. The cord was edematous to such an extent that it was semifluid, and only a small part with the neighboring tissue was put into formaldehyd solution for hardening. The rest was put into a sterile salt solution for further injections. A piece of the nasal mucosa was also preserved in another tube. The thoracic and abdominal organs showed nothing abnormal. The histologic findings were as follows: There was a perivascular infiltration of mononuclear round cells in the pia of the anterior longitudinal fissure, and a pericellular infiltration of these cells in the anterior horns of the gray matter presenting a focal distribution and a marked neurophagocytosis. The degeneration of the ganglion cells was so far advanced that they were hardly discernible. There were also numerous hemorrhages in the gray matter of the cord. On no section was there any microorganism found.

October 25 Guinea-Pig 3 was inoculated with the emulsion of the cord of Guinea-Pig 1, by rubbing it into the mucosa of both nares. I avoided injection in order to make sure that any lesion that might result should not be attributed to a possible traumatism of the brain or spinal cord, and besides I wanted to imitate as far as possible the natural route of infection. October 31 the animal was reported as dying during a convulsive seizure. A necropsy was done the same day and the macroscopic findings were as follows: There was edema of the cord and brain, with a congestion of the vessels and no pus anywhere. The thoracic and abdominal viscera were normal. Histologically there was no perivascular infiltration of round cells, but there were marked hemorrhages in the gray matter (anterior horns of the cord), slight neurophagocytosis and a very marked degeneration of the ganglion cells of the anterior horns. There was also some infiltration of round cells in the pia around the olfactory bulbs, and there were hemorrhages in the gray substance of the olfactory bulbs and two foci of infiltration of glia and dark-staining round cells.

October 8, a smear of the nasal mucosa of Guinea-Pig 1 was rubbed on the mucosa of both nares of Guinea-Pig 4. This animal remained perfectly well for six days and was found dead October 14. The macroscopic changes of the cord and brain in this guinea-pig were very much the same as in Guinea-Pig 3. Histologically we found some perivascular infiltration of round, dark-staining cells in the white substance at some levels of the cord, and a very marked diffuse round-cell infiltration in the gray substance, especially in the anterior horns of the lumbar segments of the cord, with a complete degeneration of all their ganglion cells and minute hemorrhages in that region. The pia of the anterior longitudinal sinus was slightly infiltrated with round cells. There was also an infiltration of round cells in the pia lining the olfactory bulbs. No bacteria were seen on any of the sections.

As a control, the nasal mucosa of Guinea-Pig 6 were swabbed on December 19 with the filtered virus of the cord of a monkey that died of poliomyelitis. The animal remained well for twenty-four hours. December 21, the guinea-pig was decidedly ill, moved about with some difficulty and had a distinct paresis in the left hind limb. The animal was at once narcotized and necropsied. The cord and brain were quite edematous and the vessels were congested. Microscopically the cord presented at all levels the characteristic perivascular and pericellular infiltration of leukocytes but this condition was especially marked in the lumbar swelling on one side in the anterior horns of the gray matter, probably corresponding to the affected limb. Here the infiltration was more diffuse in the anterior horn and the ganglion cells were degenerated. The hemorrhages were quite marked at all levels in the gray matter in the cord. The brain presented no characteristic lesions. The abdominal and thoracic viscera were normal. Bacteria were not seen on any of the sections. An emulsion of the cord and brain of this guinea-pig was injected into a monkey. The animal became quite ill two days after the injection and remained so for three days but ultimately recovered and is perfectly well now.

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[1] Jones, W. A.: Resection of the Posterior Roots of the Spinal Cord, The Journal A. M. A., Oct. 7, 1911, p. 1175.

* From the Department of Bacteriology, University and Bellevue Hospital Medical College, Prof. W. H. Park, Director.

[2] Ergebn. d. inn. Med. u. Kinderh., 1912, p. 1

While I do not care to draw any definite conclusions from these few experiments, I believe I am justified in assuming, as did Roemer, that the first two guinea-pigs and Guinea-Pig 6 presented clinical symptoms and pathologic lesions of poliomyelitis and that the probable manner in which Guinea-Pig 1 was infected was through virus of the infected monkey mixed with the dust of the cage in which the guinea-pigs were confined, the dust obviously infecting the guinea-pigs through the nasal mucosa.

It is also pertinent to note that the guinea-pigs used had not been experimented with before and that their antecedents had been traced to the farm from which they came.

I desire to thank Drs. Reiley and Fraser for their kind assistance.

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THE GROWTH, THE DEATH AND THE REGENERATION OF BONE

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Radical differences of opinion have always characterized the teaching of the theory of the growth and regeneration of bone, but one factor in the process appears to have been unanimously conceded a place of great importance. The embryologists, the anatomists, the physiologists, the surgeons and the pathologists have agreed that the periosteum is not only a source of nutrition for the bone but that it also possesses definite osteogenic properties; that from the periosteum the osteoblasts have their origin, in part at least, for the formation of the bones of the fetus, and that the process for the regeneration of bone to replace portions destroyed by disease originates and develops largely in and from the periosteum.

In a recent article[1] one of the foremost American surgical anatomists of to-day says:

> In the new-born, and in young individuals, the periosteum is composed of three layers, the outer layer consisting mainly of rather coarse white fibrous tissue, a middle fibro-elastic layer, and an inner osteogenic layer. . . . In the adult, the osteogenic layer has practically disappeared, leaving here and there a few of its cells, a factor that must be reckoned with in every effort at osteal transplantation or grafting.

Another well-informed and progressive surgeon in an address recently published[2] says:

> Osteogenesis resides in the lower layers of the periosteum, the marrow and the soft structures within the haversian canals and lacunae.

Now comes Sir William Macewen of Glasgow with a little book[3] in which are detailed many observations from elaborately planned and executed experiments which, if substantiated and confirmed, completely upset our former views and necessitate a revision and correction of all the standard text-books on anatomy, physiology, surgery and pathology.

Macewen not only denies to the periosteum an osteogenic function but assigns to it a function of a diametrically opposite character: that chiefly of a "limiting membrane" for the osteoblasts to prevent their overgrowth into the soft tissues.

With reference to these functions of the periosteum he concludes as follows:

> It may be deduced from the foregoing observations and experiments that diaphyseal bone is reproduced by the proliferation of osteoblasts derived from preexisting osseous tissue, and that its regeneration takes place independently of the periosteum. *The periosteum is not essential to bone production* [italics mine]. Osseous tissue can pass through all the phases of its life, from its embryonic to its mature form, without the influence of or contact with this tissue.
>
> The periosteum is of great use in limiting within specific boundaries the distribution of the osteoblasts, and preventing them during their evolutionary period from being scattered into the soft tissues, where their presence would be prejudicial to the function of these parts. In the loose areolar tissue existing between the periosteum and the bone the osteoblasts find nutriment for their growth and space to generate, free from undue pressure. While not underestimating the periosteum as a limiting and protecting membrane, of great use in physiologic and pathologic conditions, there are no data to indicate that it can, of itself, secrete or reproduce bone. *It has no osteogenic function* [italics mine].

The acceptance and practical application of this truth, if truth it be, must materially modify the surgery of bones. A new point of view is presented from which, for example, ununited fractures and so-called provisional callus must be considered. The periosteum acting as a barrier to bone growth would of necessity be a factor in causing non-union if it intervened between fragments; and when extensively lacerated or destroyed, or when its function as a limiting envelope is impaired by a failure to immobilize the fragments, the formation of excessive callus through overflow of the osteoblasts into the surrounding soft parts would be inevitable.

All surgical teaching and practice based on the theory that reconstruction of bone depends on periosteum would have to be revised and rewritten.

The transplantation of bone *en masse*, without periosteum, already adopted and successfully practiced in human subjects, would be justified, and confirmed in its empiric position. Bone proliferation and cellular growth circumferentially from grafts *en masse*, or from bone chips and shavings likewise find logical substantiation which confirms the observation of actual results in men and animals.

The theory that such a graft "is *per se* not *osteogenic*, but *osteoconductive*,"[1] must also be held subject to revision.

Macewen's comment regarding this phase of the subject is as follows:

> Small diaphyseal grafts, when placed in a gap in the continuity of bone, show active proliferation from the whole cir-

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1. Murphy, John B.: Contributions to the Surgery of Bones, Joints and Tendons, The Journal A. M. A., April 6, 1912, p. 985.
2. Roberts, John B.: Recent Advances in Plastic Surgery of the Bone, The Journal A. M. A., Nov. 16, 1912, p. 1759.
3. Macewen, William: The Growth of Bone, Glasgow, James Maclehose & Sons, 1912.

cumference, each piece being an ossifying center from which osseous tissue is thrown out sufficient to fill the gap between the various fragments and to unite them together along with the two ends of the divided shaft. Under suitable surroundings the vegetative capacity of the osteoblasts is at least as great as any of the tissues in the body, and bone proliferation takes place from its whole surface circumferentially, while epithelium, for instance, proliferates only on the flat.

As an example of the eccentric growth of bone through rents in its periosteal envelope in an untreated fracture, I present a specimen (Fig. 1) from a young elk I killed in Colorado in 1892. The unconfined osteoblasts distributed through the periosteal rent by the constant use of the animal's leg have produced a large amount of exuberant callus in addition to that required to unite the fragments.

Another striking example is the formation of a bony wall for a false aneurysm when the ends of the fractured bone have at once lacerated the limiting periosteum and a large artery. The osteoblasts swept from the bone through the rent and carried by the blood-stream to the side wall of the aneurysm form plates or placques of bone on it, though they be entirely disassociated from both the bone and the periosteum.

The well-known importance of the epiphysis and of the plates of cartilage lying between the epiphysis and the diaphysis in their relation to the growth of the diaphysis is experimentally confirmed, as is also the protection afforded by this cartilage against the diffusion of infection.

"Once the epiphyseal plates of cartilage are well formed and complete, they become of service against the advance of pathologic products—as they then form a barrier to disease emanating from either the epiphysis or the diaphysis. In this way a pyogenic process emanating from the medulla of the diaphysis is prevented from spreading into the epiphysis, and consequently the joint is saved from invasion; and on the other hand, a tubercular process originating in the epiphysis is barred from encroaching on the diaphysis."

This limiting function of the cartilage (which Macewen prefers to call the diaphyseal cartilage because of its more necessary relation to the diaphysis) is exceptionally well illustrated (Fig. 3) in one of my cases in which after the sequestrum and pus were removed the Mosetig-Moorhof bone wax is shown by the skiagram to lie in a large mass directly against the cartilage, while no infection of the cartilage, the epiphysis or of the joint occurred.

In an analysis of Sir William Macewen's conclusions every surgeon of experience will review his own work and results and attempt to determine for himself how far he believes them to refute or confirm Macewen's findings.

Among the important questions to solve is an occasional apparently unaccountable extensive destruction of the diaphysis without any effort at reconstruction, while in another patient equally extensive death of the bone is attended by an immediate attempt at regeneration of the diaphysis which speedily goes on to the formation of a perfect bone after the dead bone and pus are eliminated.

As examples of these quite different phases of destructive osteomyelitis I beg leave to refer to two cases; I operated on the first patient and reported the case many years ago;[4] the second case I saw within the past year and still have it under observation.

The sequestrum from each case is presented. From the second case the skiagrams showing the primary gap and the steps of the reparative process are also presented.

Case 1.—During the winter of 1884 a girl aged 4 sustained a fracture of the lower end of the fibula about an inch above the epiphysis. The nature of the injury was not recognized by the family. Cold wet cloths were applied and she was allowed to hobble about the house for a week when the leg was immobilized on a splint. A fluctuating swelling was found over the seat of fracture which was opened and more than an ounce of pus evacuated. No union of the fracture occurred, and the opening drained freely for three months when a red spot, presenting deep fluctuation, was found over the upper end of the shaft of the fibula. This infected area was incised, and when the bone was examined through the incision its denuded surface could be felt. It was apparent that the shaft of the fibula was dead almost from one epiphyseal extremity to the other.

The end of the bone was caught with forceps through the lower incision and with a slight twisting motion the shaft of the fibula was easily withdrawn from its periosteal sheath.

I herewith present this sequestrum showing the erosion produced by the progressive osteomyelitis. The upper end shows more erosion than the lower (Fig. 2).

A rubber drainage-tube of small diameter was pulled through the periosteal sleeve by passing a probe from one opening to the other with a bit of string attached. Through this tube, the sides of which were perforated, the suppurating sinus was kept free from pus.

After a little time had elapsed it became apparent that the tube was being encroached on by the centripetal bony growth from the involucrum and the tube was removed.

Irrigations were continued as long as the sinus remained patulous. It closed, however, with great rapidity and the ultimate result was a complete restoration of the shaft of the fibula, though no union occurred at the site of the original fracture near the lower end of the bone.

Case 2.—This was a fulminating osteomyelitis of the left tibia in a boy aged 6. In August, 1911, the abscess was incised and drained by another surgeon. In November of the same year the patient came under my care and was sent to the Children's Hospital of Denver.

It was apparent that there was extensive death of the bone involving the shaft from near the upper epiphysis to the junction of the middle and lower thirds.

On Nov. 21, 1911, he was operated on and the dead bone removed. The necrosis extended to the upper diaphyseal cartilage as is plainly shown by the shadow of the iodoform wax used to fill the space. *The periosteum was not destroyed* and was pushed aside to receive the bone wax. The periosteum and the muscles were then stitched over the wax with fine catgut and the skin closed over all with small openings to provide for drainage.

The general health of the boy improved at once though the sinus discharged more or less pus and portions of the wax were pushed out by the growth of the granulations going on beneath it.

The skiagrams made from time to time and herewith shown illustrate the gradual disappearance of the wax and the smoothing of the ends of the fragments.

After many months had elapsed it was evident that no union of these fragments could occur without intervention.

On July 1, 1912, a skiagram (Fig. 6) was made showing a small portion of the bone wax retained in the middle of the head of the tibia, the shadow of the little square below it indicating a bit of metal placed in the mouth of a small sinus on the surface. Later the same day this sinus was spooned out thoroughly, the remainder of the wax removed and the side-walls of the cavity containing it thoroughly scraped and sterilized by an application of pure phenol (carbolic acid). Prompt healing of the sinus resulted.

Sept. 28, 1912, all infection in the leg having disappeared, an operation for grafting a segment from the opposite tibia into the gap was undertaken. The space was opened and the periosteum denuded from both the upper and lower fragments.

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[4] Wetherill, Horace G.: A Case of Bone Reconstruction, Jour. Trenton Nat. Hist. Soc., 1886-1887, p. 52.

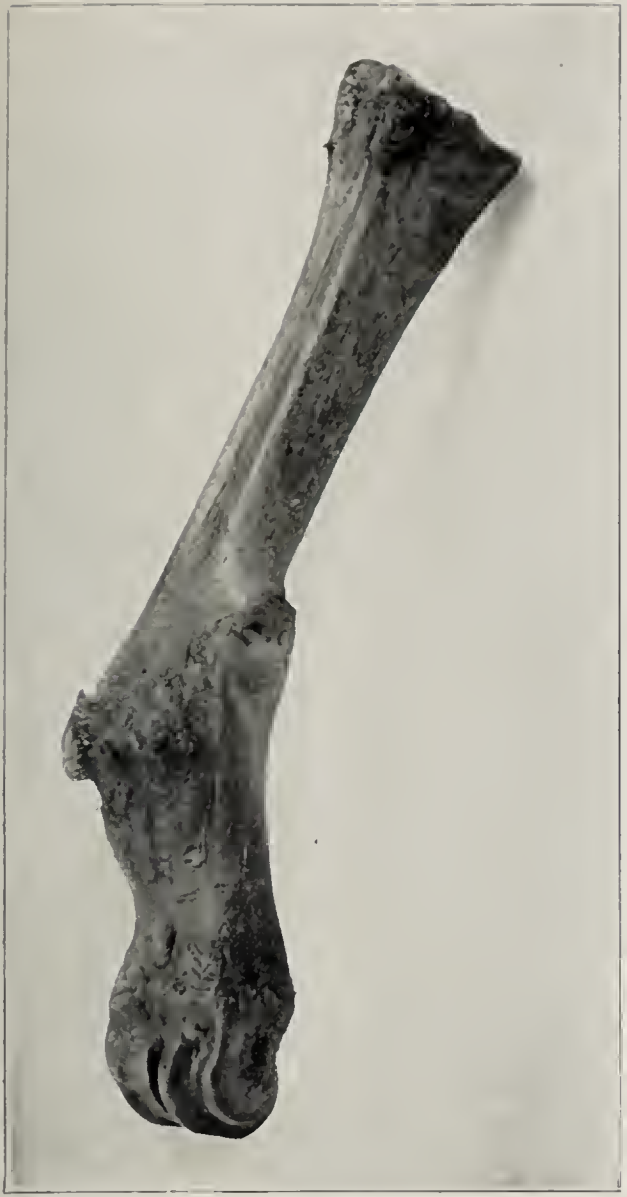

Figure 1.

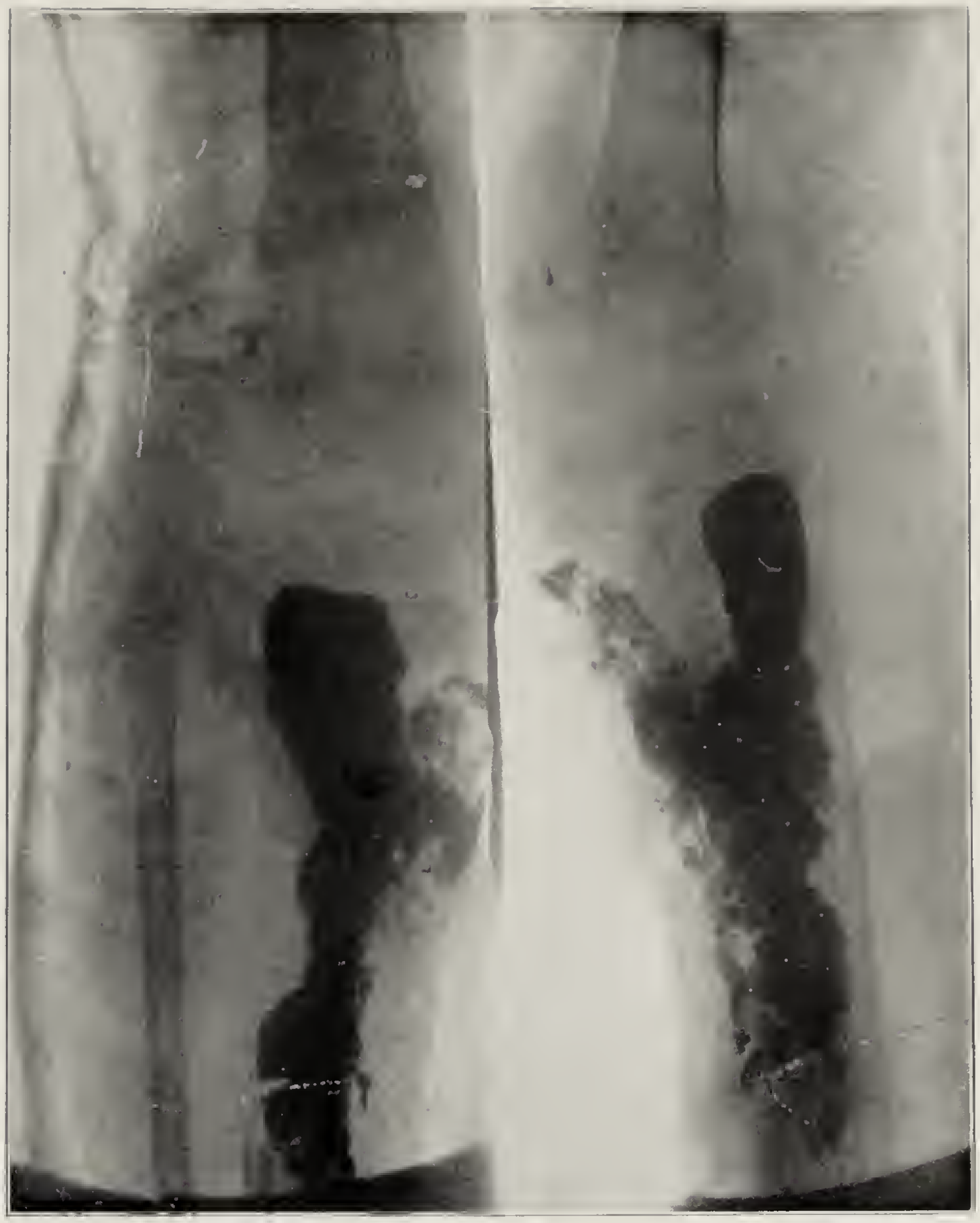

Figure 3.

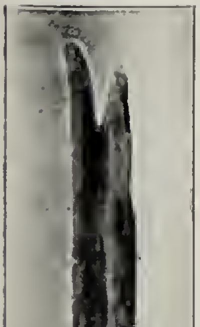

Figure 2.

Fig. 1.—Specimen from young elk showing exuberant callus caused by lacerated periosteum and unrestrained motion between the fragments.

Fig. 2.—Sequestrum from Case 1. Diaphysis of fibula removed from its periosteal envelope. Complete restoration of the diaphysis followed the removal of this sequestrum without union at point of fracture near its lower end.

Fig. 3.—Case 2, Nov. 24, 1911. Skiagram through plaster dressing, showing Mosetig-Moorhof filling, in space left after the removal of the sequestrum. Note the broad encroachment of the filling on the diaphyseal cartilage and how the filling was pushed away from it in the process of repair, as indicated in the subsequent skiagrams. Front and lateral views. I am indebted to Dr. S. B. Childs for this and the following skiagrams.

Fig. 4.—Case 2, Jan. 25, 1912. The same leg two months later. Filling pushed away from diaphyseal cartilage and discharged from the wound or absorbed so that little remains. Note the rough ends of the tibia and the gap between the fragments.

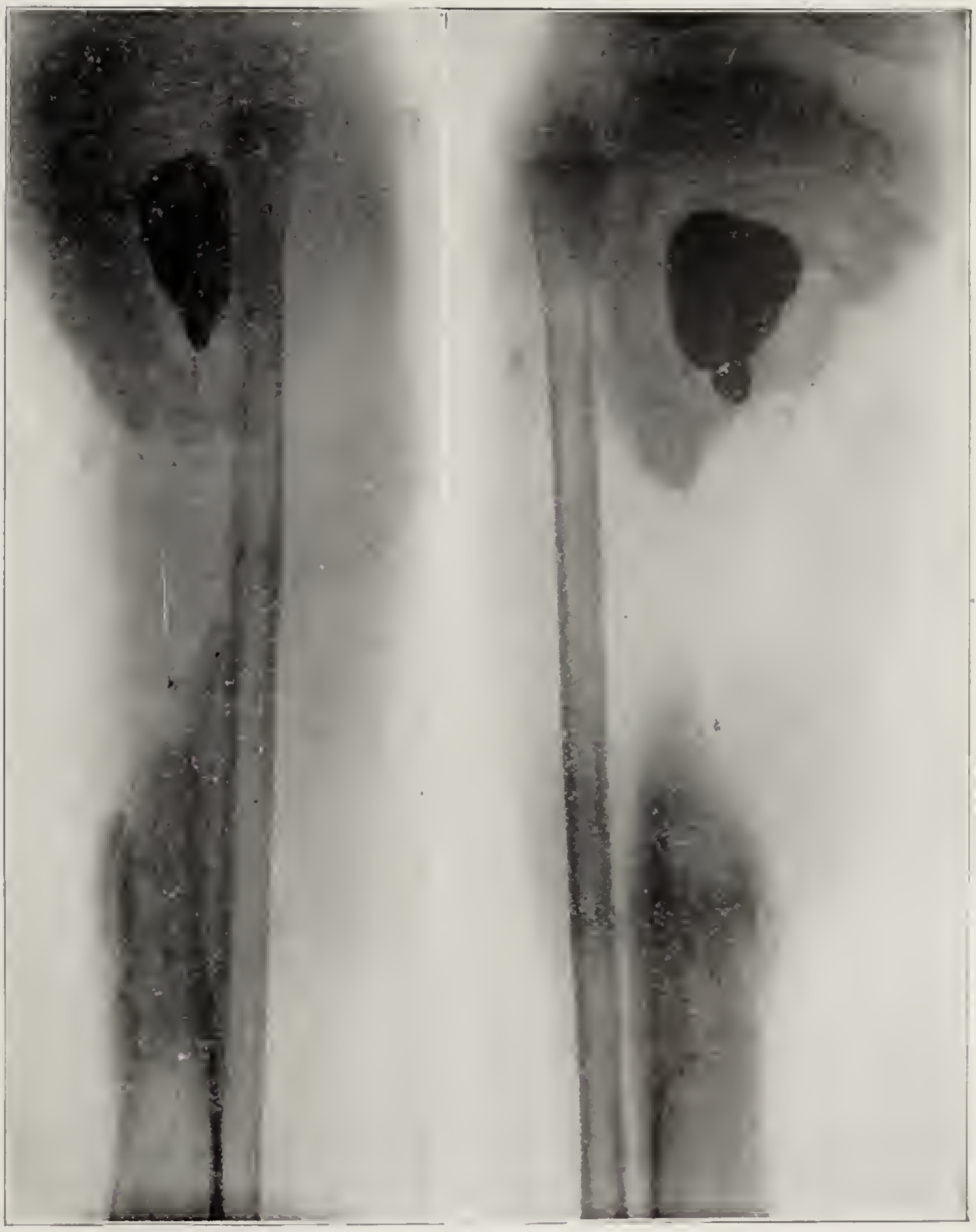

Figure 4.

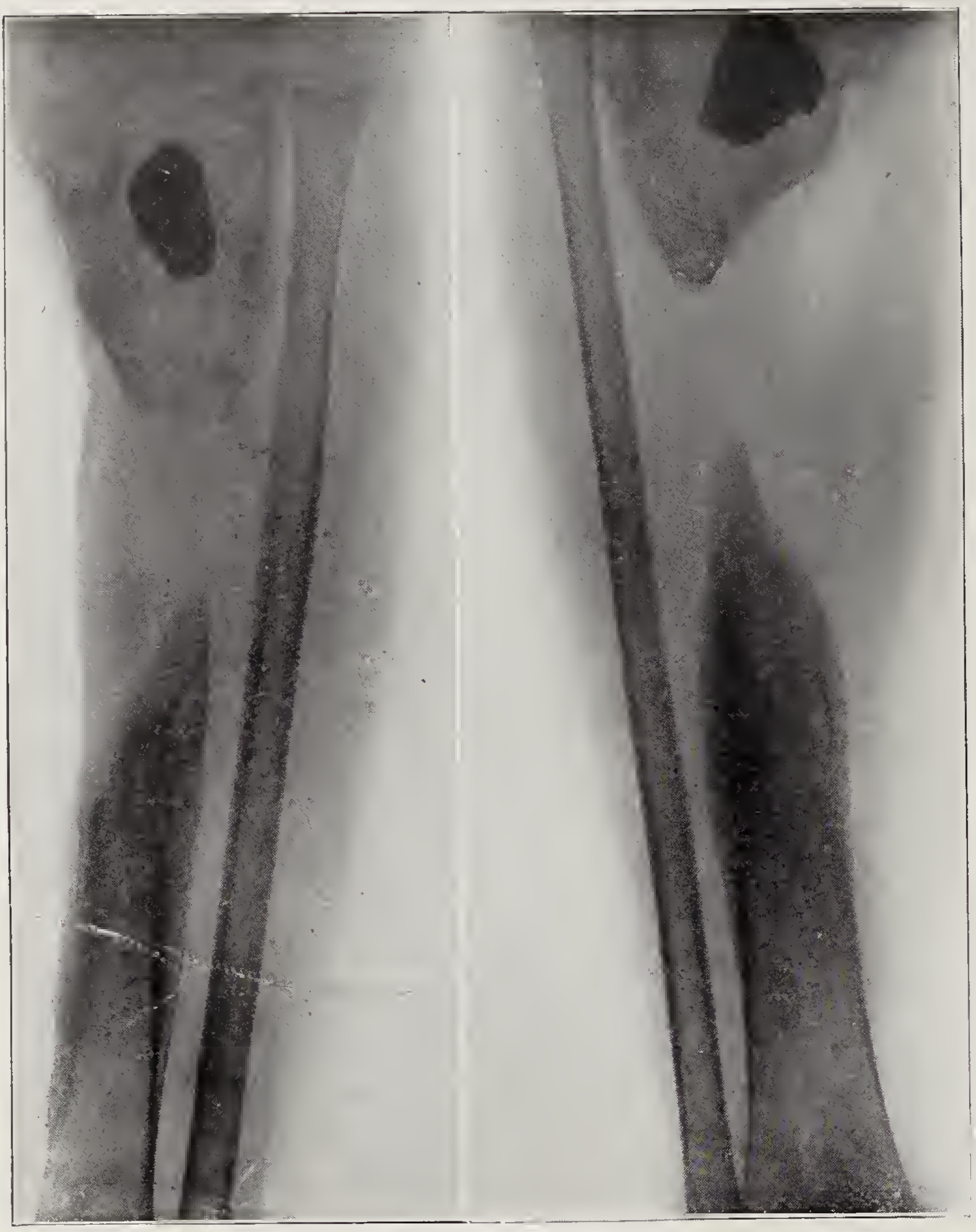

Fig. 5.—Case 2, March 25, 1912. Ends of the fragments becoming smoother and filling reduced in size.

The medullary canal was excavated to the depth of half an inch in the upper fragment and it was my purpose to do the same with the lower fragment; its oblique end, however, appeared so favorable for freshening and splicing the graft on in such a way as to bring broad surfaces together that this plan for making the union was adopted, as shown by the skiagram taken four weeks after the operation (Fig 8).

Figure 9 shows the tibia of the right leg and the site from which the graft had been taken.

The graft was 3⅓ inches long, five-eighths inch broad, and about three-eighths inch thick. *It was taken without periosteum.* The periosteum was regarded as being of more importance in protecting the sound tibia from infection and overgrowth than in the regeneration of the bone of the defective tibia. This slab of bone was driven into the excavation in the head of the tibia and secured by a silver-plated wire brad five-eighths inch long. The lower end was spliced to the freshened oblique surface of the lower fragment to which it was nailed with a similar brad and wired with two loops of phosphor-bronze wire. The muscles were approximated over the graft with catgut and the skin closed with fine silkworm gut over all.

The subsequent course of the case was attended by a slight evening rise of temperature. This was explained by a low-grade infection about the lower end of the graft which made the subsequent removal of the phosphor-bronze wire and the nail necessary. The use of the wire was a mistake. The infection did not, however, impair the vitality of the graft or prevent firm union between the graft and either the upper or lower fragment. Indeed, the union at the lower end seemed to be firmer and stronger at the time the wire was removed, about three weeks after the operation, than that at the upper end, and of the two methods of making the contact I believe that the oblique splice is preferable when the ends of the bones are conical or otherwise adapted to this method.

After eight weeks the tibia was firm, fairly uniform throughout, and *larger in diameter over the graft than the right tibia*, though no defect could be detected by palpation at the site from which the graft had been removed from the right leg.

These two cases and the exhibits bear study in their relationship to the points at issue which are:

1. Has the periosteum, *de novo*, an osteogenic function, or is it in the main a limiting membrane, which prevents overgrowth into the surrounding tissues?

2. Can bone live and grow and proliferate when denuded and disassociated from its periosteum?

3. When transplanted to fill a gap does it become osteogenic or is it merely osteoconductive?

Quoting only those portions which refer to the above items, I cite from a recent exhaustive summary these crystallized statements from an accepted authority, Dr. John B. Murphy.[1] I do this, not in a spirit of criticism, but from a desire to acknowledge gratefully the splendid original work he has done in this field and because his

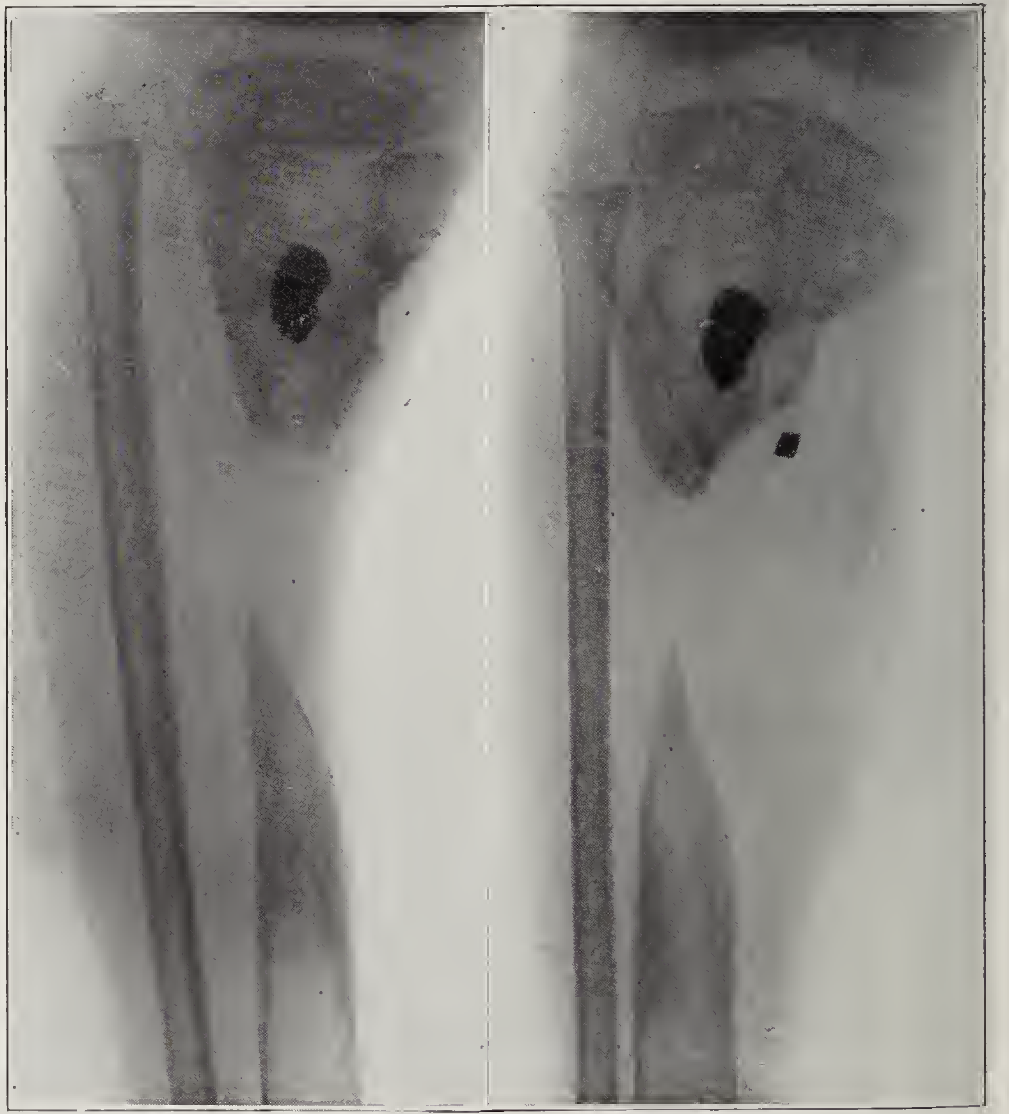

Fig. 6.—Case 2, July 1, 1912. Remaining Mosetig-Moorhof filling small and in center of the head of the tibia. The ends of the fragments smooth and pointed. The black square is the shadow of a small piece of metal. It indicates the opening of a sinus leading down to the filling.

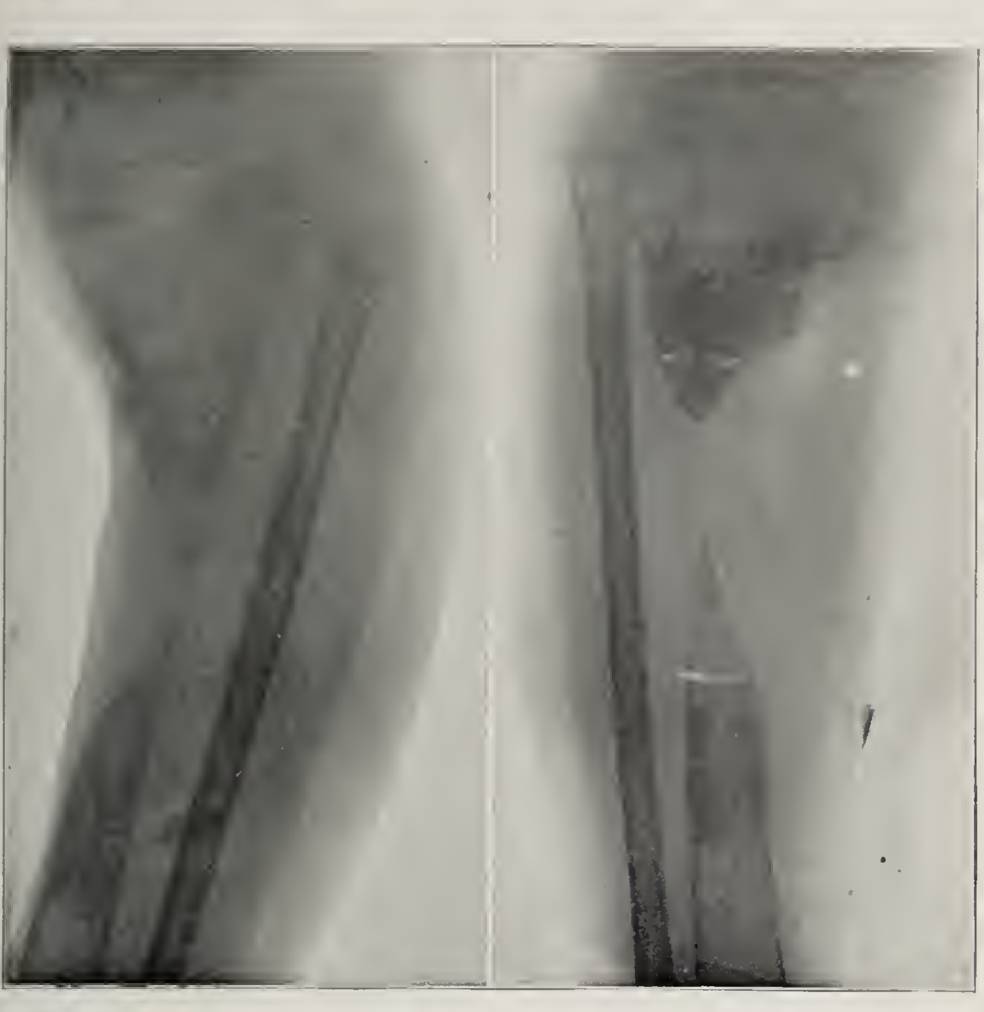

Fig. 7.—Case 2, Sept. 13, 1912. Showing persisting gap in tibia and sharp points of fragments. Lines indicate points at which freshening of the fragments was contemplated.

utterances are regarded as the last word of the progressive workers and thinkers of America, and best exemplify the most advanced American teaching with regard to the subject:

> In order to achieve the best results in the work of bone-grafting and bone transplantation, the following laws must be observed: The periosteum fully detached from bone and transplanted into a fatty or muscle-tissue bed in the same individual, if he be young, may produce a lasting bone deposit. . . . Periosteal strips elevated at one end from the bone and attached at the other, if turned out into the muscle or fat, reproduce regularly bone on their under surface for a greater portion of their entire length. . . . Bone with or without periosteum transplanted in the same individual and contacted with other living osteogenic bone at one or both of the ends of the transplanted fragment always becomes united to the living fragments and acts as a scaffolding for the reproduction of new bone of the same size and shape as the transplanted fragment if asepsis is attained. This new bone increases to such size as is necessary to give the support required by Nature in the extremity in which it has been placed. . . . The transplanted fragment, no matter how large or how small, is always ultimately absorbed. . . . The graft is *per se* not *osteogenic* but *osteoconductive*. . . . The graft increases in size on the surface as bone increases in size histologically, i. e., by deposits beneath its newly formed periosteum. . . . When the graft is covered with periosteum at the point of contact with the living bone, the haversian vessels do not penetrate the fibrous periosteum of the transplant, and regeneration fails. . . . *If the periosteum of the graft is split into shreds, then regeneration through it may take place.* [Italics mine.]

Comparing these statements with the conclusions of Macewen we find an expression of a diametrically opposite opinion regarding the osteogenic function of the periosteum and the osteogenic function of bone-grafts and transplants, perfect agreement regarding the viability of grafts and transplants, and practical agreement regarding the limiting character of the periosteum, as is indicated in the last paragraph quoted.

Macewen's experiments invariably failed to grow bone from the detached periosteum and quite as invariably succeeded in procuring rapid new growth and active proliferation from transplants *en masse* or from shavings, *the more abundant proliferation always coming from the multiple small grafts,* which is not in accordance with the statement that "the graft increases in size on the surface as the bone increases in size histologically, i. e., by deposits beneath its newly formed periosteum," or with the assertion that such a graft "is not *osteogenic* but *osteoconductive.*" Furthermore, I have found no authentic record of any instance, experimental or clinical, in animals or in man, in which periosteum detached from its bony contact has produced bone if no bone-cells or osteoblasts were carried from the bone with it.

For twenty-eight years I have thought of Case 1 as a typical illustration of the power of the periosteum to originate and reproduce diaphyseal bone under favorable conditions.

If, however, Macewen's theory is correct, osteoblasts were early thrown out from the diaphyseal bone through and by the aid of the local hyperemia occasioned by the primary infection. These osteoblasts were deposited in

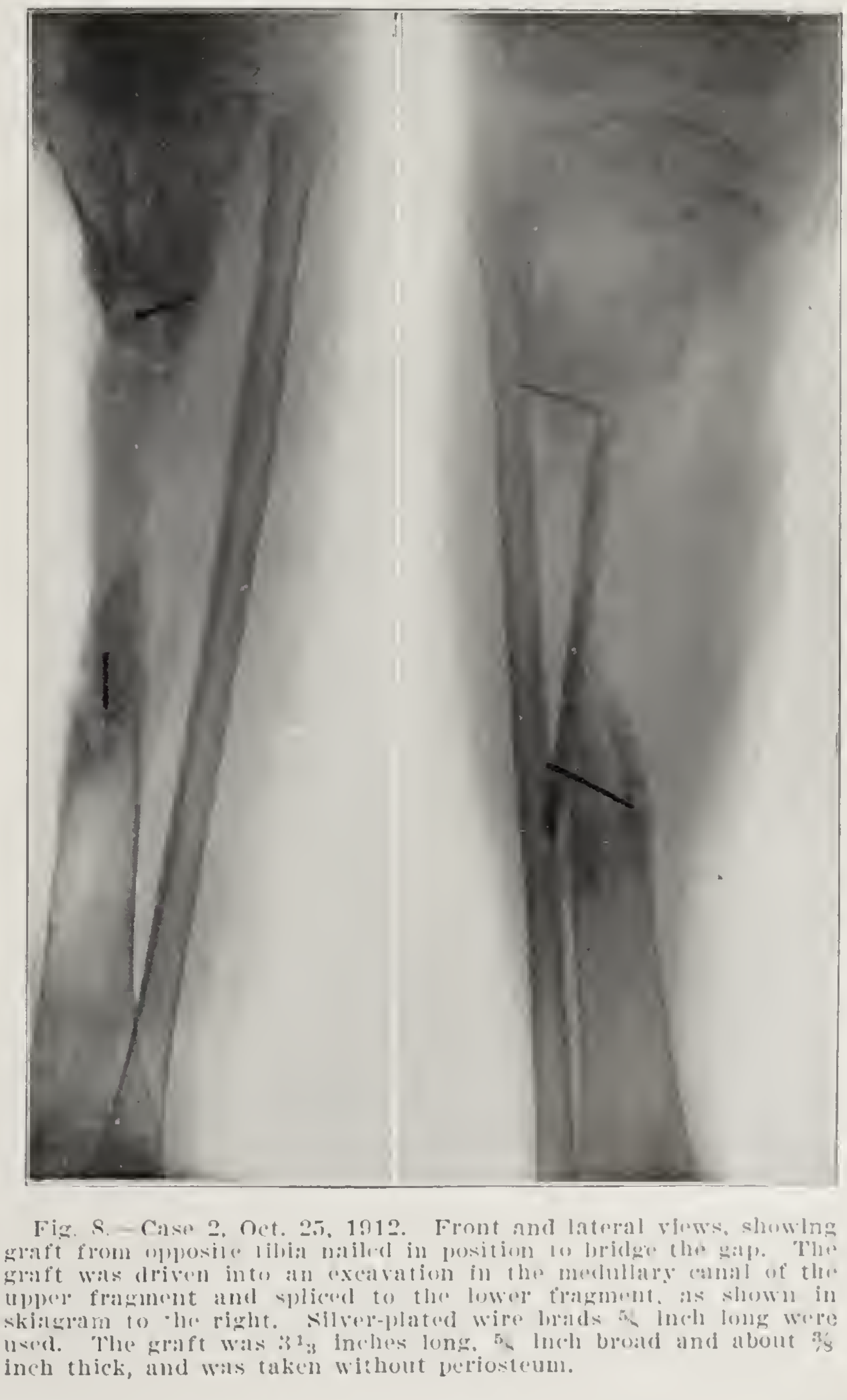

Fig. 8.—Case 2, Oct. 25, 1912. Front and lateral views, showing graft from opposite tibia nailed in position to bridge the gap. The graft was driven into an excavation in the medullary canal of the upper fragment and spliced to the lower fragment, as shown in skiagram to the right. Silver-plated wire brads $\frac{5}{8}$ inch long were used. The graft was $3\frac{1}{3}$ inches long, $\frac{5}{8}$ inch broad and about $\frac{3}{8}$ inch thick, and was taken without periosteum.

the subperiosteal areolar space close to the lower layer of the periosteum. From this point they proliferated, multiplied and grew to form the involucrum and ultimately reproduce the diaphysis *in toto*, after the removal of the dead bone; and the periosteum had nothing to do with originating the bone reproduction. Doubtless the circulation necessary for the growth of the osteoblasts and for their proliferation was received in part from the periosteal vessels, but also in part from the end contact of the involucrum with the diaphyseal cartilage; but viewing the history of the case from Macewen's point of view and in the light of his conclusion, there is nothing to convince one that the bone grew from osteoblasts originating in the periosteum and nothing to disprove that the primary hyperemia did not cause their eccentric deposit in the subperiosteal areolar space from the diseased diaphysis before the destruction of the diaphysis was complete.

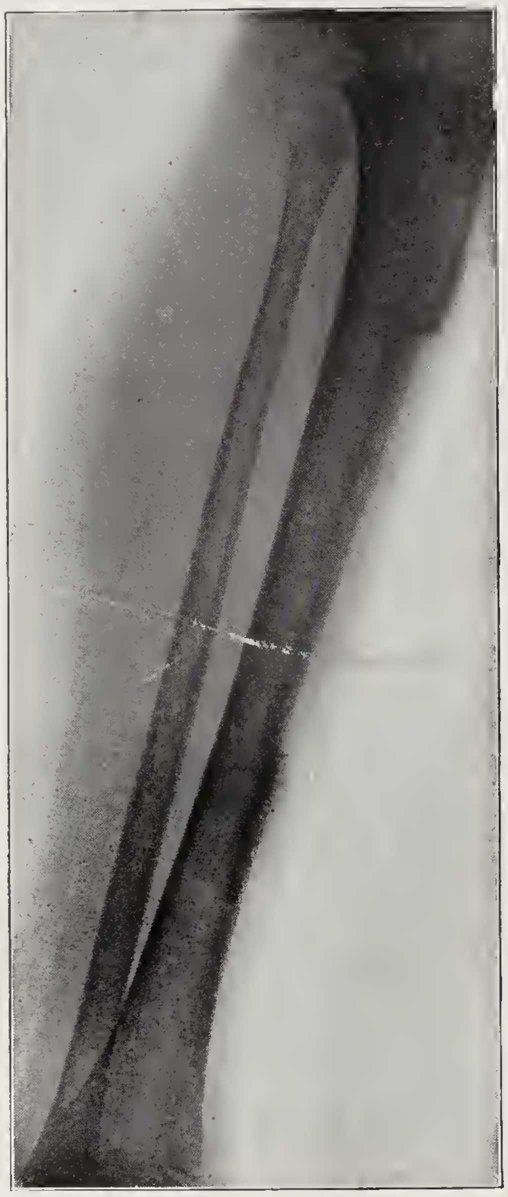

Fig. 9.—Case 2, Oct. 25, 1912. The shaft of the right tibia, showing site from which the graft had been removed. At the time this picture was made, four weeks after operation, no defect in the bone could be felt.

The second case presents an altogether different set of conditions; for in this instance the diaphysis of the bone was destroyed by a fulmination osteomyelitis throughout nearly two-thirds of its length *and its total circumference;* and though the periosteum was not destroyed, no continuity in the restoration of the diaphysis occurred or, so far as could be seen at the time of operation, had been attempted by the periosteum. Indeed, it appeared that the pointed ends of the bones had been covered by the collapsed infolding of the periosteum so that the growth of each fragment toward the other had been arrested by the periosteum and union so prevented, all of which points toward a limiting function rather than an osteogenic function for the periosteum.

This observation would appear to cast grave doubt on the osteogenic function of the periosteum if like results were noted in a sufficient number of similar cases.

In this case too the extremely rapid *overgrowth* of the new diaphysis would tend to confirm Macewen's claim for osteogenesis rather than osteoconductivity in the graft; and as the formation of the connective tissue envelope for the new diaphysis would require time to reproduce the new periosteum over and around the bone, overgrowth would be favored, provided, of course, that Macewen's theory of the function of the periosteum as a limiting membrane is correct. Other such observations in sufficient number will confirm this contention.

How extensive destruction of the diaphysis may sometimes occur without effort at reconstruction and how reconstruction is promoted under other conditions is explained by Macewen as follows:

> In acute osteomyelitis the infection is at first located in the medulla. In consequence of the great hyperemia induced beyond the area of infection, stimulating rapid tissue change and hyperplasia, the bone cells which are beyond the area of pyogenic invasion are converted into their embryonic condition and proliferate with great rapidity. Osteoblasts accumulate in the haversian canals, and, owing, *inter alia,* to the centrifugal blood-pressure, are extruded onto the surface of the shaft, where they infiltrate the meshes of the loose areolar vascular tissue which exists between the periosteum and the bone. The meshes of this layer become charged with osteoblasts, from which fresh layers of bone ultimately form. If the pyogenic invasion be progressive, the shaft may be involved and die, but prior to this necrosis, the osteoblasts which have escaped into the periosteum are preserved from destruction. If in a case of osteomyelitis the periosteum be removed from the bone at a very early stage, osteoblasts will still be poured out onto the surface of the shaft, and form there a layer of fresh bone between the muscles and the old bone. This has been directly observed on several occasions.

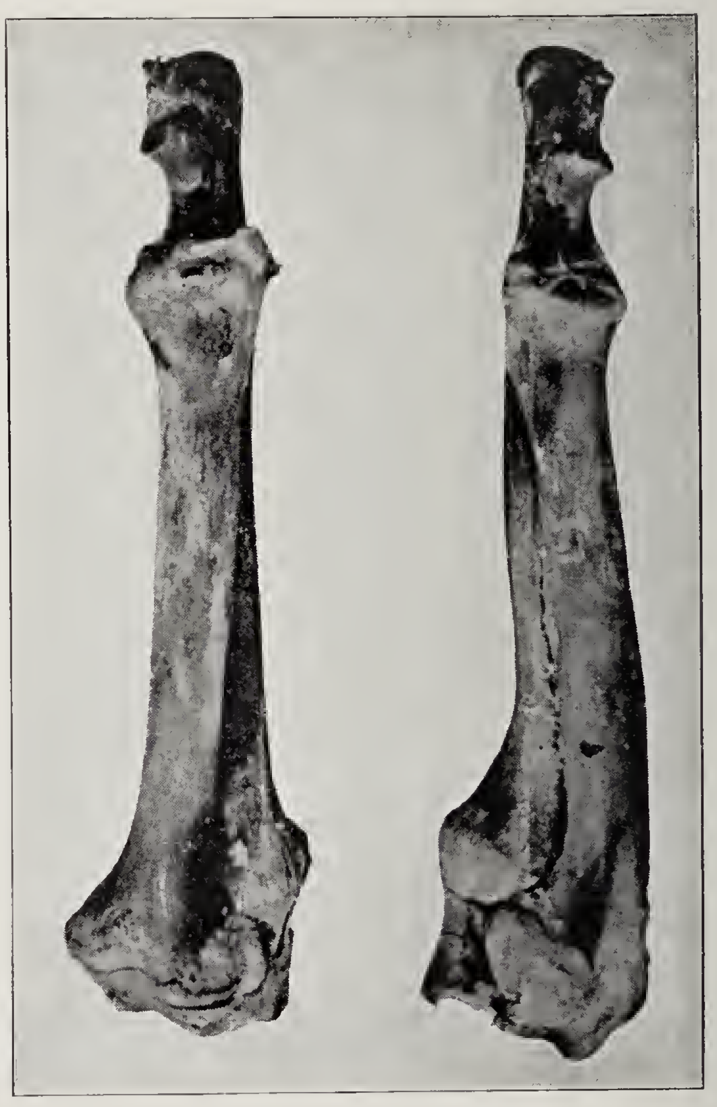

Fig. 10.—The radius transplanted from one dog to another without periosteum, with perfect restoration of the diaphysis and only moderate overgrowth. (After Macewen.)

> This is the usual course in osteomyelitis, but it does not always follow in this way. Occasionally necrosis of the whole shaft occurs without reproduction of bone under the periosteum. This may arise from one of at least two causes. The first occurs when the pyogenic invasion is more virulent, rapid and extensive, causing blockage of the vessels not only of the medulla, but also of the shaft, producing necrosis without a preliminary period of hyperemia, and consequently before regenerative tissue changes have had time to occur in the

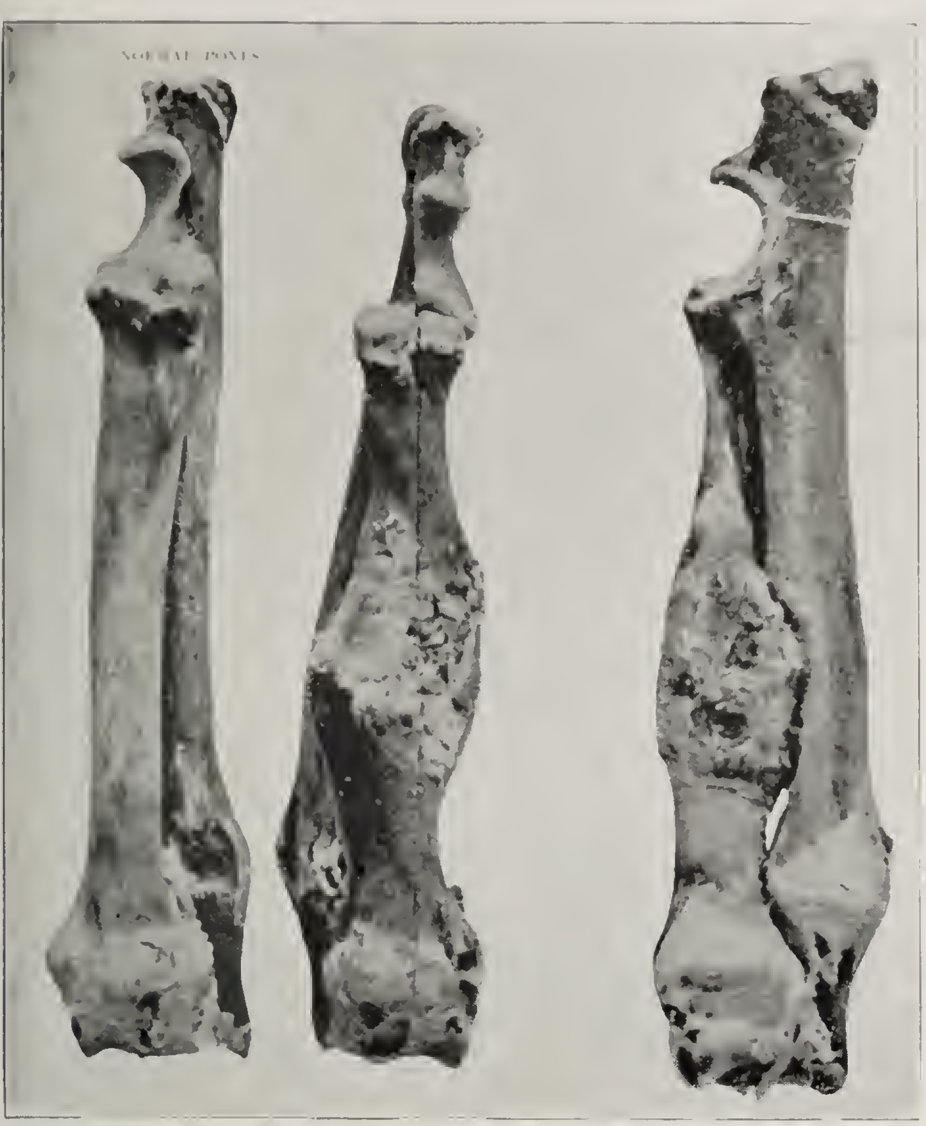

Fig. 11.—Marked overgrowth from transplantation of bone in the form of shavings. The proliferation from many foci is exuberant and sufficiently aggressive to erode the adjoining normal bone. On the extreme left are normal bones given for comparison. The bones on the right are the same as those in the middle viewed from the side (After Macewen.)

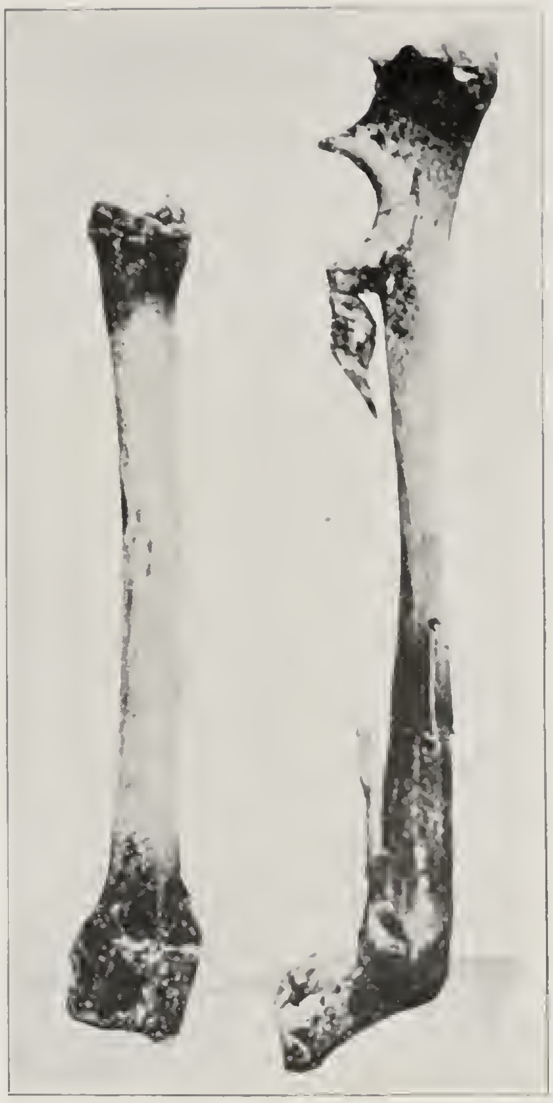

Fig. 12.—Showing total failure of periosteum to produce bone. The radius was subperiosteally removed and the periosteum carefully preserved. The styloid process of the ulna has been bent from pressure and an osseous nodule — about the size of a barley grain — projects from its extremity. (After Macewen.)

shaft. The second, where the main nutrient vessels of the shaft at a very early stage become thrombosed by pyogenic invasion, the blood-supply of a large portion of bone is cut off and necrosis occurs before proliferation within the bone can take place. In some such cases the periosteum participates in the destructive process, but it does not do so in all. Owing to its separate blood-supply, it is possible for the periosteum to live and it sometimes does so apart from the bone. In such a case, however, there is no regeneration of osseous tissue, there having been no osteoblasts regenerated from the bone and thrown from the shaft into the subperiosteal areolar tissue before necrosis set in.

This explanation of the death of the diaphysis *in toto* without any attempt at regeneration on the one hand, and of a hyperemic deposit of osteoblasts in the subperiosteal areolar space to form new bone on the other, fits in perfectly with what we now know regarding the action of emboli and infarcts, and of the effects of local hyperemia elsewhere in other tissues.

We are prepared, therefore, to accept this theory in accounting for both the destructive infection and the subsequent regeneration of bone under circumstances favorable to either.

We have seen elsewhere the deadly embolus instantly and irrevocably destroy every shred of tissue depending on the blocked vessel for life, and we have seen the slower invasion of an equally virulent infection met by a resisting and regenerating wall of leukocytes thrown out about it through the agency of a local hyperemia with early arrest of the infection and regeneration of the tissues. Why may not the same principles apply and operate in the same way in bones?

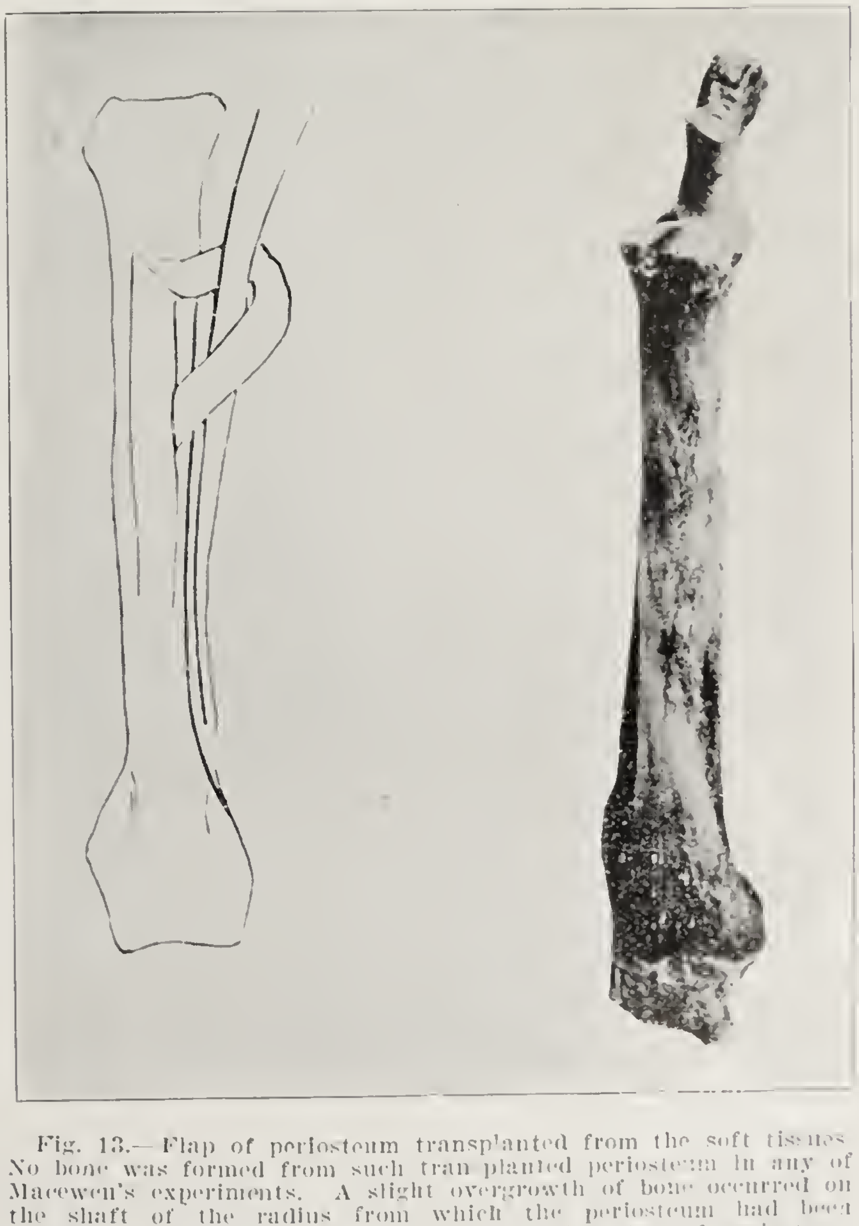

Fig. 13.—Flap of periosteum transplanted from the soft tissues. No bone was formed from such transplanted periosteum in any of Macewen's experiments. A slight overgrowth of bone occurred on the shaft of the radius from which the periosteum had been removed. On the left is a diagram showing flap of periosteum raised from bone except at proximal extremity, encircling muscular fasciculus and stitched to border of intact periosteum at lower end. On the right is shown a node-like increase of bone on shaft of radius at the part from which the periosteum was removed. (After Macewen.)

The growth, the death and the regeneration of bone have long been fearfully misunderstood if the new theories of Sir William Macewen regarding these processes are correct. He presents them clearly and logically and proves them by numerous ingenious experiments on animals and clinical observations on patients. He draws no conclusions he has not verified and his "comment" is so temperate and conservative that it carries conviction with it.

Viewed from Macewen's point of view and in his light I find the two typical cases, quoted in this paper, confirming my other observations under similar conditions, and I am ready to accept the new doctrine and adapt myself to it in its actual application to the day's work.

Should those whose better knowledge of the subject and larger opportunities for practical verification of the doctrine, both experimentally and clinically, confirm the conclusions of Sir William Macewen, much of the literature of medicine will have to be rewritten. The teaching of surgical anatomy and pathology must then be conformed to the new gospel and the practice of bone surgery be revolutionized.

310 Metropolitan Building.

REPORT OF A CASE OF HYDROPHOBIA

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Physicians are called so frequently to treat patients who have been bitten by dogs, and so rarely to treat patients with hydrophobia or rabies, that it is not surprising to find some of the profession asserting that the disease does not exist in human beings. It becomes a duty therefore to report well-authenticated cases like the following:

K. N., a girl aged 5, was bitten in the cheek by a dog. The wound healed promptly.

Seventeen days later the child complained of feeling ill, and developed moderate fever, anorexia, constipation and mild delirium. On the next day the delirium increased so that she was restrained with difficulty. The father also stated that the sight of water made her crazy and that there was some frothing at the mouth; but these symptoms were not present on her admission to the Children's Hospital on the third day of the disease.

Examination on admission, June 13, 1910, showed a well-nourished child, very much excited and trembling greatly; the knee-jerks could not be elicited, but ankle-clonus was present; there was no opisthotonos; the pupils were equally dilated, reacting to light; the lungs and heart were clear; palpation of the abdomen gave negative results; a leukocyte count showed 31,000. The child's mental state showed a decided difference from that of ordinary delirium, such as is seen in fever patients, as there was no incoherence in her utterances; but she kept demanding different things ("Let me up," "Take these off," "I want to go home"), with a vehemence that amounted to a true mania, so that rabies (i. e., madness) describes this case better than hydrophobia. This mania was intermittent, not persistent, short periods of quiet intervening, to be broken spontaneously by some slight stimulus such as a new line in the examination or the entrance of some attendant. In order to exclude meningitis, which, however, was not thought to exist, brief anesthesia with ethyl chlorid was produced and lumbar puncture done, with the removal of 8 c.c. of perfectly clear cerebrospinal fluid.

One feature repeated so that it became noteworthy was that if allowed to hold the hand of an observer, the patient would begin to pat it affectionately, the force of the taps increasing until they were furiously violent. This may possibly be analogous to the stamping of the feet seen in rabid horses.

These maniacal outbursts continued from admission at 3:45 p. m. until 11 p. m., when they turned to a delirious talking, which kept up until 6:30 a. m., at which time the patient went to sleep for two hours and a half. From 9 a. m. until 1 p. m. she was awake and lay quiet except when disturbed by the visits of the nurses or physicians, which would be the occasion for a fresh attack of mania and struggling. In spite of treatment she was rapidly growing weaker, and at 1 p. m. coma with hyperpyrexia set in until death at 3:45 p. m., just twenty-four hours after admission.

The temperature was 105 degrees or a little above, constantly until 1 p. m., when it rose to 107.6, the last record being 109.4 taken shortly before death. The pulse-rate did not fall below 180 at any time in the hospital, and one note of 200 was made.

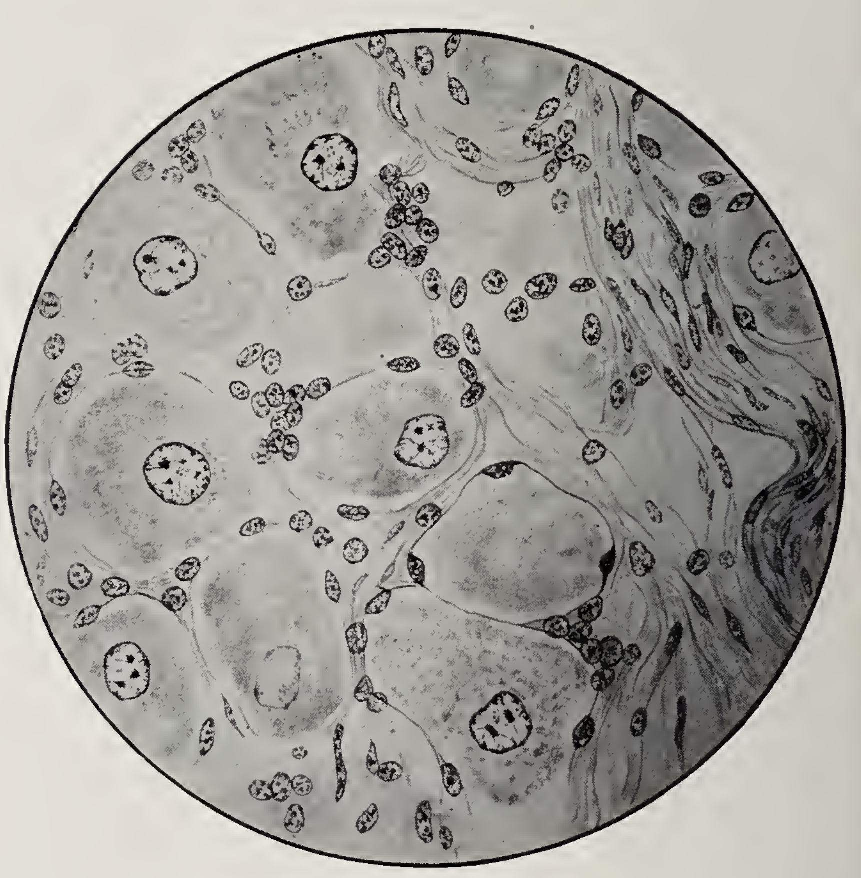

Fig. 1.—Plexiform ganglion of a normal dog. This and the following illustrations are from drawings by Karin M. Hall.

The treatment adopted was restraint by a waistband which allowed the child to sit or lie down; and celluloid mitts, so that she could not accidentally scratch the nurses. The drugs used were morphin hypodermatically, 1/16 grain at 9 and 11 p. m. and 1, 3 and 5 a. m.; sodium bromid, 20 grains at 9 p. m.; veronal 5 grains at 11 p. m. and 1 a. m.; scopolamin 1/800 grain, hypodermatically at 1 and 9 a. m.; a digitalis preparation, hypodermatically, 6 minims at 1 and 5 a. m., and 10 minims at 9 and 11 a. m. and 1 and 3 p. m.

The diagnosis in this case rested mainly on the history of a dog-bite followed by an attack of fever and mania, and on the exclusion of other processes, such as pneumonia, meningitis, endocarditis and typhoid fever.

It is rare for the disease to develop after ninety days have passed. This case of seventeen days' incubation, approaches the shortest possible period, which is said to be twelve days.

Before giving the details of our findings in this case it might be well to consider briefly the etiology of the condition. The statement credited to Aristotle (322-284 B. C.) that "lyssa (rabies) causes mania, and whatever is bitten [all] of those bitten go mad except man," is evidence that at that time the transmission of the disease to man was not known. But four centuries later opinion had changed, for Marcus Aurelius says, "To those bitten by mad dogs, water causes fear." From time to time this condition has been forcibly brought before the medical profession as well as the general public, measures have been taken by governments and municipalities to prevent the spread of the disease, and in the majority of instances when vigorous methods have been adopted and executed, the spread has been checked, thus showing the infectiousness of the disease. In England it has been stamped out, while in Germany the incidence is much reduced.

The specific cause of rabies has not been discovered. From time to time various bacteria have been put forward as the cause. They have been obtained from different organs, but from the bacteriologic point of view further study has invariably failed to satisfy the methods necessary in identifying a particular bacterium with the disease.

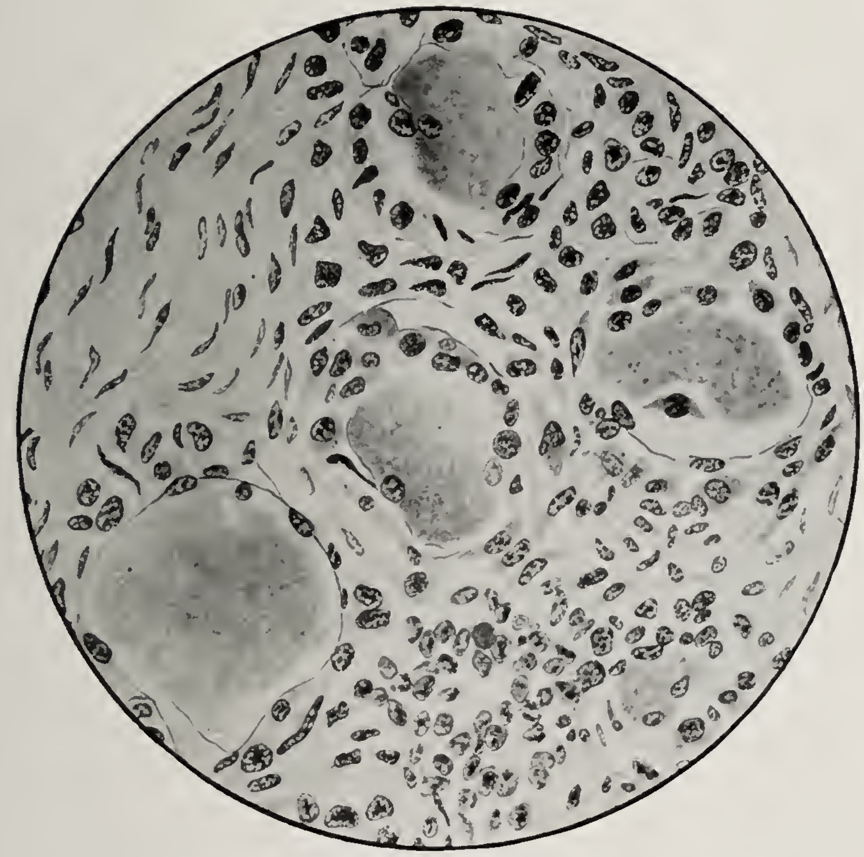

Fig. 2.—Plexiform ganglion of a dog with rabies, showing well-marked Van Gehuchten and Nelis proliferation changes.

Not knowing the specific cause of rabies, the investigator tries to recognize some special change or changes in the tissues of the animal, which may have been brought about by the real but undiscovered cause, and which may be considered diagnostic. At various times changes have been described in the brain tissue which have been looked on as specific. The majority of these have been found on further investigation not characteristic.

Babes in 1892, through observations, stated that if by microscopic examination of the medulla oblongata and spinal cord a cellular accumulation was found in these structures, a diagnosis of rabies could be made. These cellular accumulations he described as "rabic tubercules."

Later, Nelis and Van Gehuchten following the work of Babes found proliferative changes in the walls of capillaries and lymph-spaces surrounding the larger nerve cells and ganglia. (Fig. 2). These changes consisted of a proliferation of the endothelial cells of these parts; with this there is shrinkage, chromatolysis and finally complete destruction of the nerve cell. For a time these histologic findings were considered diagnostic of rabies, and were even used in certain laboratories as a rapid diagnostic method of the disease. Later, however, similar changes were noted in conditions other than rabies.

More recently bodies within cells have been noted in certain parts of the brain which are considered as diagnostic of the condition. These bodies were first pointed out by Negri, who found them in the Purkinje cells of the hippocampus major, cerebellum and ganglia. The Negri bodies are oval or rounded in shape, and their size varies from very minute to about 25 microns in diameter or length. Negri bodies seen in the brain of the dog of the street vary from barely visible to about 8 microns in diameter. In rabbits used for experimental work the smallest forms are found, and in the cow dying from rabies the extraordinarily large forms are found. They stain best with the basic stains. Within these bodies are smaller, irregular, rounded bodies, which take the basic stains deeply, similar to other nuclear material. With this inner body there is usually some granular material around it. In larger forms of the Negri body, several such inner bodies may be seen which are usually small and deeply staining, and irregularly distributed. In another type several small inner bodies are distributed at the periphery of the Negri body in hernia-like sacs, which suggest pseudopods. (Fig. 3).

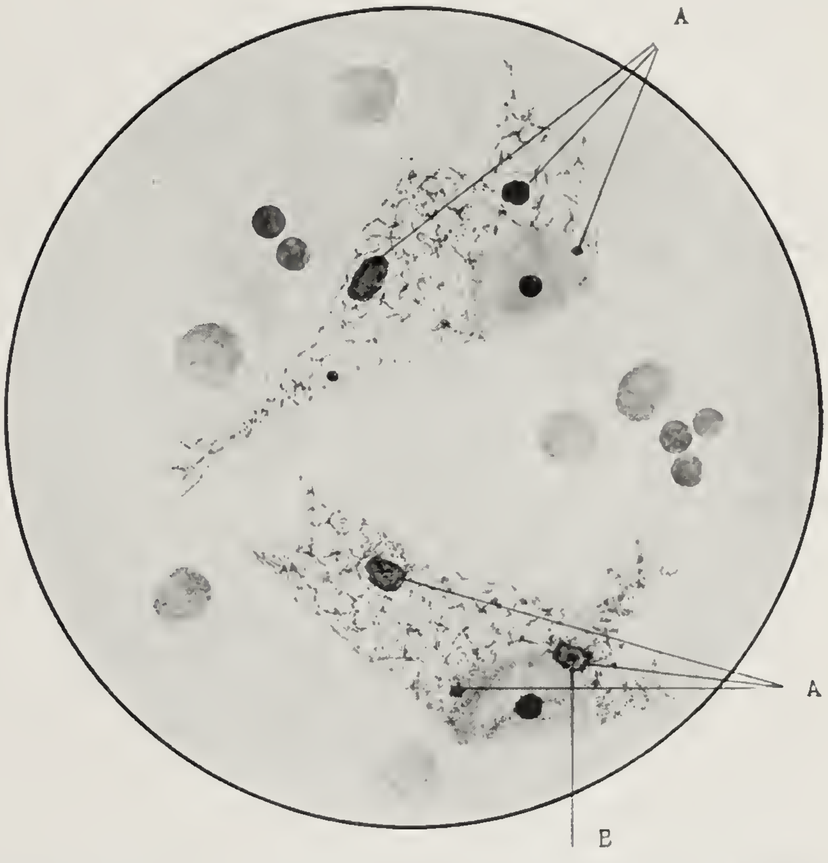

Fig. 3.—Smear of the hippocampus major, showing the presence of Negri bodies in two nerve-cells. *A*, *A*, Negri bodies; *B*, inner body of Negri body.

Studies by Williams and Lowden, who consider the Negri bodies as protozoa, and by Calkins, that they are a form of the amebas or rhizopods, suggest the possible position these bodies may have in the animal world. Until the life-cycle of this body has been completed, to determine whether it is a protozoon or rhizopod, it seems well not to accept conclusively that the body is actually a parasite, as it may be the result of changes brought about by the presence of some still unknown or unobserved organism.

SUMMARY OF AUTOPSY REPORT

The lungs showed moderate congestion but no leukocytosis in the blood-vessels. There were a few hemorrhagic patches on the mucosa of the stomach. The liver and kidneys were congested and showed under the microscope moderate congestion and general cloudy swelling with small areas of early fatty degeneration but no leukocytosis in the blood-vessels. The spleen was congested, enlarged and soft, with the malpighian bodies and trabeculae not prominent; histologically the malpighian bodies were few in number and small, the central part in some having the appearance of amyloid degeneration. The dura was adherent posteriorly, the pia was congested and there was a very slight increase of fluid in the ventricles. On section, the cerebrum showed moderate congestion of the gray and white substance.

Our findings in the gross changes in the organs at autopsy, and the histologic changes in the various organs, with the exception of the brain, clearly indicate in this case an unusual process.

All the changes found in the organs were of a secondary nature and such as are frequently found from other pathologic causes. These morbid processes therefore are only indicative of some underlying condition, the gross and microscopic changes in the organs in this case not being characteristic of rabies alone; they are, however, findings similar to those reported in the majority of cases of hydrophobia or rabies.

The negative findings in the case are of particular interest to the general pathologist. Those who do not admit the existence of the condition known as rabies suggest that it may be a form of hysteria, or meningitis, or some toxemia, such as uremia and similar intoxications.

Hysteria as a pathologic condition can scarcely be considered here. It has no recognized pathology, and its symptomatology is better considered under another head. The minuter changes in the brain in this case, presently to be described, have not been noted as occurring in the condition known as hysteria.

Meningitis, however, should be carefully considered in relation to rabies. The typical case of meningitis, with the usual meningeal exudate, need not be considered here relative to our findings, because were it a typical case of meningitis, an exudate in some part of the meninges would have existed owing to the duration of the disease; but such was not the case; also the examination of the cerebrospinal fluid, obtained before death, as well as the smear preparations and cultures made at autopsy were all negative, thereby excluding meningitis.

In the rapidly fatal cases of meningitis, the result of a meningococcus infection, the brain may at the time of the autopsy be without an exudate; but in such cases edema and congestion are usually more marked, and the smears and cultures show the *Diplococcus intracellularis.*

Meningitis of tuberculous origin is not difficult to diagnose in the majority of cases, either from the finding of tubercle bacilli in the cerebrospinal fluid, obtained by puncture during life, or by the finding of tubercles in the meninges at autopsy. In some cases, however, both these methods fail to determine the diagnosis, when the finding of a tuberculous focus in some other organ is suggestive, or the histologic examination of the meninges may reveal a tuberculous condition.

In the case here reported no tubercules or tubercle bacilli were demonstrated in the stained specimen of the brain. One rabbit did not succumb to rabies, and was alive and well at the time when a tuberculous infection would have asserted itself in the animal, had the injected material been of a tuberculous nature.

EXAMINATION OF THE BRAIN

Lastly, the effect of a toxin, such as uremia, was not manifest from the findings elsewhere in a body. Therefore, with the exclusion of some general process as the cause of the condition, and of some local process, such as meningitis, the brain was carefully studied for evidence of rabies. For the purpose of this study, two methods of procedure were planned: 1. The histologic examination of the brain. Smear preparations were made from those portions of the brain which usually show definite microscopic changes. 2. Animal inoculations of portions of the brain substance made to reproduce the disease.

Microscopic Examination.—A portion of the cerebellum was removed for this purpose. Smear preparations and impressions were made on slides. In the former considerable difficulty was experienced in finding good nerve cells, and for this reason impressions were made in which better nerve cells were found, although limited in number. Only the Purkinje cells were searched for the Negri bodies. Most of the cells were clear in outline, lightly but sufficiently stained. Of the Purkinje cells carefully examined, only a few showed intracellular bodies well circumscribed and stained. These bodies stained with Van Gieson's stain—a combination of Loeffler's alkaline methylene-blue and basic fuchsin. Structures in the form of inner bodies were seen, which were large compared with the size of the average bodies found. Although the bodies were uniformly small and comparatively few, the structures and staining characteristics proved conclusively that the bodies within the Purkinje cells were Negri bodies.

Animal Inoculation Test.—The purpose of the test was to attempt to transmit the infection successfully and reproduce the disease experimentally in animals. Two rabbits were set aside and inoculated with an emulsion of the cerebellum as follows: The emulsion was made with a portion of the cerebellum, approximately weighing 1 gm., and 2 c.c. of normal salt solution; each rabbit was wrapped in a towel permitting the head to remain uncovered, and steps to inject a portion of the emulsion subdurally were proceeded with. One c.c. of a 2 per cent. solution of cocain was injected subcutaneously over the forehead as a local anesthetic. An incision was made parallel to the long axis of the head, less than 2 cm. in length, to one side of the median line, through the skin extending over the frontal bone. The soft tissues were spread apart and a small disk of bone removed with a trephine. The point of a curved needle was forced through the meninges, and several drops of the emulsion were left over the brain tissue. One suture was taken in the skin, and a covering of celloidin and cotton was placed over the wound.

The rabbits were kept under ordinary laboratory observation. On the twenty-fifth day following the inoculation, one rabbit was found dead. The brain of the rabbit was removed and in smear preparations made of portions of the cerebellum and hippocampus major, Negri bodies were readily demonstrated. From this it was concluded that the rabbit died of rabies, as a result of the inoculation of the emulsion of cerebellar tissue. The second rabbit was kept under observation for 120 days without having shown any symptoms. As the period of incubation of rabies in rabbits rarely exceeds 100 days, the conclusion was reached that the second rabbit had resisted infection. The animal inoculation test, however, in the development of rabies in one of the two rabbits conclusively proved the existence of the disease in the cerebellum of the child.

CONCLUSIONS

With the history of the disease extending through centuries, with sporadic cases as well as epidemics following the path of a rabid dog, with a symptom-complex typical and characteristic following within a limited incubation period, with a fatal termination invariably following untreated cases, with a prophylactic treatment insuring a favorable prognosis, with a negative pathologic picture in the cases, and finally with microscopic lesions, which are constant, it would seem folly at least to continue in this age of preventive medicine to look on these cases as caused by other than some specific agent, infectious, and transmissible to human beings.

THE BRANCHED FORMS OF THE TUBERCLE BACILLUS, AND IMMUNITY TO TUBERCULOSIS

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Koch,[1] in 1882, announced that he had discovered a rod-shaped microorganism, either straight or curved and frequently beaded, which produced tuberculosis. This simple form was, I believe, accepted as a constant character until 1889, when I observed a different morphology[2] which at once suggested another cycle in the life of the tubercle bacillus of Koch. It was of the bovine type grown on a glycerinated agar medium and subjected to great variations of temperature. Instead of the well-known rod-shaped bacilli the field showed beautiful branched and budding forms, as shown in the copy from the original illustration (Fig. 1).

At that time I suggested the probability that we were dealing with involution forms and that they possessed a lower degree of virulence. This hypothesis was confirmed by von Metnischkoff,[3] who further contributed to the studies of the granular forms. These branched tubercle bacilli have frequently been found since that time in culture mediums. *In vivo* they have been found in the serums of rabbits which have had experimental injections made into the brain. During 1891 Allen J. Smith found them in human sputum.

Maffucci[4] described thread-like forms, branching like the mycelia. Klein,[5] in 1890, described dichotomous and lateral branching attached at right angles. Koch,[6] Flugge,[7], Czaplewski,[8] Fischel,[9] Koppen Jones[10] and many others have studied the form changes resulting in granulation, vacuolization, the production of spore-like bodies and the various changes suggesting the relation to the trichomycetes.

The first observation was made on a chance culture; but since the discovery of these forms I have been able, at any time, to reproduce them on artificial mediums. In culture four weeks old, particularly in the presence of high temperatures, the branching constantly appears. The effect of high temperature has some confirmation in the fact that I found[11] the branched forms in 1892, when studying the avian type in the liver of the Mexican green jay (*Xanthoura luxosa*).

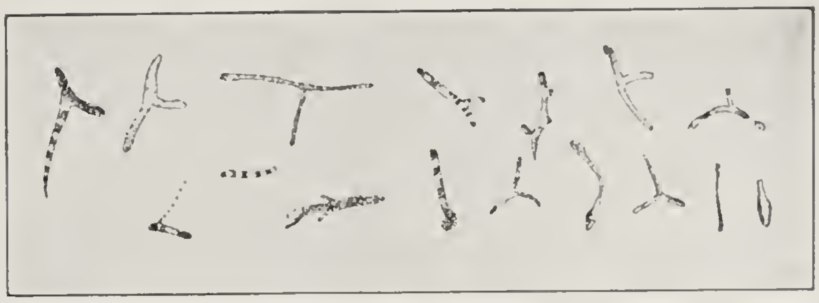
Fig. 1.—Branched forms of *B. tuberculosis*, bovine type (drawn from stained smears).

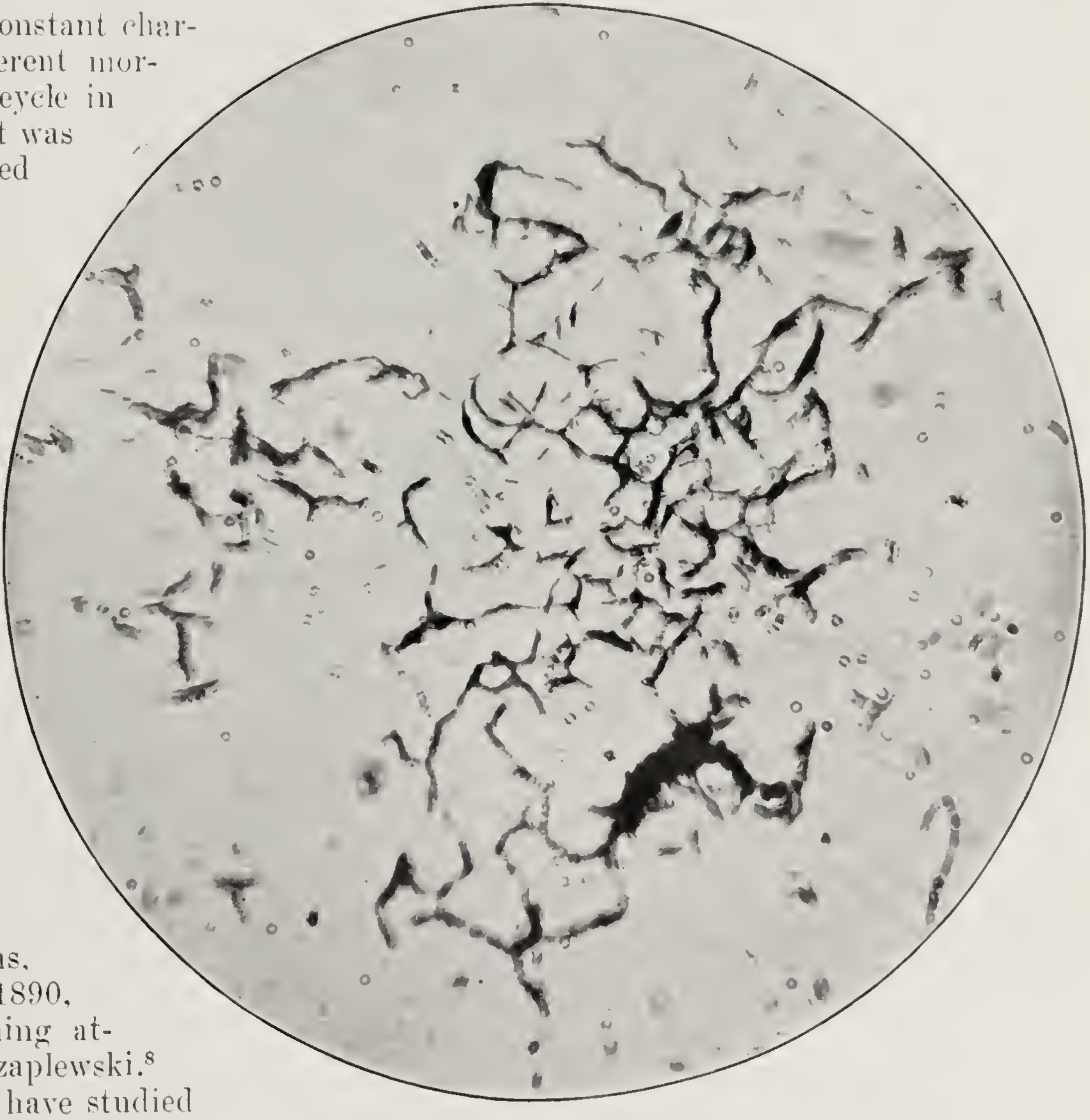
Fig. 2.—Microphotograph of branched forms, human type.

While the tubercle bacillus is mesophilic in the sense that it grows best at the optimum normal human temperature (37 C., 98.6 F.) the thermal death-point according to some authorities is 90 C. (194 F.), but in our work has been 70 C. (158 F.); this high limit of temperature gave opportunity to study the variation of form under a wide variation of thermal and nutritional conditions. The most favorable temperature for the full development of the involution forms, as shown in our laboratory work, is from 52 to 56 C. (125.6 to 132.8 F.). Dehydration would seem to be a factor in bringing about the change of form. This work has been carried out in the laboratories of the Pennsylvania State Department of Health under my direction by Drs. J. B. Rucker, Jr., and Alexander Garcia, and to-day they are able at will to produce branched forms in three

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1. Koch: Berlin. klin. Wchnschr., 1882.
2. Dixon: Med. News, Oct. 19, 1889.
3. Von Metnischkoff: Virchows Arch. f. path. Anat., cxiii.
4. Maffucci: Ztschr. f. Hyg., ii, xi.
5. Klein: Centralbl. f Bakt., 1890, vii; 1892, xii.
6. Koch: Rep. Tenth Int. Med. Cong., Berlin, 1890.
7. Flugge: Die Mikroorganismen.
8. Czaplewski, E.: Die Untersuchung des Auswurfs auf Tuberkelbacillen, Jena, Gustav Fischer, 1891.
9. Fischel: Untersuchungen über die Morphologie und Biologie des Tuberkulose Erregers, Wien und Leipzig, 1893, Wilhelm Braumüller.
10. Jones, Koppen Centralbl f Bakteriol. 1895.
11. Dixon: Proc. Acad. Nat. Sc., Philadelphia, Feb 21, 1893

selected cultures, namely, No. 1, bovine, No. 2, human and H-37 Saranac Lake human (Fig. 2).

Coincident with the ability to bring about these morphologic changes, a certain orderly development of the life-cycle has been observed in all three cultures. This metamorphosis occurs in the following successive changes: first, the development of branched forms which are acid-fast and show the presence of granulations suggesting the conidia of the higher molds; second, a non-acid-fast form corresponding to that described by Ferran;[12] third, a dust-like non-acid-fast material; fourth, a non-acid-fast "tuberculous mud," a substance without definite morphology, which in appearance corresponds to that produced by the drying of a drop of water on a cover-glass; fifth, a non-acid-fast form similar to the nocardial (streptothrix) form of higher fungi and, lastly, the appearance of an aspergillus-like form (Figs. 3 and 4).

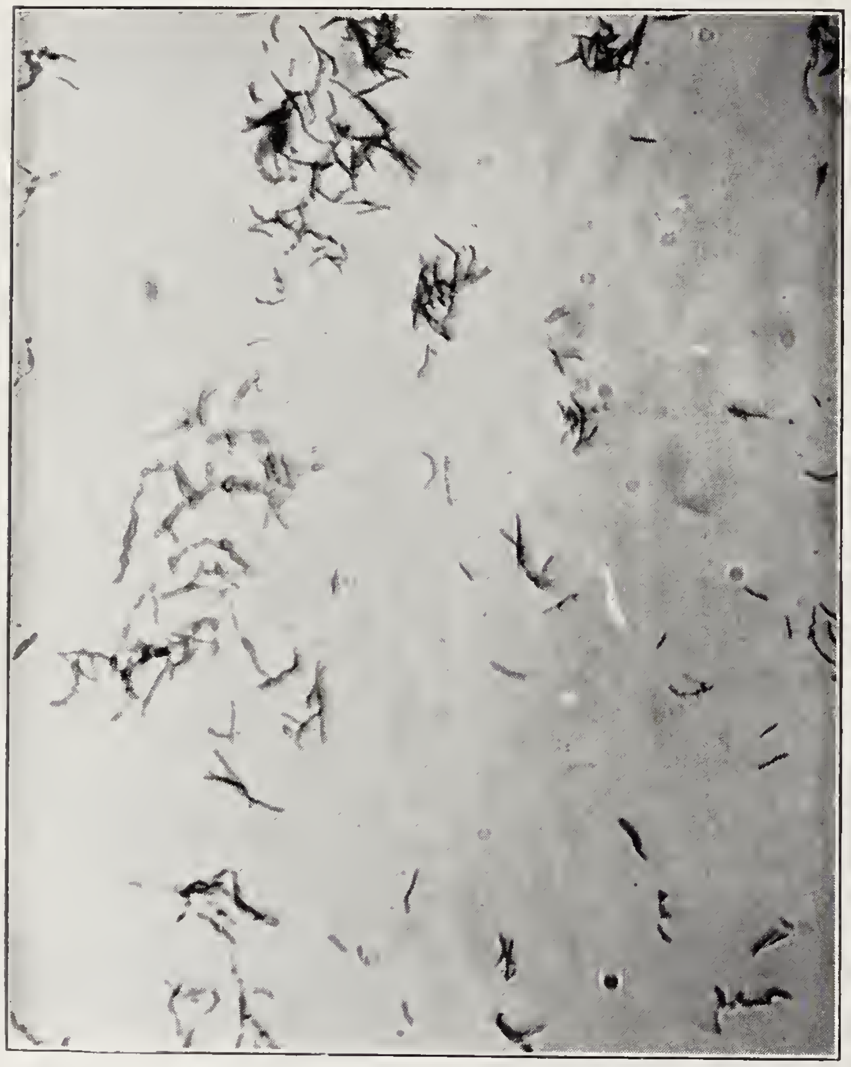

Fig. 3.—Forms showing nodulation, human type.

Attention has previously been called to the fact that the waxy envelope of the tubercle bacillus is in all probability the substance which gives to them their acid-fast characteristics. The development of non-acid-fast forms under the circumstances cited would indicate that this protective envelope has largely disappeared. In a series of experiments[13] undertaken to determine the effect of injections of the tubercle bacillus wax (when injected subcutaneously or intraperitoneally into laboratory animals) it is shown that it had a decided influence on the bile-duct and bronchiolar epithelium. The morphology and arrangement of the new cells, particularly in the glands of the larger bronchioles, show changes suggestive of carcinoma simplex, although by search one can find a well-formed complete basal membrane. This can be explained only on the basis of some attraction between the epithelium and the tubercle bacillus product. It is suggestive that the effect of tubercle bacillus wax is to produce an overgrowth of epithelial tissue, while the more marked effect in the production of an immunity is obtained by products which do not contain this wax. If this reasoning is correct the non-acid-fast types are products in the form which produces immunity and, possibly, with the least toxicity.

On the basis of the theory that the branched forms represented a life-cycle not only of morphologic change, but also of reduced virulence, I advanced the suggestion[2] that it might be possible to establish tolerance for the *Bacillus tuberculosis* either (1) by treating animals with a tuberculous filtrate or (2) by inoculating animals with bacilli, the virulence of which had been reduced by the above-described methods.

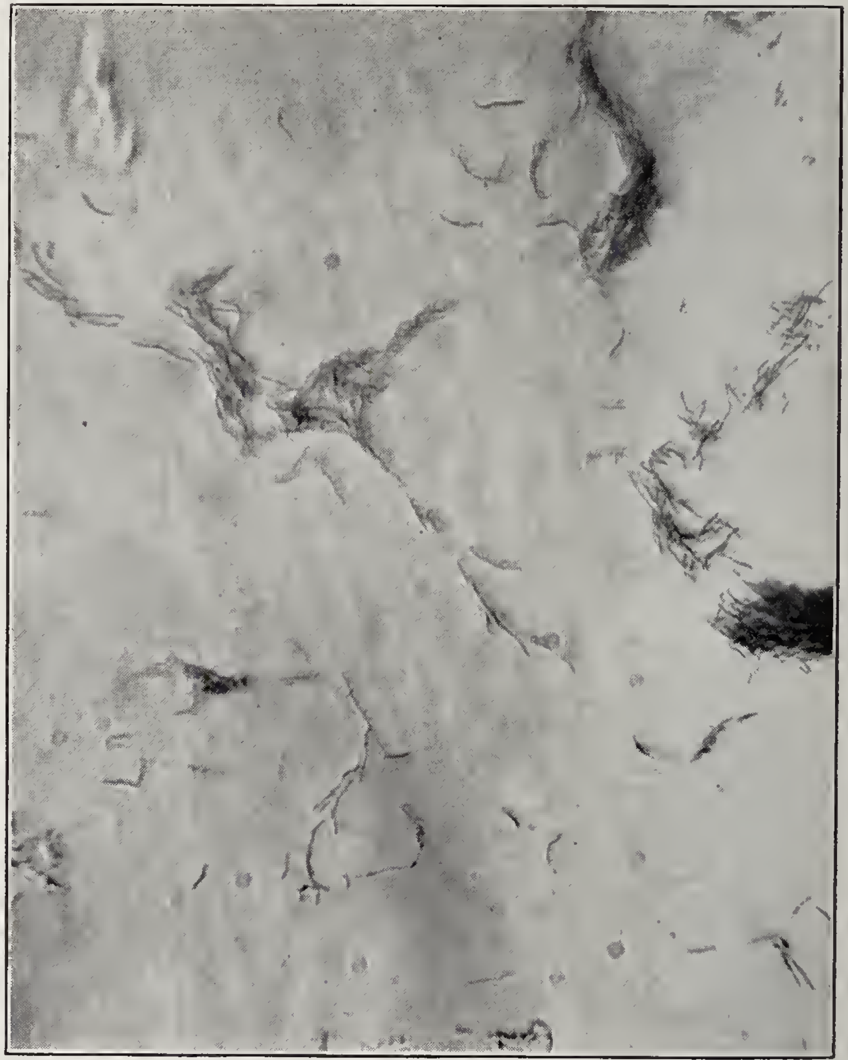

Fig. 4.—Forms showing the production of conidia-like bodies, human type.

In accordance with the first hypothesis, I produced a watery extract[14] which produced a marked degree of immunity[15] in the laboratory animals and was improved as improved technic was adopted, resulting in the following methods:[16] The tubercle bacilli are grown on 4 per cent. glycerin veal broth for a period of from six to eight weeks at a temperature of 37.5 C. (99.3 F.). They are removed from the incubator and collected on hard filter-paper. The filtrates of glycerin broth on which they are grown are discarded. An equal quantity, by weight, of tubercle bacilli of the bovine and human type is used. The mass of organisms is partially dried of the excess of moisture by placing between two sterile filter-papers and afterward placed in a dish in the incubator for from twenty-four to forty-eight hours. The dried organisms are then washed in an excess of ether, which is allowed to act until it has removed all of the water and glycerin. The organisms are then subjected to an excess of fresh ether and washed in this for six hours to soften the wax of the bacilli. This fat separates so that it collects at the bottom of the vessel and is removed by a Pasteur pipet. After the second addition of ether is removed, the mass is allowed to dry until no ether odor is perceptible. After the mass of tubercle bacilli has been thoroughly dried, it is ground in a mortar and suspended in physiologic salt solution in the proportion of 1 part of the ground mass to 5 parts of an 8 per cent. salt solution. This suspension is carried in a shaking-machine for from eight to ten hours and then allowed to stand for several days at room temperature. It is finally passed through impervious bacteria filters several times and the filtrate is examined microscopically, bacteriologically and physiologically. Culture-tests are made to determine its freedom from contaminating organisms, and guinea-pigs are inoculated to ascertain that it contains no living tubercle bacilli. One c.c. of this extract represents 0.5 gm. of the organisms, and is known as the stock solution from which serial dilutions are made. This solution is sterile, though a preservative of 0.5 per cent. of phenol (carbolic acid) is added to prevent any subsequent contamination. This extract is put up in syringes in a series of dilutions so that the doses may be increased as deemed advisable. Small repeated doses of this extract when injected into normal guinea-pigs caused no effect on their temperature, weight or general condition.

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[12] Ferran: Wien. klin. Wchnschr., 1898, No. 28.

[13] Dixon, S. G., Smith, A. J., and Fox, H.: Pennsylvania Health Bull., June, 1911, No. 24; Effect of Tubercle Products on Epithelium, The Journal A. M. A., Sept. 2, 1911, p. 800.

[14] Dixon: Med. News, Philadelphia, Jan. 17, 1891.

[15] Dixon: Med. and Surg. Rep., Sept. 6, 1890; Second Ann. Rep. Henry Phipps Inst., Philadelphia, 1904. Lauder-Brunton, Sir T.: Nature, Nov. 20, 1890.

[16] Pennsylvania Health Bull., October, 1911, No. 24.

In addition to the extract a suspension of dead tubercle bacilli was prepared which has been found from careful use to be of value in certain selected cases, which are more tolerant to the toxins of the microorganism.

The preparation is a suspension in physiologic salt solution of tubercle bacilli which have been degreased by prolonged treatment with alcohol and ether. The tubercle bacilli are grown on 4 per cent. glycerin veal broth for from six to eight weeks at a temperature of 37.5 C. After the cultures are removed from the incubator, the tubercle bacilli are killed by subjecting them to steam sterilization for one hour. The tubercle bacilli are then collected on hard filter-paper and the filtrate is discarded. An equal quantity, by weight, of tubercle bacilli of the human and bovine type is used. This bacillary mass is dried of the excess moisture between layers of sterile filter-paper and afterward placed in the incubator at 37.5 C. for twenty-four hours. It is then dried in a vacuum desiccator over either sulphuric acid or calcium chlorid, until the mass has become dry and brittle, exhibiting a brownish color. The dried tubercle bacilli are then disintegrated by grinding in a mortar and afterward placed in Soxhlet's apparatus. The first extraction is done with absolute alcohol and is continued until the brown color of the distillate has disappeared, which requires from two to four hours. The alcohol is then replaced by ether and the extraction continued until the ethereal distillate is practically clear. The extraction by ether necessary to bring about a clear distillate requires from eight to ten days of ten hours each. When the extraction is complete, the mass of tubercle bacilli is dried twenty-four hours at 45 C. (113 F.). The resulting mass of tubercle bacilli consists of dirty, yellowish-gray granules, which break up easily into small particles. These particles are not soluble in water, salt solution, alcohol or ether. They are ground up into a fine powder in a porcelain ball mill. Definite quantities of the tubercle bacilli powder are inoculated into normal guinea-pigs to determine its freedom from living tubercle bacilli. Suspensions are then prepared of the degreased ground bacilli in physiologic salt solution. These suspensions are proved to be sterile by microscopic and cultural examinations. As a further precaution against subsequent contamination, 0.5 per cent. of phenol is added. The suspensions are put up in carefully selected strengths in syringes, ready for injection.

The clinical results of the use of the extract (T. B. E.) were recently reported by Francine and Hartz.[17] and the use of both extract (T. B. E.) and the suspension (T. B. S.) was reported by Johnson and Berry.[18] In accordance with the second hypothesis, experiments have been repeatedly made on lower animals in injecting the involution forms, particularly into guinea-pigs. Every result indicates the development of marked resistance to lethal doses of virulent tubercle bacilli. More recently we have injected emulsion of salt solution containing as high as 20 mg. of the living forms into guinea-pigs with no evidence of either a local or general reaction at the end of seven days. The injection of 1 mg. of the original culture from which the involution forms are produced shows local and systemic reaction within forty-eight hours, with the production of generalized tuberculosis and death usually at the end of six weeks.

As a result of these observations it is apparent that we have shown the tubercle bacillus to have a cycle of life not previously recognized, with a morphology suggesting the higher molds. It is now our endeavor to find a culture medium on which, under suitable temperature conditions, tubercle bacilli will reproduce the rod-shaped forms.

In the branched forms we have a reduced virulence and have produced a marked degree of immunity in lower animals with branched forms of the living bacilli.

These facts are in accordance with the results attained in the clinical use of the watery extract and the suspension of degreased bacilli, which results, obtained to-day, seem to confirm those of 1889.

THE FINDING OF ACID-FAST BACILLI IN THE CIRCULATING BLOOD *

J. B. Rogers, M.D., A. I. Murphy, M.D., Naperville, Ill.

That tubercle bacilli occur in the blood-stream in advanced stages and miliary forms of tuberculosis has long been an established fact. The theory that tuberculosis is primarily a bacteriemia dates back to the work of Rosenberger,[1] who claimed to have found tubercle bacilli in the blood-stream in all cases of tuberculosis; this he demonstrated in tuberculous pharyngitis, laryngitis, lupus, bone and pulmonary tuberculosis, and other forms. His work was confirmed by Forseyth,[2] Petty and Mendenhall[3] and others.

Brem[4] cast doubt on Rosenberger's findings by reporting the finding of acid-fast bacilli in distilled water. These he called

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[17] Francine and Hartz: Trans. Col. of Phys., Philadelphia, January, 1913; Results with Tuberculin (Dixon's) in Advanced Chronic Ambulatory Tuberculosis, The Journal A. M. A., March 8, 1913, p. 717.

[18] Johnson and Berry: Report of Commr. of Health, Pennsylvania, 1911; Dept. of Health Bulletin, November, 1912, No. 40.

*From the Laboratory, Edward Sanatorium, Naperville, Ill.

[1] Rosenberger: Am. Jour. Med. Sc., February, 1909; New York Med. Jour., June, 1909.

[2] Forseyth: Brit. Med. Jour., April, 1909.

[3] Petty, O. H. and Mendenhall, A. M.: Tubercle Bacilli in the Blood, The Journal A. M. A., Sept. 11, 1909, p. 867.

[4] Brem, Walter V.: Investigation of Blood for Tubercle Bacilli, The Journal A. M. A., Sept. 18, 1909, p. 909.

Bacillus citratis and they were supposed to be identical with the acid-fast bacilli found by Rosenberger.

Recently Kurashigi[5] using the Kurashigi-Schnitter method, reported finding tubercle bacilli in all cases of tuberculosis, using controls in all tests. This work has been confirmed by Kennerknecht and other German investigators.

The Kurashigi-Schnitter method is as follows:—Draw 1 c.c. of blood from one of the arm veins; add this to a tube containing 5 c.c. of a 3 per cent. solution of acetic acid and allow to stand one-half to one hour; centrifugalize one-half hour; pour off the top liquid; dissolve the sediment in 5 c.c. of concentrated antiformin; when dissolved, add 5 c.c. of absolute alcohol; then centrifugalize one-half hour; decant this supernatant liquid and wash the snow-white sediment with distilled water; centrifugalize and spread the sediment on clean glass slides and stain. The average time spent in searching slides was about one-half to two and a half hours. The bacilli when found usually occurred in loose clumps.

Following this method we have examined at the Edward Sanatorium, twenty-six incipient, twenty moderately advanced and four far-advanced cases of pulmonary tuberculosis, finding acid-fast bacilli morphologically identical with the tubercle bacilli in all of them. We were also able to demonstrate the acid-fast bacilli in five apparently normal individuals.

We examined the water used for acid-fast bacilli. The tests were made by adding a small amount of albumin to the test-tube containing the water, thoroughly shaken, then centrifugalizing one-half to one and a half hours and examining the sediment. The results were uniformly negative.

Other tests were made by adding a small loopful of tubercle bacilli to a test-tube containing 1 c.c. of water and a small amount of albumin and carried through the Kurashigi-Schnitter method. These tests showed a concentration of the tubercle bacilli in clumps. To eliminate a possibility of a crystal we made a series of tests, using a combination of acetic acid, alcohol and albumin—acetic acid and solution of alkalies and antiformin. In none of these tests were we able to demonstrate acid-fast crystals similar to those found in the blood examination.

We wish to thank Dr. Theodore B. Sachs, medical director of the sanatorium, for the opportunity of studying these cases.

Therapeutics

DISTURBANCES OF THE HEART[*]

(Concluded from page 903)

THE HEART IN PNEUMONIA

As pneumonia heads the list of the causes of death in this country, and as the heart fails so quickly, sometimes almost in the beginning, in pneumonia, a special discussion of the management of the heart in this disease is justifiable.

Acute lobar pneumonia may kill a patient in twenty-four or forty-eight hours; he may live for a week and die of heart failure or toxemia, or he may live for several weeks and die of cardiac weakness. If he has double pneumonia he may die almost of suffocation. It is to-day just as frequent to see a slowly developing and slowly resolving pneumonia as to see one of the sthenic type that attacks one lobe with a rush, has a crisis in seven, eight or nine days, and then a rapid resolution. In fact the asthenic type, in which different parts of the lung are involved but not necessarily confined to or even equivalent to one lobe, is perhaps the most frequent form of pneumonia.

The serious acute congestion of the lung in sthenic pneumonia in a full-blooded, sturdy person with high tension pulse may be relieved by cardiac sedatives, vasodilators, brisk purging, or by the relaxing effect of antipyretics. Venesection is often the best treatment.

When the sputum almost from the first is tinged with venous blood, or even when the sputum is very bloody, of the prune-juice variety, the heart is in serious trouble, and the right ventricle has generally become weak and possibly dilated. The heart may have been diseased and therefore is unable to overcome the pressure in the lungs during the congestion and consolidation.

There is a great difference in the belief of clinicians as to the best treatment for this condition. It would seem to be a positive indication for digitalis, and good-sized doses of digitalis given correctly, provided always that the preparation of the drug used is active, is good and, many times, efficient treatment. Small doses of strychnin may be of advantage, and camphor may be of value. In the condition described, however, reliance should be placed on digitalis. Later in the disease when the heart begins to fail, perhaps the cause is a myocarditis. In this condition digitalis would not work so well and might do harm. It is quite possible that the difference between digitalis success and digitalis non-success or harm may be as to whether or not a myocarditis is present.

If the expectoration is not of the prune-juice variety and is not more than normally bloody, or in other words, typically pneumonic, and the heart begins to fail, especially if there is no great amount of consolidation, the left ventricle is in trouble as much as the right, if not more. In this case all of the means above described for the prevention of any dilatation of the heart will be means of preventing dilatation from the pneumonia, if possible. The treatment advisable for this gradually failing heart is camphor; strychnin in not too large doses, at the most 1/30 grain hypodermatically once in six hours; many times ergot intramuscularly once in six hours for two or three doses and then once in twelve hours; plenty of fresh air, or perhaps the inhalation of oxygen. Oxygen does not cure pneumonia, but may relieve a dyspnea and aid a heart until other drugs have time to act.

If there is insomnia, morphin in small doses will not only cause sleep, but will not hurt the heart. In the morning hours of the day the value of caffein as a cardiac stimulant and vasocontractor, either in the form of caffein or as black coffee, should be remembered. Strophanthin may be given hypodermatically. One of the greatest cares in the treatment of heart failure in pneumonia should be not to give too many drugs or to do too much.

SHOCK

The treatment of shock will probably always be unsatisfactory as the cause is so varied, and, although circulatory prostration and vasomotor paresis always constitute the acute condition, the physiologic health of the heart and blood-vessels is so varied. The patient in shock has low temperature, low blood-pressure, and a pulse either rapid or slow, but excessively feeble; the face is pale, the surface of the body cold, and there is more or less clammy perspiration; there may be dyspnea and cardiac anxiety, or the patient may hardly breathe.

An acute cause, as terrible pain or hemorrhage, must of course be stopped immediately. There is more or less anemia of the brain, and therefore the legs and perhaps the lower part of the body should be elevated. It may even be wise to drive the blood from the legs by Esmarch bandages into the rest of the circulation. As there is always more or less paresis and dilatation of the large veins of the splanchnic system, a tight bandage about the abdomen is of great advantage in raising the blood-pressure to the safety mark.

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[5] Brauer: Beitr. z. Klin. d. Tuberk., 1912, xxiii, No. 2.

Strophanthin, given hypodermatically, is valuable as a quick restorative of the heart. Digitalis is so slow that it is of little value in an emergency. Camphor hypodermatically, and hot liquids (nothing is better than black coffee) given by the mouth, are valuable remedies. The camphor may be repeated frequently. Strychnin, the long-used stimulant, should generally be given, but in not too large doses and not too frequently repeated; 1/30 grain hypodermatically is generally a large enough dose; this dose may be repeated in three or four hours, but should ordinarily not be given oftener than once in six hours. An aseptic preparation of ergot given intramuscularly is most efficient in raising the blood-pressure and aiding the heart. Aromatic spirit of ammonia, if at hand, may be the first remedy tried, and one dose of brandy or whisky may do no harm. Alcohol, however, should not be pushed.

A most important procedure in all kinds of shock is to surround the patient with dry heat, hot-water bags, and hot flannels; gentle friction of the arms and legs, unless the patient is too exhausted, may be of benefit. A hot-water bag to the heart is always a stimulant. Sometimes friction over the base of the heart in the region of the auricles is of benefit.

If the collapse is not acute and there is gradual profound prostration, or if the patient is improved but still in a serious condition of shock, too energetic measures must not be used; neither should too many drugs be administered, or drugs in too large doses. Absolute quiet and the administration of liquid nourishment in but small amounts at a time are essential.

The hypodermatic administration of epinephrin solutions, 1:10,000, or solutions of pituitary extract, 1:10,000, should be considered; they are often valuable.

If the shock occurs in ether or chloroform anesthesia, the vasopressor stimulating effect of inhalations of carbon dioxid gas may be considered, as advised by Henderson.[1]

If the shock is due to hemorrhage and the hemorrhage has ceased, a transfusion of physiologic saline solution is generally indicated. Sometimes transfusion of blood under the same conditions would be still better. Rarely is transfusion indicated in shock from other causes; it often adds to the difficulty rather than improves it. Occasionally if shock is decided to be due to a toxemia, the toxins may be diluted by the withdrawal of a small amount of blood and the transfusion of an equal amount of saline solution.

ACUTE DILATATION OF THE STOMACH

This condition is not well understood, nor is its frequency known, but not a few instances of shock are due to dilatation of this organ. The shock to the heart may be a reflex one through the pneumogastric nerves. It perhaps not infrequently occurs after abdominal operations and is more or less serious, the symptoms being persistent vomiting, upper abdominal distention and collapse. The vomiting is of bloody or coffee-ground material.

Sometimes the ordinary treatment of the collapse and washing out the stomach save the patient; at other times the patient with this series of symptoms dies in spite of all treatment.

It has been shown that acute dilatation of the stomach may occur in pneumonia, and may be one of the causes of cardiac collapse in pneumonia.

When the condition is diagnosed the treatment would be that of shock plus an abdominal bandage and washing out the stomach with warm solutions, if the patient is not too collapsed, or at any rate the frequent administration of hot water in small quantities.

Sometimes when the stomach is dilated the pylorus becomes insufficient, and bile regurgitates into the stomach, and is a cause of the profound nausea and vomiting and the subsequent collapse. In these cases not infrequently small doses of dilute hydrochloric acid seem to aid the pylorus to maintain its normal contraction, the regurgitation of bile does not take place, and the stomach may soon acquire a more normal muscle tone. Not infrequently when a stomach is in this kind of trouble and all foods are rejected, and yet the patient seriously needs nourishment, a warm, thin cereal, as oatmeal gruel or something similar, may be retained. Such patients, as has been repeatedly stated, need starch as soon as possible, lest an acidosis develop.

In these vomiting and collapse cases the hypodermatic administration of morphin and atropin will not only stop the vomiting, at least temporarily, but will give necessary rest. The dose of morphin need not be large, and the atropin may prevent nausea from the drug.

ANESTHESIA IN HEART DISEASE

While no physician likes to give an anesthetic to a patient who has valvular disease of the heart, and no surgeon cares to operate on such a patient unless operation is absolutely necessary, still in valvular disease with good compensation the prognosis of either ether or chloroform narcosis is good.

When there are evidences of chronic myocarditis or a history of broken compensation, and the borderline of compensation and dilatation is very narrow, or when there is arteriosclerosis, the danger from an anesthetic and an operation is much greater; it may be serious in fact, and the decision must be made whether the operation is absolutely necessary or not. Under any circumstances it is understood that the anesthetist must be an expert, as there can be no carelessness and nothing but the best of judgment in giving anesthesia in cardiac defect.

The anesthetic to select is a subject for careful decision, as one cannot assert which anesthetic is the best. While chloroform seems occasionally to cause a fatty degeneration of the heart, or if given too rapidly at first may cause sudden death, especially in cardiac weakness, ether has its disadvantages, owing to the increased tension (especially if there is likely to be much muscular or cerebral excitement), and the greater amount of ether that must be given, with the attendant danger to the kidneys, which may have been disturbed from the cardiac conditions. Generally, however, the better method is perhaps to administer first chloroform to the point of producing sleep and then to change to ether, the first mild chloroform narcosis preventing the ether from causing acute stimulation, and ether being better for the operation as it is more of a stimulant.

Some believe that it is better to administer morphin, with perhaps atropin hypodermatically before the anesthesia, and then to use ether. Nitrous oxid gas would be contra-indicated as tending to increase arterial pressure, and therefore endanger a damaged heart; it is a serious danger to damaged blood-vessels.

The End

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[1] Henderson: Am. Jour. Physiol., February and April, 1909.

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SATURDAY, MARCH 29, 1913

THE PORPHYRINS IN PATHOLOGY

The chemist Nencki, some time before his death, succeeded in preparing from hematin, the ferruginous fragment of the blood-pigment, two crystalline compounds which were designated as "hematoporphyrin" and "mesoporphyrin," respectively, and showed a close similarity by the spectroscopic test, the method of examination so commonly applied to hemoglobin derivatives. Subsequent investigation has demonstrated, however, that the two porphyrins, alike though they may be in their optical behavior, are chemically distinct compounds. Hematoporphyrin owes its origin to a process involving oxidation; mesoporphyrin requires reduction reactions for its production; and perhaps the possibility of still other iron-free hematin derivatives is not even here exhausted.

Under a variety of pathologic conditions there is found in the urine in noteworthy amounts a substance which is ordinarily spoken of as hematoporphyrin. Hematoporphyrinuria is familiar as a symptom of poisoning with sulphonal and trional, for example. Inasmuch as the conventional way of identifying this pathologic urine pigment is by means of spectroscopic examination, and the isolation of the so-called urinary hematoporphyrin in any reasonable degree of chemical purity has not yet been satisfactorily accomplished, it appears difficult to decide (in view of their spectroscopic similarity) as to which one of the now known distinct porphyrins actually constitutes that substance with which the clinician is familiar.

The final answer to the problem can perhaps not be given until the urinary porphyrin is actually isolated as such. Certain recently discovered biologic properties of the porphyrins may, however, throw light on the question. Tappeiner and his pupils in Munich have shown that by means of so-called photodynamic substances, among which fluorescin may be cited in illustration, it is possible to sensitize organisms to the harmful action of light.

Hausmann has extended this work to show that chlorophyl and the related substance hematoporphyrin prepared from the blood-pigment may exert a similar photodynamic influence.[1] Red blood-corpuscles, for example, are hemolyzed by hematoporphyrin only in the light. White mice, injected with small quantities of the same porphyrin, remain normal for weeks when kept in the dark. Exposed to the light, however, they quickly develop characteristic symptoms of intoxication accompanied by a dread of the light, dyspnea, inflammation and swelling of the ears and edema of the skin, resulting in speedy death.

In Friedrich Müller's clinic at Munich, Fischer and Meyer-Betz[2] have investigated the photosensitizing properties of the two porphyrins prepared in a high state of purity. They were able to verify Hausmann's observations on the photodynamic properties of hematoporphyrin in equally striking experiments. The contrast between injected animals in the dark and in the sunlight belongs among the spectacular and almost mysterious phenomena which the biologic sciences furnish so frequently. Pure mesoporphyrin, on the other hand, is apparently devoid of all photosensitizing influence, though it appears to exert a slight toxic action. Porphyrin prepared from the blood derivative hemin by reduction and subsequent oxidation — a process quite within the possibilities conceivable for the animal organism — behaved like the hematoporphyrin.

The existence of specific compounds which are known to arise in the organism under certain pathologic conditions, and which can exert such a marked sensitizing power toward light, has more than a passing medical interest. A skin affection sometimes designated as "hydroa aestiva" and connected with the strong action of sunlight often shows an association of the exanthem with the appearance of hematoporphyrin in the urine.[3] Rabbits in which hematoporphyrinuria has been developed by sulphonal respond with skin affections to intense illumination.[4] Other cases attended with porphyrin in the urine, for instance, syphilis of the liver, have been reported to develop necroses in the portions of the body exposed to light. Numerous other illustrations of real or alleged hypersensitiveness to light, as they have been reported in the curious response of certain individuals to buckwheat ingestion and in pellagrins, might be cited here; but the discussion of this interesting and little-explored domain would lead us too far afield.

HEALTH OF ALASKAN NATIVES

We have previously noted[5] the poor conditions of health and sanitation obtaining among the natives of Alaska. This territory is one-fifth as large as the entire United States and presents features of inaccessibility, climate and lack of means of communication which make medical relief work exceedingly difficult. In 1900 the census figures placed the native population of Alaska at 29,536, while in 1910 it had fallen to 25,331, a decrease of 4,205, or 14.5 per cent. Surgeon M. H. Foster of the Public Health Service reported, Aug. 11, 1911, that at Sitka the fairly reliable statistics of the churches placed the annual birth-rate for a period of five years and seven months at 72.3 per thousand, and the annual death-rate for the same period at 85.4 per thousand, which gives a decrease of 13 per thousand. In the year 1912 the birth-rate was 24 per thousand and the death-rate 29.3, a decrease of but 5.3 per thousand in population. Yet in spite of this evident improvement in Sitka, which has probably resulted from the organized efforts of the Bureau of Education, health conditions among the Alaskan natives at large are far from satisfactory.

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[1] Hausmann, W.: Biochem. Ztschr., 1908, xiv, 275; xv, 12; 1909, xvi, 294; 1910, xxx, 276.

[2] Fischer, H., and Meyer-Betz, F.: Zur Kenntnis der Porphyrinbildung, Ztschr. f. physiol. Chem., 1912, lxxxii, 96.

[3] Ehrmann, S.: Arch. f. Dermat. u. Syph., 1909, xcvii, 83.

[4] Perutz, A.: Wien. med. Wchnschr., 1910, xxiii, 122.

[5] Health Conditions in Alaska, editorial, THE JOURNAL A. M. A., March 9, 1912, p. 704.

On request of the Secretary of the Interior, Passed Assistant Surgeon Emil Krulish of the federal Public Health Service was detailed to investigate the health and sanitation of the Alaskans under the Commissioner of Education. Dr. Krulish spent from April to November, 1912, in this work, and his observations and recommendations are incorporated in a report to the Commissioner of Education under date of Jan. 22, 1913, this report being forwarded to the Secretary of the Interior, Jan. 25, 1913. The report fully corroborates the findings of Surgeon Foster, on which we have commented editorially.[1] The incidence of disease is found to vary somewhat in different parts of Alaska, syphilis being most prevalent in the southwestern part, eye diseases in the southeast and pulmonary tuberculosis among the Eskimos. These are the most destructive and dangerous forms of disease among the natives. Dr. Krulish found 23 per cent. of the natives in southern Alaska to be suffering from some form of eye trouble, whereas only 6 per cent. of the Eskimos were so affected. In southwestern Alaska 13 per cent. of the natives suffered from trachoma. The report estimates that 80 per cent. of the blindness and partial loss of vision among the natives could have been prevented by appropriate treatment in the early stages.

The most serious menace is tuberculosis, which, "if not eradicated in the near future, will exterminate the native population of Alaska in the course of sixty or seventy years." The disease is present in all forms, especially in the pulmonary, osseous and glandular types. Several cases of spinal tuberculosis were observed, followed by paralysis. Dr. Krulish places the degree of tuberculous infection among the native population at 15 per cent. In 7 per cent. it is in an active stage. The principal reasons for this wide infection lie in the insanitary housing conditions and personal habits of the natives. The houses are poorly ventilated and overcrowded. The natives commonly spit on the floor, use a common towel and "drink from the same tea-pot spout." These conditions also contribute largely to the spread of syphilis and trachoma.

Dr. Krulish recommends the establishment of a system of hospitals for the trachomatous, syphilitic and tuberculous, and the employment of field nurses for the actual care of patients in their homes and to instruct the natives in sanitary and health matters. The present medical relief work in Alaska should be extended and put on a permanent basis. The estimated expense for the erection, equipment and maintenance of a chain of hospitals, for salaries of physicians, nurses and attendants, traveling expenses, drugs and supplies for the first year would be about $274,600, and the future maintenance of this service would require about $160,000 annually. An appropriation of at least $125,000 is necessary to begin the work on an adequate basis.

It is certainly poor economy for the government to maintain schools and no hospitals. The health conditions will become progressively worse if nothing is done, and it is to be hoped that immediate and adequate provision will be made by Congress for this important work.

CARBON DIOXID AND APNEA

Physiologic anomalies not infrequently furnish the clue to the explanation of obscure processes in the organism. We have at various times referred to the probable importance of carbon dioxid as a regulator of physiologic functions, particularly in relation to respiration and the circulation.[1] Concordant with the generally accepted view of the rôle of carbon dioxid is the well-known fact that forced breathing is usually followed by a period of apnea of a duration depending on the extent to which the forced breathing has been performed.

The obvious explanation of this phenomenon is that with the sweeping out of the carbon dioxid from the circulation through the enhanced lung ventilation, the content of the blood in this stimulant to the respiratory center is reduced below the threshold of concentration at which it is effective there. Apnea follows until this respiratory "hormone" has again accumulated in sufficient amount to call for better elimination. Incidentally it has been noted that this apneic response does not occur in some persons.

Recently Boothby[2] has studied an individual presenting the apparently anomalous phenomenon, not merely of the absence of apnea, but even of a natural hyperpnea succeeding forced breathing. How are these instances to be explained on the current hypothesis which assigns so much prominence to the carbon dioxid content of the circulation? Shall we assume that the respiratory functions are maintained through the activity of some other stimulus here, or is the effective carbon dioxid content of the blood conserved in an unexplained manner? Boothby believes that there is the usual loss of carbon dioxid in the forced breathing of these unique subjects, and that despite the absence of apnea it is made up again within a few minutes, though not so rapidly as when apnea occurs. He ventures the hypothesis that the absence of apnea after forced breathing is probably due to a compensating diminution of the circulation through the respiratory center, in consequence of which the gas tensions in the center are still capable of exciting it. More specifically, as soon as there is an appreciable decrease in the carbon dioxid pressure in the arterial blood the arterioles and capillaries respond by contracting in an attempt to diminish the volume of blood passing through areas under their control. Furthermore, in the absence of better information regarding the mechanism by which the venous supply of the heart is regulated, it might be supposed that this is dependent in part on the carbon dioxid content of the venous blood. In that case, as Boothby suggests, forced breathing might bring about a marked diminution in the output of the heart. Accordingly it would follow that in the anomalous cases referred to above a decreased circulation in the central nervous system in general and in the respiratory center in particular maintains the carbon dioxid tension at near its normal level despite the forced breathing. The retarded circulation would further bring about a condition of oxygen want with the consequent production of products of deficient oxygenation such as lactic acid. These acid derivatives, in conjunction with the carbon dioxid, could keep the respiratory center excited; and thus the phenomena of hyperpnea after forced breathing without apnea could be understood. The most interesting feature in these newer observations is the suggestion that the circulatory system may cooperate in some cases in an unexpected degree and manner to maintain a function of the respiratory center. The assumed influence of the carbon dioxid on the blood-vessels themselves will, however, bear further investigation.

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[1] Compare Carbon Dioxid and the Circulation, THE JOURNAL A. M. A., Feb. 8, 1913, p. 45.

[2] Boothby, W. M.: Absence of Apnea After Forced Breathing, Jour. Physiol., 1912, xlv, 328.

THE IODIN CONTENT OF THE THYROID GLAND

During the past decade there has been an earnest and laudable effort among those interested in the use of drugs to secure some efficient standardization of the products which enter into common use in medicine. When possible and feasible, crude preparations have been replaced by isolated "principles," particularly in the application of the naturally occurring products that yield alkaloids. In other cases, as in the dispensing of digitalis extracts, for example, much time has been devoted to the testing and introduction of suitable methods of measuring the potency of the marketed materials so as to furnish a reliable tincture or fluidextract, the therapeutic effect of which might in some reasonable degree be anticipated and relied on. The standardization of the animal-organ extracts which have come so widely into use is equally desirable, but the more difficult of accomplishment because the active substances (with the exception of the adrenal constituent) are scarcely known; and a precise pharmacologic response of the organism to their administration is equally difficult to recognize. Hence it is that in many cases the clinician has been compelled to content himself with prescribing certain portions of the gland used, remaining in ignorance as to the real dosage involved except in so far as palpable results manifested themselves in the case of individual products. Constancy of composition and physiologic effect could scarcely be expected; and the manufacturer has been quite as helpless as the physician in the attempt to secure that uniformity of quantity and quality which insures dependable medication.

Some hope of fixing a standard for the use of thyroid in medicine has been warranted by the apparent correlation of the iodin content of the thyroid gland with that constituent which is assumed to bring about the reactions for which the product is employed. Tentatively a proposed iodin content of 0.2 per cent. has been adopted. If the numerous published analyses of the thyroid are reviewed, one is impressed with the wide variations in relation to species, locality and other factors which are likely to come into play. Obviously the first desiderata are sufficiently extensive and reliable statistics in regard to the actual facts respecting iodin and the thyroids. It has been the aim of the Hygienic Laboratory of the Public Health Service, working in conjunction with some of our American manufacturers in that cooperative spirit which makes for real progress, to supply the missing data.[1] Material was prepared from thyroid glands obtained from animals shipped to the Union Stock Yards in Chicago from practically all parts of the United States except the Eastern and Southeastern states. In this way it was hoped to eliminate local influences to a large extent. That these may easily come into play will be apparent when the regional occurrence of goiter in animals as well as man is brought to mind.

The investigation of Seidell and Fenger thus undertaken particularly to ascertain the extent of the variation in the iodin content of composite samples of animals used as food by man—products accordingly available on a suitable commercial basis—led to an unexpected finding. It was shown that a marked seasonal variation exists in the percentage of iodin present in the healthy normal-sized thyroid glands of the sheep, beef and hog. There is in general about three times as much iodin present in the glands in the months between June and November as in the months between December and May. A seasonal variation in the size of the fresh glands was observed in the case of the sheep and beef, but not with the hog. The glands were found to be larger during the months in which the lower iodin content was observed.

A particularly important outcome of this study was the demonstration that a continued restriction of the source of pharmacopeial thyroid to the glands of sheep would make practically impossible the production in the

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[1] Seidell, A., and Fenger, F.: Seasonal Variation in the Iodin Value of the Thyroid Gland, Jour. Biol. Chem., 1913, xiii, 517.

United States of a drug of 0.2 per cent iodin content for all but a short period of the year. It is now evident that the maintenance of a standard of this sort will require the use of glands other than those of the sheep, and in addition, the mixing of the product obtained at the high and low seasons of the year.

THE RATTLESNAKE-VENOM TREATMENT OF EPILEPSY

The fashion of using biologic products of extreme toxic potency is on us. It seems unnecessary to have these products accurately standardized, or to have their employment in human beings preceded by careful animal experimentation in which both the immediate and remote effects of such toxication can be determined. So long as a profound "reaction" is produced the end in view seems to have been attained, for by that reaction, if one may credit the enthusiastic reports of the advocates of these new and heroic therapeutic adventures, beneficial results in diseases otherwise practically incurable, epilepsy for instance, seem attainable. Curiously, however, these new fields for the employment of biologic toxins seem to require preliminary exploitation through the agency of the public press; and with the growing tendency of lay publications to magnify the sensational at the expense of the scientifically exact in alleged discoveries in medicine, there is little wonder that a treatment like the injection of rattlesnake-venom for epilepsy should have excited a lively and exaggerated interest.

An epileptic in Texas was bitten by a rattlesnake; he escaped the secondary infection which so often complicates and adds to the fatality of bites by poisonous snakes and his epileptic attacks ceased. A Philadelphia physician, Dr. Ralph H. Spangler, learning of this fortunate result, and having had some experience in using crotalin in the treatment of pulmonary tuberculosis, attempted to reproduce the favorable issue of the epileptic's accident. That any measure of success sufficient to justify the adoption of crotalin treatment for epilepsy has accrued to Spangler's efforts is not to be concluded from his published reports in medical periodicals, or from the reports of trustworthy and competent professional observers. On the other hand, there are a number of good and sufficient reasons why cautious physicians who respect the well-being of their patients and who desire a comfortable peace of mind should shun the administration of this treatment and advise against it.

Every well-informed epileptologist knows that a sudden shock or reaction may favorably, though as a rule but temporarily, influence the course of epileptic seizures. A maiming accident or surgical operation not uncommonly induces a break in the sequence of epileptic fits; still no one since the dark ages has advocated traumatism as a cure for "falling-fits." Likewise, intercurrent diseases like severe acute infections are often followed by an attack-free period; but it still remains for some venturesome therapist to produce such infection by design as a treatment for epilepsy. The rattlesnake-bite of the Texas youth and the artificial bites by Spangler's method belong in this category of accidental and temporary suppression of epileptic fits by the agency of severe reactions. But the artificial instillation of the venom, unlike the natural bite, is advocated as a procedure to be repeated.

The reaction which follows an injected dose of crotalus venom, both the severe local irritation and the marked constitutional disturbance, is far from pleasant, even at a time when "reactions" are belittled to physicians; and to carry out the treatment by the Spangler method a continuous series of such reactions with increasing doses of poison must be instituted. Ignoring the danger of anaphylaxis, which certainly is possible, and of infection by contaminating bacteria residing in the crudely obtained dried venom or appearing in its solution, there is the undisputed fact of hemolysis to be gravely considered — for "all snake-poisons have a hemolytic power." The plight of the average epileptic is too commonly hopeless; still it seems scarcely humane to add to his already heavy burden a state of chronic intoxication by a potent, deadly agent with insidious, blood-destroying power, and a well-known proclivity to prepare the way for pyogenic infections.

If further advice were needed on this head, it would be to leave the crotalin treatment of epilepsy in the hands of its adventurous author for administration to those unfortunate victims of epilepsy whose desperation has led them, knowingly, to assume a great risk, with a very small promise of benefit.

Current Comment

PROGRAM OF SOCIAL SERVICE ADOPTED BY THE CHURCHES

The church has been criticized for sticking too closely to dogmatic instruction in religion and not making practical application of its teachings to the every-day social and material things of life for the betterment of those whom it attempts to reach. Realizing that modern conditions make it incumbent on the church to take greater interest in such matters, the leaders of the Protestant churches of America, after previous ineffectual attempts in this direction, in 1905 convened a national church conference, having for its purpose the formation of some plan by which the evangelical churches might unite to meet this modern demand. This conference perfected an organization, the Federal Council of the Churches of Christ in America, with committees covering different branches of social service, and after considerable study and some practical experience along the lines mapped out, the council has adopted, as the program for future work, the report of the Commission on the Church and Social Service, on which it has agreed that the churches must stand. That program, in addition to some general pronouncements in regard to equal rights and complete justice for all, favors the single standard of morals, uniform divorce laws, proper regulation of marriage and proper housing; the abolition of child labor; regulation of the conditions of toil for women so as to safeguard the physical and moral health of the community; the protection of the individual and society from the social, economic and moral waste of the liquor traffic; the conservation of health; protection from dangerous machinery, occupational diseases and enforced employment; suitable provision for the old age of workers and for those incapacitated by injuries; arbitration in industrial disputes; one day of rest in seven for the worker; gradual and reasonable reduction of the hours of labor; a living wage as a minimum in every industry, and the highest wage that each industry can afford; the application of Christian principles to the acquisition and use of property, and the equitable division of the product of industry. This seems a sensible and not impracticable program, and with proper and practical leadership nothing could be better adapted than the established organization of the church, reaching, as it does, every community and every class, to assist in bringing about within a reasonable time, at least some portion of these eminently desirable reforms.

SPIROCHAETA PALLIDA IN THE BRAIN IN GENERAL PARALYSIS

Noguchi and Moore[1] examined the brains in seventy cases of typical general paralysis, and in twelve they succeeded in demonstrating *Spirochaeta pallida* in all the layers of the cortex save the outermost one. Both macroscopically and microscopically the anatomic changes corresponded wholly to those regarded as characteristic of this disease, so that there is no good ground for the possible assertion that they were dealing with frank instances of cerebral syphilis in the narrower sense rather than genuine general paralysis. This demonstration consequently must tend strongly to support the view that general paralysis is the result of the direct action of the parasite of syphilis in the brain; that cerebral syphilis and general paralysis in reality are, as asserted by Dunlap and others, part and parcel of the same process; or, to put it in a still different way, that general paralysis is nothing more, or less than a peculiar form of tertiary syphilis. Now that the ground, so to speak, has been broken, it seems highly probable that in time we shall learn much more about the relationship of the spirochete to the brain in general paralysis. Further work will lead perhaps to improved technic, for it is acknowledged that the spirochete cannot be demonstrated infallibly with the present methods. If, indeed, it should be found that general paralysis is the direct result of syphilitic infection of the brain, thus bringing the disease into much closer connection with its cause than expressed in Kraepelin's conclusion that "syphilitic infection is an essential for the later appearance of general paralysis," the prospects of finding some way of curing actual paralysis would become more hopeful.

PRODUCTION OF IMMUNITY TO TUBERCULOSIS WI[illegible] BRANCHED FORMS O[illegible] [illegible] BACILLI

Under certain circumsta[illegible] [illegible]llus of tuberculosis grows into peculiar b[illegible]hed forms that resemble certain fungi. According to [illegible][1] such forms develop quite regularly when the tuber[illegible] bacillus grows at higher temperature than usually employed for the artificial cultivation of microorganisms, the most suitable temperature for this purpose being between 52 and 56 C. Under these circumstances the power ordinarily possessed by the tubercle germ of resisting decolorization by acid solutions may be lost, the germs becoming non-acid-fast. This last change is ascribed to loss of the waxy envelope on which the character of being acid-fast is believed to depend. Dixon finds that experiments on guinea-pigs show that the branching, non-acid-fast forms are less virulent than the original cultures from which they are produced and furthermore that they induce "the development of marked resistance to lethal doses of virulent tubercle bacilli." He gives no details of experiments bearing directly on this last point, however, and we must remain content with his statement to that general effect for the present. On the basis of these considerations and experiments Dixon has developed tuberculins for practical therapeutic purposes consisting on the one hand of watery extracts of tubercle bacilli and on the other of suspensions of "degreased bacilli," the theory being that in this way are obtained antigens of little toxicity but good antigenic virtue. The quintessence of Dixon's report is therefore the emphasis placed on the immunizing value of the wax-free tubercle proteins and the non-acid-fast branching forms of the tubercle bacillus. The details of the actual underlying experiments are awaited with interest. Reports of the therapeutic results are already at hand,[2] and the hope may be expressed that the further tests may have such outcome as to leave no doubt as to the real merits of the treatment.

PUBLIC OPINION AND MEDICAL EDUCATION

The statements in newspapers after the recent conferences on medical education held in Chicago show that public opinion is not only growing more favorable toward improvement in medical education, but is even beginning to demand such improvement. Referring to the recent action of the Association of American Medical Colleges in adopting higher entrance requirements for medical schools, the Wilmington (Del.) *News* says:

> It would be hard to reach too high a standard in medical training and education. There is no more important vocation that that of the physician, but the importance of the profession as it affects the general public has not been appreciated in the proper manner. A few years ago no large city was without its mushroom medical colleges, commercialized institutions that were conducted for the purpose of money-making, grinding out diplomas given to men utterly unfit to deal with matters of life and death. . . . A smaller number of institutions with better equipment for the study of medicine and surgery would be far better than an unlimited number of indifferent institutions.

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[1] Noguchi, Hideyo, and Moore, J. W.: A Demonstration of Treponema Pallidum in the Brain in Cases of General Paralysis, Jour. Exper. Med., 1913, xvii, 232; abstr., The Journal A. M. A., Feb. 22, 1913, p. 627.

[1] Page 993, this issue.

[2] Francine, A. P., and Hartz, H. J.: Results with Tuberculin (Dixon's) in Advanced Chronic Ambulatory Tuberculosis, The Journal A. M. A., March 8, 1913, p. 717.

And this from the Joliet (Ill.) *Herald:*

> With the [illegible] number of physicians thrown out of [illegible] country each year, many of them with inadequate preparat[illegible]—although sufficient, it will be admitted, to pass the nec[illegible] examinations to practice—the raising of the standa[illegible] be welcomed by all thinking men.

There are still some who fail to discriminate between the "poor boy" who is poor in purse and the one who is poor in scholarship. This is apparently the case with the Albany (N. Y.) *Argus*, which says:

> The extra year seems unnecessary. . . . While it is highly desirable that the standard of the profession be raised to as high a plane as possible, requirements for entering it should not be unreasonable. For a poor young man to devote five years to study in a college before he can practice is a hardship few will undertake. It means five years of privation and hard work in addition to his studies. We do not want any of the professions closed to poor boys.

Not so the Elmira (N. Y.) *Star* which, after reproducing the statement just quoted, adds:

> The *Argus* is right so far as the "poor boy" is concerned—but there are the "poor people" to be considered, too. The medical profession deals in life and death. On the judgment and ability of the physician, and the skill and deftness and accuracy of the surgeon depend the number of days we may enjoy life on earth. If there is one profession more than another that should be most severe in its requirements it is the profession of medicine. Hitherto there has been too much laxity in the demands for efficiency and proficiency. The tendency now is the other way, and it is good for humanity.

The campaign for better medical schools and better doctors carried on in recent years by the American Medical Association, the Carnegie Foundation for the Advancement of Teaching, the Association of American Medical Colleges and other organizations has already done much to create a public interest in these matters. After all, it is the people themselves who should be chiefly interested in the character of the training and the qualifications of those who are to care for them when sick or injured.

PUBLIC ENLIGHTENMENT THROUGH ADVERSE CRITICISM

Adverse criticism sometimes draws public attention to the truth regarding important affairs, where otherwise no attention would be paid to the facts. The following is an instance: After commenting on some resolutions adopted by the medical faculty of Drake University, when it was decided to merge that school with the College of Medicine of the State University of Iowa, and after giving a short history of that medical school, the *Journal of the Iowa State Medical Society* proceeds to pay its compliments in the following language to a certain critic of practically all progressive medical measures:

> We regret to say that there was published in the Des Moines *Capital* a contribution from the distinguished Bremer County statesman, one Miller, who says that Drake University Medical School came to its untimely death at the hands of the great medical trust, the American Medical Association. Mr. Miller finds it difficult to understand how an institution without legal authority can exercise such a powerful influence as to destroy weak medical colleges and all other things medical that come in its way. This is a proposition of course Mr. Miller cannot fully understand for the reason that the American Medical Association represents the highest ideals of the American people. The American Medical Association has endeavored to stand for the very best, and to crush out all of those monsters that prey on public ignorance, and this is why the American Medical Association has come to have its great influence. The resolutions passed by the Drake University Medical School do not set forth the claim that the American Medical Association, in order to clear the medical atmosphere, crushed out the institution, but rather say that "their efforts to secure the necessary funds for the endowment and public support of the medical school in accordance with the highest standards, have been unsuccessful." It must be discouraging to a statesman like Mr. Miller to see right prevail over wrong, and to see medical progress go on from year to year, from month to month, and from day to day, and yet be unable to stop it.

In the preceding statement, therefore, additional facts are brought to the attention of the medical profession and the public, which would not have been the case had there not been an effort to belittle the work of the organization representing the medical profession of this country. Fortunately also such efforts usually result in calling the attention of the public to the character and work of those making such criticisms. The American Medical Association has nothing to conceal, and invites the widest publicity of its motives and its work.

THE AMERICAN STANDARD FOR ENTRANCE TO MEDICAL COLLEGES

In the Medical Education department of this issue is given a detailed outline showing the minimum preliminary education which should be required for admission by every medical college. Also it is the minimum that should be required by every state licensing board of those who are to practice the healing art by whatever method or system. This minimum represents, in addition to a standard four-year high-school education, a year of college work including at least eight semester hours each of physics, chemistry, biology and German or French. It is understood that the college year may be taken either in an accredited college of liberal arts or in a preliminary year given under satisfactory conditions by the medical college itself. This standard has long been the minimum requirement in practically all other civilized nations, and is the standard which has been advocated by the American Medical Association through its Council on Medical Education since 1904. It has just been adopted at a joint meeting of committees representing the Association of American Medical Colleges and the Council on Medical Education, acting with the advice of Dr. Kendric C. Babcock, higher education expert of the United States Bureau of Education. The general adoption of this standard throughout the country will mark another distinct epoch in the progress of medical education in the United States.

STORM HAVOC AND THE DANGER OF EPIDEMICS

The devastation and death lately caused by tornado and flood seem almost unprecedented in this country. The situation has called for strenuous action on the part of governments, organizations and individuals, including the great body of physicians, for financial, material and medical relief; and to the credit of our citizens such relief has not been wanting. The destructive wind and rain storms extending from Western Canada to Georgia were followed by the series of tornadoes at Omaha and the middle west, and the terrific hurricanes and rains with resulting tremendous floods in Indiana and Ohio. Ere we received full details of one fierce storm, news of a greater one crowded it from notice. The reported loss of St. Elizabeth Hospital at Dayton, with several hundred patients and attendants, would be a most deplorable event. At the time of The Journal's going to press, the report could be neither verified nor disproved. The immediate havoc wrought to life and property is only a part of the results of the storm, for following in its wake stalk sickness and death from exposure, the unavoidable lack, for a time, of food, medicines and care, and the disruption of sanitary conditions, with polluted water. The experience gained, however, by health authorities, the Red Cross and other relief organizations in previous calamities of this sort, will enable them soon to bring order out of chaos, and with the cooperation on the part of all persons, the situation will be quickly cleared up. Naturally we may look for pneumonias and other congestive diseases. Little can be done to avoid these, but epidemics of intestinal diseases can be successfully guarded against. Where sewerage and water systems have been affected, the slogan for several weeks must be *boil the water and pasteurize the milk.* With the breaking of dams and sewers and the flooding of water-supplies whether of wells or reservoirs, the water is bound to be polluted, and typhoid fever is almost certain to become widespread unless the simple precaution of purifying the water by boiling is immediately adopted. This should be continued in every household for weeks and perhaps months until danger from this source is past. The wide extent of the storm and flood area makes the task of relief a tremendous one, but the quick response of the American people in such calamities renders it certain that relief will be afforded and suffering prevented to the greatest possible extent. The responsibility of the members of our profession at this time is great and of course will not be shirked. It is a time when we cannot wait to be called on; it is an occasion for voluntary active work.

Medical News

ILLINOIS

Hospital for Mendota.—Plans are being made for the remodeling of the Mendota College building so as to adapt it for use as a hospital.

Fire at State Hospital.—A fire at the Bartonville State Hospital, early March 16, did considerable damage to cottage C 5. The 150 female inmates of the building were removed without casualty.

Personal.—Dr. A. E. Kidd has been reelected president of the Quincy Civic Improvement League.—The *Herald-Transcript*, in its issue of March 14, pays tribute to the services given to the Peoria Association of Commerce during the past year by its president, Dr. Clifford U. Collins.——Dr. J. A. Wheeler, Auburn, state game commissioner, was presented with a diamond pin by the deputy state game wardens, March 12.

Ill and Injured.—Dr. J. W. Rendleman, East St. Louis, fell March 10, fracturing both forearms at the wrist.——Dr. Cabeen, Galesburg, who was operated on for appendicitis, has recovered and returned home.——Dr. Frank Worden, Alton, who has been ill for eight weeks with rheumatism, is reported to be improving.——Dr. W. H. Schwingel, Aurora, fractured his right forearm while cranking his automobile, March 14.

Examinations for Cook County Hospital Staff.—The Cook County Civil Service Commission will hold examinations for attending and associate physicians for the following departments of the Cook County Hospital at 547 County Court House, at 7 p. m., on the following dates:

Medicine, 18 positions, April 3.
Nervous and Mental Diseases, 4 positions, April 4.
Contagious Diseases, 6 positions, April 5.
Children's Diseases, 6 positions, April 7.
Tuberculosis, 8 positions, April 8.
Surgery, 18 positions, April 10.
Skin and Venereal Diseases, 4 positions, April 11.
Obstetrics, 4 positions, April 12.
Gynecology, 4 positions, April 14.
Ear, Nose and Throat Diseases, 4 positions, April 15.
Eye Diseases, 4 positions, April 16.
Orthopedics, 4 positions, April 17.
Pathology, 4 positions, April 17.

Those desiring to take any of these examinations must make their applications on blank forms which will be sent by the commission on request, and file them with the commission not later than 12 m. of the day next preceding the date for which the examination is called. The appointments are for six years. The hospital treated last year over 34,000 patients. The patients will be grouped in the departments into services of about fifty beds each in permanent locations. One attending and one associate physician are assigned to a service. As soon as possible promotional examinations will be held for a chief in each department who will be responsible for the general organization and control of his department. The attending physicians are required to attend at the hospital three days each week at least two hours each day, while the associate physicians must attend at least two hours each day five days every week. Both attend continuously with an allowance of three months' vacation each year. The scope of the examination will be, special subject 6, experience 4. In the marking of experience, the nature of the position makes academic and medical school education, service as an intern, in general practice or in practice of a specialty, graduate work, hospital and dispensary work, original research work, important contributions to medical literature and teaching advantageous to the applicant.

Chicago

Southside Physicians' Club.—The Southside Physicians' Club has recently been formed for purely social purposes. Meetings are to be held monthly for the promotion of goodfellowship. Dr. William Cuthbertson is president and Dr. Frederick G. Dyas, secretary.

Tuberculosis Exhibit.—A tuberculosis exhibit was opened, March 25, at 19 West Jackson Boulevard, under the auspices of the Chicago Tuberculosis Institute. The exhibition is to be open for two weeks and on each day two or three lectures will be given on various phases of the general subject of tuberculosis. The public is invited to attend.

Free Public Lectures.—A series of free public lectures are being given under the auspices of the Southside Branch of the Chicago Medical Society on Friday evenings at Abraham Lincoln Center. The dates, subjects and speakers are as follows: March 21, "Nervousness," Dr. Charles L. Mix; March 28, "Some Medical Phases of the Vice Problem," Dr. Willis O. Nance; April 4, "Preventive Medicine," Dr. E. B. Tuteur; April 18, "The Housing Problem," Dr. A. B. Yudelson, and April 25, "Woman's Place in Public Health Movement," Dr. G. W. Webster.

Personal.—Dr. Frank Billings, First Lieutenant, M. R. C., U. S. Army, was placed on the active list on account of an emergency and was detailed as special professor to the Army Medical School, Washington. Dr. Billings went to Washington, March 15, and delivered a series of lectures before the students of the Army Medical School.——Dr. Edward B. Fetherston, who has been ill with pneumonia at the German-American Hospital since February 19, is reported to be securely convalescent.——Dr. and Mrs. J. A. Robison have sailed for the Mediterranean.——Dr. J. Allan Hornsby, superintendent of Michael Reese Hospital, has resigned.

INDIANA

New Powers for State Board.—The attorney general has rendered a formal opinion to the State Board of Health which gives it power to regulate and prescribe the character and location of plumbing, drainage, water-supply, disposal of sewage, lighting, health and ventilation of practically all the school buildings in the state.

Tuberculosis Camp to Open.—Arrangements for the opening of the Twin Hills Tuberculosis Camp are well under way. It is expected that the camp will be opened on or before April 1. Drs. F. W. Shaley, Loucks and John H. Hewitt, Terre Haute, have been appointed a committee to confer with the commissioners of Vigo County in regard to an appropriation for the maintenance of the camp.

Personal.—Dr. J. N. Hurty, state health board secretary, has been appointed a member of the National Commission on Milk Standards and has also been asked to draft a model health bill for the state of Iowa.——Dr. James A. Milligan, deputy warden of the state prison, Michigan City, has been appointed physician to the Indiana Hospital for Insane Criminals in connection with the prison. Dr. Paul Bowers continues in his present capacity as prison physician.—Dr. Robert Harris, South Bend, celebrated his ninetieth birthday anniversary, March 14.

MARYLAND

Nurses' Home for Hospital.—A building in Elkton was purchased by the managers of the Union Hospital, March 13. The building will be used as a home for the nurses connected with the hospital.

Small-Pox Hospital Closes.—Dr. Thomas L. Richardson in charge of the Quarantine Hospital, Hawkins' Point, announced that he expects to close the hospital this week unless other small-pox cases or suspects are found.

Baltimore

Laboratory Installed.—An experimental pathologic and bacteriologic laboratory and a new *x*-ray department have been installed at the Church Home and Infirmary.

Personal.—Drs. Page Edmunds, Hugh H. Young and Eric Bergland have sailed for Bermuda.——Dr. Walter F. Wickes has returned after several months in Florida.

New Paintings for Medical Hall of Fame.—The Medical and Chirurgical Faculty of Maryland was presented with a portrait of Dr. John Fonerden, superintendent of the Maryland Hospital for the Insane from 1846 to 1869, first librarian of the faculty, and medical adviser of Johns Hopkins, by the board of managers of Spring Grove State Hospital, at a joint session of the Maryland Psychiatric Society and the Book and Journal Club, March 18. In his presentation speech, Dr. Arthur P. Herring, secretary of the State Lunacy Commission, gave a history of the career and activities of Dr. Fonerden.——A portrait of Dr. L. McLane Tiffany is to be hung in the building of the Medical and Chirurgical Faculty of Maryland. Dr. George Walker is secretary of the committee in charge.

College Consolidation Ratified.—On March 19 the board of regents of the University of Maryland ratified the agreement whereby the University may absorb the Baltimore Medical College. It has been agreed also to take into the faculty of the enlarged medical school the following members of the faculty of the Baltimore Medical College: Dr. Charles G. Hill, professor of nervous and mental diseases; Dr. A. C. Pole, professor of descriptive anatomy; Dr. David Streett, professor of the practice of medicine; Dr. J. D. Blake, professor of clinical surgery; Dr. S. K. Merrick, professor of diseases of the nose and throat; Dr. J. Frank Crouch, professor of clinical ophthalmology and otology; Dr. J. M. H. Rowland, professor of clinical obstetrics; Dr. Charles O'Donovan, professor of clinical pediatrics and clinical medicine; Dr. G. Milton Linthicum, professor of proctology; Dr. R. B. Warfield, professor of practice and surgery; Dr. W. B. Perry, professor of clinical gynecology; Dr. Tilghman B. Marden, professor of histology and embryology.

MASSACHUSETTS

Fire at State Sanatorium.—On March 18, a fire was discovered in the boiler and power house in the State Sanatorium for Consumptives, Rutland. By prompt action the damage was confined to the lower floor and the main buildings were at no time endangered.

Personal.—Dr. L. Vernon Briggs, Boston, has been appointed a member of the State Board of Insanity.——Dr. G. A. Demopoulos, Lowell, has returned after two months' service in the Greeco-Turkish war in which he was wounded and incapacitated for service.——Dr. Charles F. Lynch, Springfield, has been elected a member of the surgical staff of Mercy Hospital.

Hospital News.—A meeting was held in Palmer, March 10, to further the erection of a hospital in that city.——A majority of the board of trustees was elected as a committee to proceed with the incorporation of the Wing Memorial Hospital.——At a meeting in Faneuil Hall, Boston, under the auspices of the Beth Israel and Bicker Cholem Hospital Association, pledges exceeding $30,000 were made for a fund for a Jewish hospital. The committee in charge is considering several sites for the proposed institution.

NEW YORK

Aschoff in Buffalo.—Dr. Ludwig Aschoff, professor of pathology in the University of Freiburg, Germany, delivered an address in Buffalo, March 16, under the auspices of the Buffalo Academy of Medicine on "Thrombosis."

Sanatorium Purchased.—The Hempstead (L. I.) Sanatorium has been purchased by the French Visiting Sisters whose home is in Brooklyn, for about $18,500. The sanatorium will be used as a hospital and home for the order.

Personal.—Dr. James S. Walton has been reappointed health officer of Amsterdam.——Dr. Josiah Hasbrouck, Sleightsburg, is ill in New York City with an infection of the hand.——Dr. J. C. Otis, Poughkeepsie, who has been ill for several weeks, is convalescent.

State Hospital Damaged.—The heavy storm of March 21 cut a swath 20 feet wide through the grounds of the Utica State Hospital, broke 500 windows, tore the tin roofs off of several of the buildings and threw the 1,500 patients into a panic. No lives were lost.

Investigate Rural Sickness.—The State Charities Aid Association, in pursuance of its policy looking to the improvement of methods of caring for the sick in rural communities, is making an investigation of conditions in Dutchess County. They have found thus far that the greatest need is hospital or institutional care and that another pressing need is that of housekeepers for families where the wife or daughter is the one incapacitated. The community investigated was a farming population and this will be followed up by injury into conditions in certain wards of Poughkeepsie engaged in manufacturing. The Poughkeepsie Academy of Medicine has cooperated with the association and the investigation will be continued through the summer. It is believed that the results of the inquiry aim at the establishment of a municipal hospital in Poughkeepsie and of higher standards of sanitary precautions in the country and the smaller cities.

New York City

Personal.—Dr. Allen McLane Hamilton is reported to be seriously ill in the Presbyterian Hospital.——Dr. A. T. Bristow is reported to be seriously ill at his home in Brooklyn with septicemia, due to an operation wound.

Dental Clinics Opened.—The Department of Health has opened six dental clinics for school children. They were made possible by the 1913 budget. In a statement made by the department it is claimed that 420,000 of the 700,000 school children in the city are in urgent need of dental treatment.

New Hospital Buildings.—Mount Sinai Hospital has received a donation of $125,000 from Samuel and Harry Sachs for the support of free beds in the neurologic department, in memory of Joseph and Sophia Sachs. A new ward has been opened for children suffering from nervous diseases and the men's and women's wards of the neurologic division have been enlarged. One of the new buildings which the hospital is about to erect will be designed with special reference to the requirements of a thoroughly-equipped neurologic institute.——Contracts aggregating more than $1,000,000 have been signed for the erection of a convalescent home at White Plains provided for by the Winifred Masterson Burke Relief Fund. The property owned by the foundation consists of $2,000,000 in real estate and $3,000,000 in personal property; the income of what remains after the buildings are erected is to be used for maintenance. The home will occupy a site of 60 acres at White Plains which has been purchased from the Bloomingdale Asylum for $180,000. The plan calls for eight buildings to which additions will be made as needs grow. There will be accommodations for 300 persons. Dr. Frederick Brush has been chosen superintendent of the institution.——The Sydenham Hospital will erect a new six-story modern hospital building on the present site. The new structure has been made possible by the gift of $100,000 from Mr. Isaac Guggenheim. When completed the new hospital will cost $350,000 and will contain 200 beds.

OHIO

Governor Entertains Physicians.—Governor Cox entertained the medical members of the legislature at dinner at his residence, March 6. Medical legislation and other matters were informally discussed.

Personal.—Dr. and Mrs. George Gill, Elyria, sailed for Europe, March 22.——Dr. A. J. Weston, Cleveland, was beaten and robbed in his office, March 17.——Dr. J. W. Costello, superintendent of the District Tuberculosis Hospital near Lima, has resigned.

Clinical Congress.—The Ohio State Clinical Congress met in Cleveland, March 17-18, and clinics were held mornings and evenings at the various hospitals of the city by local men. Dr. William H. Humiston is chairman and Dr. J. M. Ingersol, secretary of the local committee.

Hospital News.—On March 4., $13,000 was turned over to Miami and St. Elizabeth's hospitals, Dayton, by the city auditor. St. Elizabeth's Hospital is the one reported (as The Journal goes to press) as having been carried away with 600 inmates in the flood devastating Dayton.——The Ohio Hospital for Epileptics, Gallipolis, is reported to be overcrowded. The capacity of the institution is 1,200 and in March there were 284 more than the capacity of the buildings in addition to a large waiting list. The management asked the legislature for an appropriation of $210,000 for the erection of additional buildings.——The medical staff of the Lucas County Hospital has asked the county commissioners to appropriate $100.000 for the erection of a new infirmary and hospital to accommodate 150 patients and to be erected on a site adjoining the County Infirmary.

Cincinnati

Personal.—Dr. Samuel Iglauer, junior otolaryngologist to the Cincinnati Hospital, has been promoted to the senior staff, vice Dr. Samuel E. Allen, resigned.——Dr. G. L. Krieger has been appointed a member of the Cincinnati School Board.

Want Woman Physician at Longview.—At the last meeting of the Cincinnati Woman's Medical Society, resolutions were adopted deploring the fact that there is no resident woman physician at Longview Hospital and recommending that the society take steps to have a woman physician appointed on the medical staff. Drs. Ruth G. Bernheim, Bertha C. Lietze and Ella G. Hunt were appointed a committee to take up the matter with the authorities and report at the next meeting.

PENNSYLVANIA

Sanatorium Nearly Ready.—The new sanatorium near Warren. erected at a cost of $20,000, is nearing completion. The institution will accommodate thirty patients.

Portrait Presented to Society.—At the meeting of the Franklin County Medical Society, March 18, at Chambersburg, J. E. Whitmore, Greencastle, presented the society with a portrait of the late Dr. William Grubb, one of the best known practitioners of Franklin County, who died in 1885.

Correction Concerning Dr. Hawkins.—Through an error The Journal announced, February 22, that Dr. John A. Hawkins, Pittsburgh, had been operated on for cataract. The item was quoted from a newspaper. Dr. John A. Hawkins, Fawn Grove, was the one on whom the operation was performed. The first intimation of this error has reached The Journal only in time for this issue.

Personal.—Dr. Clinton Rutter, Northumberland, who was operated on recently at the Medico-Chirurgical Hospital, Philadelphia, has returned home convalescent.——Dr. J. S. Carpenter, Pottsville, was injured, March 17, by the overturning of his automobile.——Dr. Alice Roger Easby and husband, Media, have started for Europe.——Dr. Mary B. Kingsbury, Pottsville, has been tendered the position of bacteriologist in the Swedish Hospital, Minneapolis.——Dr. William F. Marks, a member of the Reading Board of Health for thirty-three years, has resigned.

Four Reports From Commission.—The irreconcilable divergence of opinion in the Pennsylvania State Vaccination Commission led to the preparation of four reports which will be submitted to the general assembly. Among the drastic recommendations of the minority reports are the abolition of all vaccination laws, the prohibition of quarantine of persons refusing to be vaccinated, and legal redress from injuries resulting from vaccination. During the two years since the commission was appointed, fifty-eight witnesses appeared before it, of whom thirty were physicians and of these only four were opposed to vaccination. The majority report, signed by the chairman, Emil Rosenberger, Philadelphia; Drs. William M. Welch and Jay F. Schamberg, Philadelphia, and Edward A. Woods, Pittsburgh, favors the continuance of the prevailing regulations

Philadelphia

Babies' Clinic to Have Social Service Nurse.—So successful have been the Friday afternoon baby clinics at the Children's Homeopathic Hospital that a social service nurse is to be installed, whose duties will be to talk to mothers giving advise how to carry out instructions; to follow up each baby brought to the clinic and to have very ill babies sent to the hospital

Lectures.—Jefferson Medical College announces that the Samuel D. Gross lecture for the 1912-13 session will be delivered by Dr. William L. Rodman in the clinical amphitheater of the Jefferson Hospital, March 28, at 8:15 p. m. Prof. H. P. Armsby of the Pennsylvania State College, Institute of Animal Nutrition, will deliver the next Weir Mitchell lecture in Mitchell Hall, the College of Physicians, at 8:30 p. m., April 4, on "Animal Calorimeters and the Study of Nutrition."

Recommendations of Mental Hygiene Conference.—At the close of the Conference on Mental Hygiene, March 22, a legislative dinner was given at which resolutions were passed advocating the passage of the Ambler bill which provides for the creation of a state home for feeble-minded women; the creation of a department of research by the state for investigation into the cause and prevention of insanity and feeble-mindedness; the establishment of "after-care" departments in each of the state hospitals for the insane as places for clinical treatment of the feeble-minded and the creation of a new state hospital for the insane in the southeastern district of Pennsylvania to relieve the overcrowded insane wards at the Philadelphia General Hospital.

Measles Spread Caused by Immigrants.—The records of the Health Department for the week ended March 22 show 1,182 new cases of measles, an increase of 38 over the number reported during the previous week. This epidemic is said to be due to the fact that there is not sufficient room at the local quarantine stations to care for cases which arrive on vessels. During an inspection of Marcus Hook Quarantine Station by members of the Committee on Appropriations of the State House of Representatives, this condition was pointed out by Dr. W. M. L. Coplin, a member of the State Quarantine Board. There are only a few frame buildings at the station, which was formerly a summer residence. The house is used for operating a dispensary and executive offices, the stable, for a disinfecting plant and a rude frame building constructed many years ago, serves as the hospital proper, but has beds for only twenty-four persons. Last year the station inspected 1,696 vessels, on which were a total of 136,837 persons, of whom nearly 50,000 were immigrants. The legislature was asked for an appropriation of $65,000.

WYOMING

New State Board.—The new State Board of Medical Examiners for Wyoming appointed by the governor is reported as consisting of Dr. John B. Tyrrell, Laramie; Dr. C. D. Stafford, Kemmerer, and Dr. J. G. Cogswell, Riverton. The board met at once and organized, electing Dr. Stafford president, Dr. Cogswell vice-president and Dr. Tyrrell, secretary.

GENERAL

Ophthalmologic and Otologic Meeting.—The next meeting of the American Academy of Ophthalmology and Otology will be held at Chattanooga, Tenn., October 27-29.

Health of the Mobilization Camp.—The health of the troops in the mobilization camp at Texas City is reported to be excellent. There were only seven cases of illness at last reports, including two cases of mumps and one accident.

Quarantine Restriction to be Withdrawn.—The sanitary department of the Canal Zone is about to withdraw the restriction which it has been imposing on vessels arriving at Colon from Liverpool since July last. The last plague-infected rat at Liverpool was found Aug. 30, 1912.

Purity Congress.—The Seventh International Purity Congress will be held under the direction of the World's Purity Federation at Minneapolis, November 7-12. The program will include discussions on the annihilation of the white slave traffic, the suppression of public vice, instruction in sex hygiene and social, civic and moral reform.

Personal.—Dr. Robert L. Dixon, Lansing, secretary of the Michigan State Board of Health, has been elected president of the Lake Michigan Sanitary Association.——Dr. R. B. Teusler, superintendent of St. Luke's Hospital, Tokio, Japan, has returned to the United States on a visit after fifteen years in the Orient.

Crippled Children Discussed.—The sectional meeting on crippled children was held in connection with the Conference on Industrial Education for Children in New York City, March 8. Douglass C. McMurtrie spoke on the historical development of the care for the department and the expense in connection with the trade training in the United States and abroad. Charles H. Burr of the New York Orthopedic Hospital told of the lessening necessity for industrial education in the work of his institution due to the early age at which patients are now being received. Dr. Charles H. Jaeger, New York City, discussed the industrial training provided for adult cripples at the Trade School of the Hospital of Hope. Miss Florence Sullivan of the Trade School for Crippled Boys and Girls, maintained by the Brearley League, spoke on the difficulty of obtaining pupils who were willing to give up the time necessary for a full course. Miss Evelyn Goldsmith spoke on the need for industrial training for the graduates of the special classes for cripples in the public schools.

Infectious Diseases During March.—All of the infectious diseases continued to be quite prevalent during March, measles having the highest number of cases. Philadelphia and St. Louis were the centers of greatest prevalence, the curve of incidence rising steadily during the month for this disease. It is probable that the apex of the curve will not be reached until some time in April. Scarlet fever also continued to prevail widely, schools in many places being closed, although no large or fatal epidemic was reported from any locality during the month. Small-pox was also wide-spread, though not in fatal or very virulent form. Thorough vaccination ended the epidemic in Baltimore and Philadelphia, except for sporadic cases, and in Berkeley, Cal., after a period of quarantine the schools were allowed to open. Meningitis in scattering cases continued to appear in Louisiana, Arkansas, southern Illinois, in the region about Memphis and in Louisville and Maysville, Kentucky, and Cincinnati in sufficient number to cause some anxiety. Infantile paralysis has not appeared in serious epidemic form in any locality during the winter. The season has, however, been somewhat unusual in the number of cases of all the infectious diseases except poliomyelitis.

The Government and the Friedmann Treatment. The board of medical officers appointed by the Secretary of the Treasury on the suggestion of the Surgeon-General of the Public Health Service to make a thorough investigation of Dr. Friedmann's alleged cure for tuberculosis announces the present status of the matter in *Public Health Reports*, March 21, 1913, as follows: "Dr. Friedmann has submitted to the board a culture of the bacteria which he states are used in his method of treatment. In addition to the observation of persons under treatment by Dr. Friedmann, the board of officers will make experiments to ascertain whether this culture is, as Dr. Friedmann claims; harmless to warm-blooded animals. Considerable time will necessarily be required to carry out these investigations. The work will be carried on as rapidly as possible. In the meantime the public is informed of the inadvisability of tuberculous patients traveling long distances in the hope of receiving the treatment. Those to whom it is administered for demonstration purposes are selected by the hospital authorities from among their patients; the number selected constituting only a small proportion of available volunteers. Certain statements purporting to be expressions of the opinion of the board of officers of the Public Health Service carrying on the investigation have appeared in the newspapers. These officers have expressed no opinion and will not be in position to do so until the work has advanced sufficiently to warrant some conclusion in regard to Dr. Friedmann's treatment."

LONDON LETTER

(From Our Regular Correspondent)

London, March 15, 1913.

Final Report of the Committee on Tuberculosis

The committee appointed by the government to investigate and report on the prevention and treatment of tuberculosis has issued its final report. It believes that by means of treatment and education the risk of infection, even from persons in the more acute and advanced stage of the disease who live in intimate contact with others, may be largely diminished. Infection is frequently disseminated by persons suffering from advanced pulmonary tuberculosis who are in the habit of entering and leaving poor-law institutions. Compulsory isolation of certain cases in a state of high infectivity is particularly recommended when the patient's surroundings are such as to increase the risk of other persons becoming infected. Systematic and thorough disinfection of premises which harbor tubercle bacilli is enjoined, and stress is laid on the importance of early diagnosis. The committee believes that material prosperity of the community as a whole will be reflected in a decreased incidence of tuberculosis, and makes special reference to the necessity for the improvement of housing conditions, and the value of schemes for town planning and garden cities.

BOVINE TUBERCULOSIS

The committee is of the opinion that the ultimate eradication of animal tuberculosis is not impossible but is likely to be slow, and must depend on coordinated and continuous effort. The committee welcomes the proposed legislation dealing with the question of milk-supplies, but thinks that it should include the whole country, and should contain provisions conferring special powers on local authorities, the central authority having the right of enforcement in the event of default by local authorities. It recommends that in the preparation of any scheme for the eradication of bovine tuberculosis the following points should be provided for:

1. County councils and county borough councils should have powers and be required to inspect herds, dairies and farm buildings, and to administer all enactments relating thereto, their work being subject to adequate supervision by a central authority.
2. Only guaranteed tuberculin should be used, and facilities should be given, subject to such conditions as may be thought desirable, for the free testing of cows by qualified and authorized persons.
3. Certain cows should be slaughtered in the interest of both the public and the dairy industry, the premises thoroughly disinfected and no tuberculous animals added to the herd.
4. Measures should be uniform in character, and the same principles should be applied to the whole country.
5. The public should be educated to appreciate the greater value of pure tubercle-free milk and milk products.
6. Farmers should be taught that tuberculosis in cattle is infectious and not hereditary.

CHILDREN

The committee considers the evidence that children are infected through tuberculous milk, as well as from other sources, convincing. Additional provision is required for the treatment of children suffering from the disease, including those having pulmonary tuberculosis, tuberculosis in the bones and joints, and glandular and other forms of tuberculosis. In addition to the provision of treatment at sanatoriums and hospitals for tuberculous children mentioned in the interim report, there is urgent need for open-air treatment and education by means of open-air schools (day and residential), open-air classes, etc. These institutions should deal not only with tuberculous children, but also with the large number of children who are suffering from ailments which, if neglected, would be likely to increase their susceptibility to tuberculosis. These institutions should be utilized, as far as possible, to teach the advisability of the adoption of a practically open-air life in the homes of the children. The school medical officer should be closely in touch with the family medical attendant, and the tuberculosis dispensary should as far as possible provide the same service for children as for adults. Not only should there be a correlation between the dispensary and the various institutions for children, but also the institutions for children, such as the school clinic, the open-air school and the sanatorium, should be correlated in order to ensure the easy transference of children from one institution to another. All appropriate cases should be referred to the tuberculosis dispensary as a clearing-house for the confirmation of diagnosis in doubtful cases, for the purpose of clinical record and for treatment when required. Chidren of school age fit, or likely to become fit, to receive education in a modified form, should be referred to the school medical officer for education in open-air schools, sanatorium schools or other special schools, or in ordinary public elementary schools under special care and supervision. The arrangements should be such as to secure the cooperation of the general practitioner.

Research

Under the national insurance act a sum of 2 cents per insured person is allotted for research. This yields $285,000 a year. For the administration of this fund the committee recommends the establishment of an advisory council to determine a scheme of research work, and a permanent whole-time secretary, an expert of high standing in research possessing administrative capacity, at a salary of from $6,000 to $7,000 Inquiries should be conducted into clinical, pathologic, experimental, statistical and sociologic questions, and every sanatorium, dispensary and other institution for the treatment of tuberculosis and other diseases should have access to laboratory facilities for carrying out routine work and for the collection of data. Many of these institutions should have complete laboratories of their own. There should also be a library and publishing department. The central bureau should be under the immediate control of the executive committee. Clinical, pathologic, bacteriologic, chemical and other scientific researches should be carried out by competent investigators. Some workers of proved ability should be enabled to devote their whole time to research work, should be given a definite adequate salary and be entitled to pension. Efforts should be made to retain young and talented investigators for such work. The committee considers that the success of the scheme of research recommended will not be fully secured unless it is accompanied by a general extension throughout the United Kingdom of clinical laboratories for the better diagnosis and treatment of tuberculosis, provided for by funds other than those available under the national insurance act.

MEDICAL EDUCATION

The committee is of the opinion that additional facilities should be afforded to medical students and physicians to acquire familiarity with the methods of diagnosis of tuberculosis, especially in its earlier manifestations, and with the methods of treatment, and makes the following recommendations: 1. Medical students and practitioners should be afforded facilities to attend the practice at tuberculous dispensaries, sanatoriums and other institutions. 2. When possible, tuberculosis dispensaries should be directly associated with schools of medicine.

Steps to Check the Use of Veronal and Other Hypnotics

Many deaths have occurred from the use of veronal as a hypnotic; in some cases it appears to have been taken with suicidal intent. Persons have no difficulty in obtaining hypnotic drugs and using them indiscriminately as, with the exception of sulphonal, these are not legally scheduled "poisons." Since the latter drug has been scheduled its use has largely been superseded by veronal. The other hypnotic drugs now scheduled as poisons are proponal (dipropyl-barbituric acid), medinal, diethyl-barbituric acid and derivatives of diethyl-barbituric acid, trional and tetronal. The effect of declaring these drugs to be "poisons" will be to restrict their sale to registered pharmacists, who in selling them must go through the legal procedures prescribed for the sale of poisons, i. e., obtain the name and address of the purchaser and the purpose for which the drug is required. These are entered in a book kept for the purpose, which has to be signed by the purchaser. Moreover, these preparations must be labeled "poison"; neglect to do so renders the pharmacist liable to a penalty of $25. The new regulations would certainly have the effect of checking the use of hypnotics, which in recent years has increased enormously.

The Bradford Anthrax Investigation Board

At Bradford, which is the center of the woolen industry in this country and at which most of the cases of anthrax occur, an anthrax investigation board has existed for some time and has now presented its seventh annual report. The objects of the board are (1) the investigation of anthrax generally, (2) the more precise determination of the classes of wool and hair in connection with which the danger of anthrax arises, and (3) the discovery of further means of prevention. The area of its operations has been confined to the worsted and woolen industries of the West Riding of Yorkshire. During the year, 1,258 samples of wool, mohair, etc., were tested for anthrax spores. Of these, 1,038 were blood-stained. Anthrax spores were discovered in 84, and of these 24 were not blood-stained. The hope expressed in a previous report that it might prove possible to say "no blood, no anthrax," must therefore be given up; nevertheless the presence of blood should always be regarded as a danger-signal.

Of alpaca, 206 samples were taken (196 blood-stained), and in no case could anthrax bacilli be cultivated. From 268 samples of skin and mohair (205 blood-stained), 35 separate cultivations were obtained; 8 samples contained no blood, and only in rare instances could the amount of blood be called a clot.

A satisfactory germicide, capable of killing the anthrax spore without injury to the fibers has not yet been discovered. Steaming of blood-clots will kill anthrax spores in about fifteen minutes when the wool is in a loose state, but the difficulties of disinfecting wool in bulk by steam make the method impracticable for ordinary use; of chemical methods, experiments made with Schattenfroh's and Seymour-Jones' processes have been disappointing, the hydrochloric acid in the one process and the formic acid in the other being neutralized by alkalies in the wool and tap-water. Blood-clots can be softened by bacterial action in from twelve to eighteen hours at 37 C. (98.6 F.). Bacteria possessing this property are contained in the wool itself. It seems that clots so softened are but slowly hardened by the subsequent addition of germicides, such as formaldehyd or the higher phenols.

An analysis has been made of the 88 cases of anthrax reported to the board since 1905 with a view to determine the relative danger of infection. It appears that mohair and Persian have been the most frequent carriers of anthrax. Russian camel's hair is probably the other scheduled material the most likely to have been a carrier. Some suspicion attaches to East Indian goat (possibly all "goat"), and to East Indian wool. Alpaca has probably been harmless. No instance is on record in this district of the early diagnosis of the internal form, and the application of remedies for the external form is often delayed. Sclavo's serum, injected intravenously and in sufficiently strong doses, has proved beneficial.

In view of these results the present regulations for wool-sorting and wool-combing are considered to require revision. When they were drawn up, dust was thought to be the means by which anthrax was spread, but now that the danger is known to lie in the blood-clot, regulations should be based on the principle of eradicating this source, and of preventing danger of infection after sorting and wasting. But no regulations will prove satisfactory that do not provide for some adequate disinfecting process for those sorts most likely to contain the anthrax bacillus. Every inducement should be given to workers on scheduled materials to throw out all blood-stained material, not only for their own safety, but also for the safety of workers in subsequent processes.

Seventeen cases have occurred during 1912: 2 were in females and 15 in males; 3 were internal cases, 14 external. The deaths numbered 5, 3 of the internal, 2 of the external type, 1 of these being probably unique as to the point of entry of the virus, namely, between the left tonsil and the larynx. Four of the cases in which recovery took place were severe. The result was probably due to the use of Sclavo's serum. With one exception, all the patients had come into contact with either mohair or Persian, and it is quite possible that these sorts were responsible for all the cases. Little or no improvement is yet shown either in the number of cases recorded or in the death-rate, although the numbers of severe attacks which have yielded to modern treatment is encouraging.

The After-Care of Lunatics

Useful work is performed by a body termed "The After-Care Association of Poor Persons Discharged Recovered from Asylums for the Insane." At the annual meeting just held, the report showed that during the past year 391 persons had been dealt with, consisting of 148 from the London County asylums, 156 from other county and borough asylums, 18 from mental hospitals and licensed houses, and 69 from other institutions. The total amount of contributions received during the year was $10,000.

Dr. Hubert Bond, commissioner in lunacy, read an important paper on "After-Care in Cases of Mental Disorder and the Desirability of Extending Its Scope." He said that the discharged cases from public asylums in England and Wales numbered 7,000 annually, and of these 1,500 were in urgent need of after-care, not only on humanitarian, but also on economic grounds. The organization of after-care should aim at the establishment of branches of the association, which, though not corresponding to the number of public asylums, should at least be as many as the local authorities acting for lunacy purposes.

He suggested that medical superintendents should be asked if they would notify the association of the intended discharge or allowance out "on trial" of any of their patients. He thought that the association should permit its executive to begin work while the patient was out "on trial" and allow the patient to be received into one of its cottage homes. Visiting committees of asylums should be urged to take advantage more frequently of the lunacy act of 1890, whereby patients who appeared to have recovered might be allowed out "on trial" and be granted an allowance not exceeding the cost of their maintenance in the asylum. This practice was habitually adopted by certain committees, was of the utmost value to the patients, and by its adoption early relapses were materially prevented.

PARIS LETTER

(From Our Regular Correspondent)

Paris, March 7, 1913.

International Conference on Charitable Relief to Aliens

The International Congress on Charities held at Copenhagen in 1910 (The Journal, Sept. 10, 1910, p. 956), asked for the calling of an international diplomatic conference to map out a plan for giving help to aliens. This conference was held recently at Paris, with delegates from twenty countries. While all agree in desiring that charity shall know no political boundaries, and that help should be given freely when needed without regard to the nationality of the person in need, differences arise as to how the help shall be given. Some say that foreigners should be treated on the same basis as natives, meaning that the country in which the person resides shall pay. Others believe that there should be repayment by the native country of the person helped. The first plan has always been opposed by France, because, while there are only about 550,000 natives of France living abroad, there are more than 1,200,000 foreigners living in France. In 1911, out of 25,000,000 francs ($5,000,000) spent in medical charities in the home and in the hospital, 2,800,000 francs ($560,000), were spent on foreigners, 1,584,000 francs ($316,800) in the Department of the Seine alone.

When the principle of repayment is applied, it leads either to restricted relief or to the adoption of half measures. The Copenhagen congress recognized this by rejecting repayment for temporary relief and providing that it should be applied in cases of permanent or practically permanent assistance. After lengthy discussions the Paris conference ended by adopting all the decisions of the Copenhagen congress. In cases of temporary relief (accidents, acute diseases of short duration), the country in which the foreigner resides shall give him the same help that is given natives, without demanding repayment. In cases of prolonged or permanent relief the person shall be returned to his native land unless the country of his birth prefers to reimburse the country in which he is residing, or unless on appeal assistance is extended by a private benevolent society. The contracting countries are to encourage the formation of these societies, and each will take measures, conformable to its laws, to facilitate the working of their charitable functions. The conference also voted to establish an international set of rules governing associations and institutions established for the assistance of foreigners.

Surgery and the Balkan War

In a former letter (The Journal, Dec. 14, 1912, p. 2168), I told of the invitation which was received from Greece by Dr. Monprofit, professor of clinical surgery at the Ecole préparatoire de médecine d'Angers, to organize a sanitary service in that country. In the course of his trip Dr. Monprofit made observations of the greatest interest in surgery on the field of battle, and delivered a lecture on the subject at the last meeting of the Société de l'internat des hôpitaux de Paris.

At present the chief factor in the development of the treatment of wounds made in battle is the dressing of the wound as soon as possible, on the field or in the neighborhood, by means of the individual packet of dressings, carried by the wounded man himself. Doubts have often been raised as to the usefulness of this packet. It has been said that the soldier will not keep it, that he will not take the trouble to apply the dressing, and that besides he could not even if he would. These objections have been nullified by actual experience. The men had their individual packets; the dressing was in good condition when it was needed. The soldiers had been instructed as to the necessity of employing it in case of injury.

During battle the use of the dressings was universal; there was practically no exception to the rule. The wounded often applied the dressings themselves; otherwise the dressings were applied by the surgeons, the litter-carriers, comrades, or officers who happened to be near. The number of wounded in the Balkan War who owe life or limb to the use of the individual dressing on the battle-field is beyond calculation. The first condition of safety consists in the application as soon as possible of an aseptic dressing. Another condition not less important is complete avoidance of examination of the wound, ascertaining the course of the bullet, and using the probe and tampon. The success of non-interference has clearly been shown in this war, and there has been brilliant confirmation of the principles enunciated by Dr. Delorme in opening the last French Congress of Surgery (The Journal, Nov. 23, 1912, p. 1901).

Monprofit called particular attention to the difference in severity of wounds by projectiles from guns and those from cannon. Wounds made by bullets from guns of small caliber, such as those used by the Turks, are comparatively trivial; the pointed, long, straight bullets pass through the soft parts, spreading the tissues in such a way that they close together again after the passage of the bullet. Well protected from the outset, wounds made by these bullets heal quickly. Penetrating wounds of the chest with perforation of the lung have healed for the most part without complication. Wounds by shrapnel, on the contrary, are of the utmost severity; the bones are shattered, the tissues lacerated, the thorax or skull crushed in. The immediate results are frightful, and the ultimate results are much more severe than those from wounds made by bullets shot from guns. As a whole, the results of infantry-fire are relatively harmless, those of artillery-fire more and more severe.

When Dr. Monprofit repeated his lecture before the Académie de médecine there was a lively discussion between Reclus and Pozzi on the question of intervention in cases of abdominal wounds from projectiles of small caliber. Reclus believes that it is better to let the bullet remain in the body than to have recourse to the removal of obstructions, to probing, etc., in an effort to locate it, for this involves opening new vessels, starting further hemorrhage and introducing infectious germs into the midst of the tissues, notwithstanding efforts to adhere to the rules of asepsis and antisepsis. Non-intervention avoids all these contingencies and gives better results in general than intervention, even when it is possible to employ roentgenoscopy and roentgenography, means which are often unreliable in searching for projectiles. Pozzi is of the opinion that even if intervention is proscribed on the field of battle, it is indicated when the wounded man is in the hospital, where conditions are favorable for the success of its employment.

Treatment of Sydenham's Chorea

In line with the recent announcement of Pierre Marie as to the treatment of Sydenham's chorea with intravenous injections of salvarsan (The Journal, Jan. 4, 1913, p. 63), Dr. Comby said at a recent meeting of the Société médicale des hôpitaux de Paris that as good results may be secured through the administration of arsenic by mouth. Comby prefers to use Boudin's solution (a 1:1,000 solution of arsenous acid). He prescribes 5 gm. the first day in a mistura gummosa, 10 gm. the second, 15 gm. the third, 20 gm. the fourth, 25 gm. the fifth, and then diminishes the dosage 5 gm. daily until the initial dose of 5 gm. is reached, after which the medication is suspended. The duration of the treatment is nine days. Patients are also given rest in bed and an exclusive milk diet or one of milk and vegetables, and are isolated.

In 545 patients with chorea given this treatment Comby has noticed only one case of polyneuritic paralysis of the lower limbs. The disease was cured in the other patients at the end of twenty-eight or thirty days on the average.

Dr. Triboulet said that in 350 cases compiled by himself he had verified 335 cures without the use of arsenic, about 96 per cent. Before announcing the efficacy of the treatment of chorea by arsenic or any other medicament, the variety of chorea in question should first be determined, and above all how patients react to it who are seriously ill or in relapse. Triboulet concludes that patients with Sydenham's chorea can be cured by arsenic, in spite of arsenic, or without arsenic, all in the same length of time.

Acceptance of Donations

The Faculté de médecine de Paris has been authorized to accept the gift made by Mme. Dieulafoy, widow of the late professor, of two annuities of 500 francs ($100) each, to be known as the Donation Georges Dieulafoy, and to be used to cover the expenses of study, of examination, and of the printing of the theses of two French students in need of assistance.

The school has also been authorized to accept the gift of 28,000 francs ($5,600) from the widow of Dr. Henry Vivier, the income from which is to be used as endowments to help the scientific development of general medical clinics, or to be distributed as scholarships or for foreign medical missions, at times and in the manner fixed by the council of the school.

Anniversary of Professor Renaut

The fortieth anniversary of Dr. Renaut's debut as a teacher has been celebrated at Lyons. Dr. Renaut is professor of general anatomy and histology of the Faculté de médecine of that city. In addition to his colleagues, Pozzi and Albert Robin of Paris took part in the exercises, and telegrams were received from Waldeyer of Berlin, Laskowski of Geneva, Marinesco of Bucarest, and others.

Personal

Dr. Hartmann, professor of minor surgery at the Faculté de médecine de Paris, has been appointed professor of clinical surgery, succeeding Segond, who died in October.

Treatment of Infections by Ether

At a recent meeting of the Société de chirurgie, Dr. Souligoux made an interesting report on the employment of ether in infections. This was used for the first time in 1891 on a man who had had both legs crushed by a heavy truck. The patient refused double amputation and Souligoux dressed the two enormous wounds with ether and applied a plaster dressing. No infection followed, and the patient recovered. From that time Souligoux has always used this method in all the infections, whether severe or light, such as felons, lymphangitis and phlegmons, with excellent results in hundreds of cases. He begins by carefully cleansing the part with soap and water; then he applies compresses soaked in ether, covers these with a padding and binds them lightly.

After having studied the action of the ether on the peritoneum of guinea-pigs, he has been using this medication in abdominal infections in man and obtained unexpectedly good results: such, in particular, as the cure of a patient with intestinal obstruction for six days and a perforation of the cecum. After having sutured the perforation and having bathed the peritoneal cavity, which was full of pus and fecal matter, copiously with ether, he closed the abdomen, establishing drainage, and the patient recovered.

This method has been applied by Dr. Marcille, who sent Dr. Souligoux a memorandum of forty cases of peritoneal effusion, contusions and wounds of the abdomen with lesions of the intestine and of the stomach, or general peritonitis, and except for two or three deaths, intervention was followed by cure. Souligoux believes that he has ground for concluding that the application of ether in the treatment of infections of the peritoneum is accompanied with no danger and renders real service.

On the other hand Dr. Cuneo, who has obtained good results with ether in superficial infections, such as felons, has not been able to achieve success in peritonitis. He believes that in such cases operation should be done early and that the cause should be treated: removal of the appendix, closing the perforation, etc.

Powers of Resistance of the Sexes in Infancy

Statisticians agree that in man more males than females die in intra-uterine life and immediately afterward. This has been explained by the hypothesis that the male sex is more frail. This view has been contradicted by Drs. A. Pinard, professor of clinical obstetrics at the Faculté de médecine de Paris, and A. Magnan, in a communication to the Académie des Sciences. These investigators have been able to show from statistics collected at the Baudelocque Clinic between 1891 and 1910 that if the mortality of boys is greater than that of girls, this is true only for those infants dying during labor or in the few days during which the mother is obliged to remain at the clinic. The figures show that if the total number of fetuses dying during gestation is taken into account, more boys die some years and more girls in other years. In the long run the mortality among boys is not greater than that among girls. It remained to find the explanation of the greater number of deaths among boys during and after childbirth. Pinard and Magnan then thought of examining the weight of the fetus. They found that boys are heavier than girls, and this is sufficient to explain the greater mortality among boys. Being larger, they undergo more traumatism in their passage through the birth canal; this reduces their powers of resistance. They die during labor or if born alive they speedily succumb unless they regain a normal level of health.

BERLIN LETTER

(From Our Regular Correspondent)

Berlin, March 7, 1913.

Personal

Professor Heubner delivered his farewell lecture, March 1, in the presence of a large number of his present and former pupils and of members of the medical faculty of the university. The occasion was taken by some of his pupils to present a bust of Heubner which is to be a permanent ornament to the lecture room. Professor Finkelstein presented a *Festschrift* by the pupils and stated that a Heubner prize is to be established which shall be awarded once in three years for the best work in pediatrics.

Privat-Docent Dr. Noeggerath, a pupil of Heubner, has been called to succeed Professor Salge as director of the pediatric clinic at Freiburg.

The well-known Berlin gynecologist, Professor Dührssen, contracted a severe infection at an operation, which for a number of days seriously threatened his life. As a result he has felt compelled to give up the direction of his private clinic. In the last few days there has been some improvement in his condition.

This Year's German Medical Study Tour

The German Central Committee for Medical Study Tours has decided on a trip to the International Medical Congress in London, August 6 to 12, for which they have chartered the twin-screw steamer *Kronprinzessin Cecilie* of the Hamburg-American line. The trip begins August 3 at Hamburg and ends August 28, at the same place. Visits are contemplated to the chief points of interest in the British Isles and Holland.

Friedmann's Tuberculosis Remedy

The energetic action taken in the Friedmann matter by the New York physicians has given general satisfaction here. Professor Ehrlich is quoted in a German newspaper as stating that his tests with the remedy, which had been given him for official investigation, are far from being finished and months may elapse before the result will be known. All statements that may be published before the final report will be premature and must partake of the nature of guesses.

Association News

THE MINNEAPOLIS SESSION

Opportunity to Take a Side Trip to Glacier National Park, Newest American Playground

The Committee on Arrangements announces that one of the interesting side trips which may be made by those who attend the Minneapolis session of the Association, June 17-20, is that to Glacier National Park, in northwestern Montana.

This park, with an area of 1,400 square miles, is situated on the Great Northern Railway, in one of the most picturesque portions of the Rocky Mountains. Streams from sixty glaciers feed 250 mountain lakes which teem with trout. The region is another Switzerland; Mt. Wilbur, for example, has a striking resemblance to the Matterhorn. Log chalets have been built to afford eating and sleeping accommodations, and this will be the first season of a large hotel at the entrance to the park.

Opportunities of all sorts exist for going about in the park. A scenic highway has been built for automobiles; there is a horse stage; mountain ponies may be hired; on the larger lakes are boats; and those who like to walk or who wish to practice economy may tour the park on foot. More details will be given in the Minneapolis Number of The Journal, May 10, or may be obtained from Dr. H. H. Kimball, Chairman of the Committee on Excursions, 1106 Donaldson Building, Minneapolis.

Clinics at Minneapolis

On Monday, June 16, Friday evening, June 20, and Saturday morning, June 21, demonstration clinics will be given by prominent men from different parts of the country at the larger hospitals in the Twin Cities. Arrangements have also been made for surgical clinics in Minneapolis, St. Paul and Rochester during the several days immediately preceding and those following the scientific sessions. No clinics will be held during Tuesday, Wednesday and Thursday, or on Friday morning—the time assigned to the scientific work of the various sections of the Association.

The Association's Committee to Arrange for Clinic Days, in cooperation with the Subcommittee on Clinics of the local Committee on Arrangements, will issue a more detailed report later.

Marriages

Clesson Cushman Atherton, M.D., Elgin, Ill., to Miss Lucy Rose Thompson of Springfield, Ill., at Quincy, Ill., March 11.

Paul Tilman Talbot, M.D., New Orleans, to Miss Jenny Swart Mitcheson of Marinette, Wis., March 12.

Harry McPherson Brandel, M.D., Los Angeles, Cal., to Miss Adele Persch of Chicago, March 22.

Francis Lowell Burnett, M.D., Boston, to Miss Helen Read, Manchester-by-the-Sea, March 12.

Rigdon Osmond Dees, M.D., to Miss Helen Hazel Groome, both of Greensboro, N. C., March 15.

Mark D. Weed, M.D., M. C., U. S. Army, to Miss Josephine Hufford of Reading, Pa., March 20.

Richard Lewisohn, M.D., to Miss Constance R. Strauss, both of New York City, March 19.

Cecil Dabney, M.D., Sherwood, Md., to Miss Frances Cole, at Baltimore, March 5.

Deaths

Prince Albert Morrow, M.D. the eminent dermatologist of New York City; syphilologist and apostle of sex hygiene and sanitary and moral prophylaxis; died suddenly at his home, March 17, aged 66.

He was born in Christian County, Ky., received the degree of A.B. from Princeton College, Ky., in 1865 and his medical degree from New York University, New York City, in 1874. From 1884 to 1904 he was attending surgeon to the City Hospital, New York City. He was clinical professor of venereal diseases since 1884; lecturer on dermatology in 1882 and 1883, and clinical professor of genito-urinary diseases from 1886 to 1890 when he became emeritus professor in the University and Bellevue Medical College. He was attending physician of the skin and venereal department of the New York Hospital from 1890 to 1904 and consulting dermatologist to St. Vincent's and the City hospitals.

He was a member of the American Medical Association and chairman of the Section on Hygiene and Sanitary Science in 1907; a member of the American Academy of Medicine and New York Academy of Medicine. He was also president of the American Dermatological Association in 1890-91, instrumental in the founding of the American Society for Sanitary and Moral Prophylaxis and its president since its organization in 1905; president of the American Federation for Sex Hygiene, and an active corresponding or honorary member of many societies specializing in dermatology and syphilology both at home and abroad. He was one of the founders and editor from 1882 to 1892 of the *Journal of Cutaneous and Venereal Diseases*. Chief among his contributions to the literature of his specialties are "The Atlas of Skin and Venereal Diseases," which appeared in 1888-89; "System of Genito-Urinary Diseases, Syphilology and Dermatology," in three volumes in 1892-94; "Leprosy" in 1899, and "Social Diseases and Marriage" in 1904.

Archibald Ezekiel Isaacs, M.D. New York University, New York City, 1886; a member of the American Medical Association and of the New York Academy of Medicine; clinical instructor in surgery in Cornell Medical College; a member of the staff of the Sydenham Hospital; organizer of Beth Israel Hospital and chief surgeon and honorary secretary of the medical board of that institution; died at his home in New York City, March 14, from pneumonia, aged 46.

John Herman Droge, M.D. Bellevue Hospital Medical College, 1884; laryngologist and otologist to the German hospital, Brooklyn; one of the founders of the Bushwick Hospital and of the Brooklyn Throat Hospital; a member of the faculty of the Brooklyn College of Pharmacy; died at his home in that city, March 15, aged 52. At a meeting of the board of directors of the German Hospital, March 17, resolutions of esteem and regret were adopted.

Joseph Alexander Holton, M.D. Philadelphia College of Medicine, 1852; since 1855 a resident of Centerville, Eastern Shore, Md.; for several years president of the Centerville Academy and president of the Board of School Commissioners of Queen Annes County; physician of the County Almshouse since 1871; died at his home, February 22, from senile debility, aged 87.

Nelson Gales Blalock, M.D. Jefferson Medical College, 1861; a member of the Washington State Medical Association; surgeon of volunteers during the Civil War; a pioneer practitioner of southeastern Washington; was found unconscious in his office in Walla Walla as the result of a cerebral hemorrhage, March 13, and died in a hospital, March 14, aged 77.

Frank Adelbert Jones, M.D. University of Buffalo, N. Y., 1869; a member of the American Medical Association; once president of the Monroe County Medical Society; the first member to die of the Dozen and One Club of Rochester, N. Y., which was founded twenty-nine years ago, died at his home in Rochester, March 9, from pneumonia, aged 63.

Jesse E. Wilson, M.D. Castleton (Vt.) Medical College, 1865; for fifty-six years a practitioner of Rochester, Mich.; first president of the village; a member of the school board for forty years and its president for eight years; surgeon of Volunteers during the Civil War; died at his home, March 7, from senile debility, aged 84.

Ambrose Treganowan, M.D. Philadelphia College of Medicine and Surgery, 1854; a member of the American Medical Association; a veteran of the Civil War; for three terms mayor of South Amboy, N. J., and for several years editor and proprietor of the *South Amboy Argus;* died at his home, March 10, from senile debility, aged 83.

James Edward Blair, M.D. University of Pennsylvania, Philadelphia, 1896; of Burlington, N. J.; formerly a member of the Common Council; surgeon to the Burlington County Hospital and surgeon to the Third Infantry, N. G., N. J.; died in the Medico-Chirurgical Hospital, Philadelphia, March 8, from heart disease, aged 41.

Rezin W. Lindsey, M.D. University of Nashville, Tenn., 1872; a member of the Arkansas Medical Society; a Confederate veteran; professor of medicine in his alma mater; a member of the medical staff of the Logan H. Roots Memorial Hospital, Little Rock; died at his home in that city, March 8, aged 66.

Eugene Joseph Carolan, M.D. Bellevue Hospital Medical College, 1878; for more than thirty years a practitioner of Brooklyn and for many years a member of the attending staff of the Bushwick Hospital; died at his home in Brooklyn, March 15, from heart disease, following an attack of influenza, aged 51.

Howard G. Osgood, M.D. Eclectic Medical Institute, Cincinnati, 1856; for more than fifty years a practitioner of the lower White River Valley, Ind.; assistant surgeon of Indiana Volunteer Cavalry during the Civil War; died at his home in Gosport, March 10, from heart disease, aged 78.

Benjamin D. King, M.D. Hahnemann Medical College, Chicago, 1884; city physician of Muskegon, Mich., in 1888; attending physician to the Muskegon Children's Home and chief of the maternity of Hackley Hospital; died at his home in Muskegon, March 6, from septicemia, aged 62.

James Everson Welliver, M.D. Pulte Medical College, Cincinnati, 1877; surgeon to the Miami Valley Hospital and Montgomery County Children's Home, Dayton, Ohio; president of the Dayton Board of Health since 1910; died at his home, March 14, from pneumonia, aged 61.

George Smith Adams, M.D. Hahnemann Medical College, Philadelphia, 1876; for twenty years superintendent of the Massachusetts State Hospital, Westboro; superintendent of the Givens Sanitarium, Stamford, Conn.; died at his home in Stamford, March 17, aged 64.

Sobieski H. Brady, M.D. University of Pennsylvania, Philadelphia, 1877; a member of the Medical Society of the State of Pennsylvania; for thirty years a practitioner of Lost Creek; died at his home in Girardville, March 17, from cerebral hemorrhage, aged 61.

Carlton Revere Thomas, M.D. Boston University School of Medicine, 1901; of Dorchester, Boston; died in the Homeopathic Hospital, March 8, from the effects of gasoline burns received in an explosion in his garage a few hours before, aged 35.

Charles F. Winton, M.D. University of Tennessee, Nashville, 1884; a member of the American Medical Association; for many years chief surgeon of the Baltimore and Ohio Southwestern Railway; died at his home in Cincinnati, March 13, aged 49.

Park Holland, M.D. New York University, New York City, 1884; formerly of Billings, Mont.; major M. C., N. G., Wyo., and physician and coroner of Johnson County; died at his home in Bonners Ferry, Ida., March 5, from heart disease, aged 57.

John A. Carter, M.D. Missouri Medical College, St. Louis, 1867; a veteran of the Civil War; a resident of Jasper County (Mo.) since 1865, and an extensive land owner of that county; died at his home in Carthage, March 7, from senile debility, aged 79.

William Valentine Cook, M.D. Bellevue Hospital Medical College, 1898; a member of the American Medical Association; consulting physician to the Pasadena (Cal.) General Hospital; died at his home in that city, February 16, from tuberculosis.

John T. McLaughlin, M.D. Eclectic Medical Institute, Cincinnati, 1867; for more than thirty years a practitioner of Springfield, O., and for several years jail physician; died at his home, March 13, from disease of the liver, aged 69.

Harry Francis Sloane, M.D. Rush Medical College, 1904; of Miami; a member of the Arizona Medical Association; was thrown from his buggy and kicked by his horse, dying from the injuries a few hours later, March 11, aged 37.

Royal D. Horn, M.D. University of Wooster, Medical Department, Cleveland, O., 1881; for many years a practitioner of Butler, O.; died at Lakeside Hospital, Cleveland, March 1, from pneumonia, complicating diabetes, aged 54.

Clarence Russell Grier, M.D. Jefferson Medical College, 1893; a member of the Medical Society of New Jersey; for twenty years a practitioner of Camden; died in Cooper Hospital in that city, March 12, from pneumonia, aged 42.

Edward Everett Butler, M.D. Jefferson Medical College, 1889; a member of the Washington State Medical Association; a member of the state legislature in 1903; died at his home in Anacortes, March 8, from erysipelas, aged 42.

Charles Milo Knight, M.D. Louisville (Ky.) Medical College, 1894; for several years health officer and medical examiner and a member of the school board of Chaplin, Conn.; died at his home, March 10, from diabetes, aged 56.

Edward R. Leatherbury, M.D. Jefferson Medical College, 1848; a practitioner of Onancock, Va., until 1906; for sixty years a vestryman of Holy Trinity Church; died at his home, March 1, from senile debility, aged 87.

Jacob Karn, M.D. Rush Medical College, 1884; a member of the American Medical Association; founder of the Ortonville (Minn.) Hospital and mayor of that city for a time; died in San Diego, Cal., March 15, aged 56.

James McClure, M.D. Rush Medical College, 1868; of St. Louis; a member of the American Medical Association; a veteran of the Civil War; died at the home of his brother in Vincennes, Ind., March 14, aged 71.

Cecil Z. Smith, M.D. University of Texas, Galveston, 1909; a member of the American Medical Association and president of the Collin County (Texas) Medical Association; died at his home in Anna, March 16, aged 29.

Archibald Waite Bellamy, M.D. Queens University, Kingston, Ont., 1897; a member of the Medical Society of the State of New York; died at his home in Rochester, N. Y., March 17, from pneumonia, aged 44.

James H. Potter, M.D. Medical College of Ohio, Cincinnati, 1870; a veteran of the Civil War; for many years a practitioner of Boulder County, Colo.; died at his home in Denver, about March 10, aged 69.

Augustus Greene Kimberley, M.D. New York University, New York City, 1862; surgeon of U. S. Volunteers during the Civil War; died at his home in Brooklyn, March 7, from senile debility, aged 80.

Joseph G. Waldrop, M.D. College of Physicians and Surgeons, Baltimore, Md., 1876; a member of the Medical Society of the State of North Carolina; died at his home in Hendersonville, N. C., about March 1.

Eugenia Gordon Little, M.D. University of Oregon, Portland, 1899; of San Diego, Cal.; formerly of Portland; who was operated on in San Diego, March 2, for malignant disease; died March 4, aged 49.

Francis Henry Cohan, M.D. Medical School of Maine, Brunswick, 1901; a member of the American Medical Association; of Leominster, Mass.; died in a hospital in Norwich, Conn., from nephritis, aged 36.

William D. Jones, M.D. Pennsylvania Medical School, Philadelphia; for sixty years a practitioner of Alabama and Texas; died at his home in Marshall, Tex., March 10, from senile debility, aged 96.

Leon Strauss, M.D. University of Louisville, Ky., 1877; formerly a practitioner of Louisville; died in St. Louis, Mo., March 16, aged 52.

Charles A. A. Faget, M.D. Tulane University, New Orleans, 1876; Paris Faculty of Medicine, 1880; an expert on yellow fever; died at his home in New Orleans, March 8, from diphtheria, aged 58.

Joseph E. Stegman, M.D. Beaumont Hospital Medical College, St. Louis, 1895; of Hillsboro, Mo.; died in an ambulance in St. Louis while being taken to the City Dispensary, March 7, aged 38.

William Delano Sproat, M.D. Tufts College Medical School, Boston, 1912; formerly of Concord, N. H.; intern in the Worcester (Mass.) City Hospital; died in that institution, March 4, aged 38.

Robert Alfred Moore, M.D. University of Maryland, Baltimore, 1891; a member of the Medical Society of the State of North Carolina; died at his home in Durham, February 18, aged 43.

Robert H. Taylor, M.D. Atlanta (Ga.) Medical College, 1879; a member of the Griffin (Ga.) Hospital; died at the home of his brother in that city, March 9, from angina pectoris, aged 55.

John D. Hayes, M.D. Hospital College of Medicine, Louisville, Ky., 1906; a member of the Kentucky State Medical Association; died at his home in McKee, January 18, aged 37.

John L. Walker, M.D. Vanderbilt University, Nashville, Tenn., 1881; at one time health officer of Henry County, Tenn.; died at his home in Paris, March 7, from nephritis, aged 65.

Jacob Newton Rannells, M.D. Eclectic Medical Institute, Cincinnati, 1886; a member of the Indiana State Medical Association; died at his home in Rochester, Ind., March 11, aged 52.

Arthur E. Gue, M.D. Chicago Homeopathic Medical College, 1890; formerly of Detroit and a member of the staff of Grace Hospital; died at his home in Oklahoma, Okla., March 11.

John Shartle, M.D. Jefferson Medical College, 1895; for many years a practitioner of Welsh Run, Pa.; died in his apartment in Hagerstown, Md., March 10, from tuberculosis, aged 54.

Christopher Brenner, M.D. University of Maryland, Baltimore, 1906; formerly of Bolton, Kan., and more recently of Dover, Okla.; died in Oklahoma City, March 3, aged 38.

Frank Henry Thomas, M.D. McGill University, Montreal, 1908; physician to the mines at Sand Coulee, Mont.; died at his home, February 19, from tuberculosis, aged 32.

Joseph Walter Armstrong, M.D. Drake University, Des Moines, Ia., 1903; of Des Moines; died at Mercy Hospital in that city, March 7, from acute gastritis, aged 33.

William Isaac Reece, M.D. College of Physicians and Surgeons, Baltimore, 1893; died suddenly at his home in Adamson, Okla., February 14, from heart disease, aged 41.

Walter La Forrest Marsden, M.D. Kentucky School of Medicine, Louisville, 1891; for many years a practitioner of Burns, Ore.; died in Whittier, Cal., March 1, aged 55.

Eugene Oliver Ranney, M.D. Long Island College Hospital, Brooklyn, N. Y., 1889; a veteran of the Civil War; died at his home in Orleans, Vt., January 15, aged 72.

Turner S. Riggs, M.D. Miami Medical College, Cincinnati, 1867; of McBaine, Mo.; died in the Parker Hospital, Columbia, Mo., March 3, from influenza, aged 72.

Frederick Wilhelm Alexis Bergengren (license, Massachusetts, years of practice, 1894); died at his home in Lynn, March 7, from heart disease, aged 71.

William T. Dougan, M.D. Rush Medical College, 1867; a lifelong resident and once mayor of Niles, Mich.; died at his home in that city, March 10, aged 74.

Henry R. Simon, M.D. Western Reserve University, Cleveland, O., 1896; died at his home in Warroad, Minn., March 13, from heart disease, aged 48.

Allen Henry Glover, M.D. New York University, New York City, 1889; died at his home in Knoxville, Pa., February 8, from pneumonia, aged 48.

Francis Marion Loper, M.D. Indiana Eclectic Medical College, Indianapolis, 1885; died at his home in Atchison, Kan., March 10, aged 69.

Jacob Von Valkenburg, M.D. Philadelphia University of Medicine and Surgery, 1862; died at his home in Sharon, N. Y., March 7, aged 74.

Anthony Eugene Magoris, M.D. Long Island College Hospital, Brooklyn, 1880; died at his home in Binghamton, N. Y., February 5, aged 58.

Edward Sanford, M.D. Harvard Medical School, 1852; died at his home in Attleboro, Mass., February 5, from senile debility, aged 87.

The Propaganda for Reform

In This Department Appear Reports of the Council on Pharmacy and Chemistry and of the Association Laboratory, Together with Other Matter Tending to Aid Intelligent Prescribing and to Oppose Medical Fraud on the Public and on the Profession

PLUTO CONCENTRATED SPRING WATER

The Commercial Possibilities in Epsom and Glauber's Salts

We have received at different times inquiries of which the following that came a few days ago is typical: "Please give me any information that you may possess as to the character of Concentrated Pluto Spring Water."

It has been said that there is as much humbug and fraud connected with the exploitation of so-called mineral waters as there is in the "patent-medicine" business. An examination of the claims made for "Pluto Water" seems to verify this statement. "Pluto Water" is said to be derived from one of three springs at French Lick Springs, Indiana. But the so-called Pluto Water that may be purchased at the drug-store is not the "natural" water but "Pluto Concentrated." While it is doubtless possible to purchase the "natural" Pluto Water by ordering it specially, we believe that not one drug-store in a hundred carries anything but the so-called "concentrated" Pluto Water. The distinction between the "natural" and the "concentrated" will be referred to more fully, later.

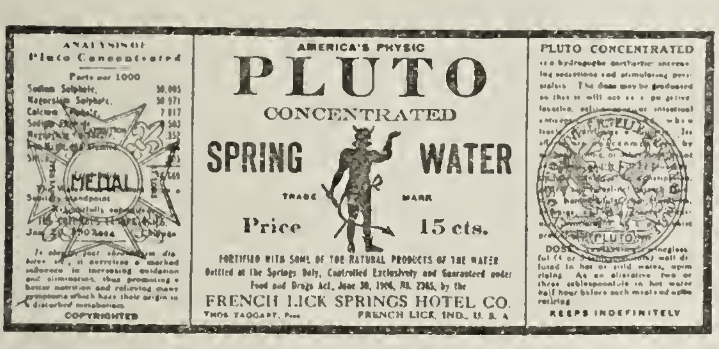
Analysis of
Pluto Concentrated
Parts per 1000
Medal
Copyrighted
America's Physic
PLUTO
CONCENTRATED
SPRING
WATER
Trade
Mark
Price
15 cts.
FORTIFIED WITH SOME OF THE NATURAL PRODUCTS OF THE WATER
Bottled at the Springs Only, Controlled Exclusively and Guaranteed under Food and Drugs Act, June 30, 1906, No. 2365, by the
FRENCH LICK SPRINGS HOTEL CO.
Thos. Taggart, Pres.
FRENCH LICK, IND., U. S. A.
PLUTO CONCENTRATED
Pluto
Keeps Indefinitely

Fig. 1.—Photographic reproduction (reduced) of the label on "Pluto Concentrated Spring Water." The only hint that the purchaser is given of the fact that Epsom salt and Glauber's salt have been added to this stuff is to be found in the line inconspicuously stating that it is "fortified with some of the natural products of the water."

The claims made for Pluto Water are as outrageous as those made for many "patent medicines." For instance:

> "Will quickly relieve and permanently cure such afflictions as indigestion, constipation, kidney, liver and stomach trouble, rheumatism, nervous disorders, acute or chronic alcoholism, etc."
>
> "A swift and sure specific for indigestion, constipation, kidney and liver diseases. . . ."
>
> "Exercises a specific influence both in the prevention and cure of inflammation of the biliary tract."
>
> "Renovates and builds tissue."
>
> "Restores the functions of the stomach."

More than this could hardly be asked or expected even of Peruna, Duffy's Malt Whisky or Lydia Pinkham's Compound! The composition of a water that will produce such wonders is, naturally, a matter of interest. The essential constituents of Pluto Water are said to be the sulphates of sodium, magnesium and calcium, the chlorid of sodium and the carbonate of magnesium. According to an analysis published by the French Lick Springs concern, these ingredients are found in the following proportions (parts per thousand) in the "natural" Pluto Water:

Sodium sulphate (Glauber's salt)	0.68
Magnesium sulphate (Epsom salt)	0.34
Calcium sulphate	1.79
Sodium chlorid (salt)	1.99
Magnesium carbonate	0.55

To the average person the composition of the "natural" Pluto Water is largely a matter of academic interest, for practically it is only the so-called "concentrated" Pluto Water that is found on the market. The impression is given in all of the advertising matter that the "concentrated" Pluto Water is "natural" Pluto Water boiled down. The following quotations from the literature will make this plain:

> "Pluto Concentrated Spring Water is the same water [as 'natural' Pluto] except that it goes through a process of boiling, eliminating the free gases, retaining the sulphates, etc., making this water in the neighborhood of ten times as strong as the natural spring water."
>
> "It ['concentrated' Pluto] is a product of the Natural Pluto Spring Water with this exception, that in the process of concentrating it, we eliminate all gases, retaining all the solids."

The public and the medical profession, then, are led to believe that "concentrated" Pluto Water is identical with "natural" Pluto Water except that the former has been boiled down until it is ten times as strong. With this in mind, study the following analysis which the company issues as representing the composition (parts per thousand) of the "concentrated" Pluto Water:

Sodium sulphate (Glauber's salt)	50.00
Magnesium sulphate (Epsom salt)	30.97
Calcium sulphate	2.81
Sodium chlorid (salt)	2.50
Magnesium carbonate	0.35

From this, it will be seen that, even according to the company's own figures, "concentrated" Pluto differs from the "natural" Pluto in that it has more than *eighty times as much* Glauber's salt; nearly *one hundred times as much* Epsom salt; less than *twice as much* calcium sulphate; only *a trifle more* sodium chlorid and *less* magnesium carbonate than is found in the "natural."

What does this mean? It means that "concentrated" Pluto bears but a slight relation to "natural" Pluto, and it means that, for all practical purposes, "concentrated" Pluto Water is essentially a solution of Epsom salt and Glauber's salt in the proportion of three of the former to five of the latter.

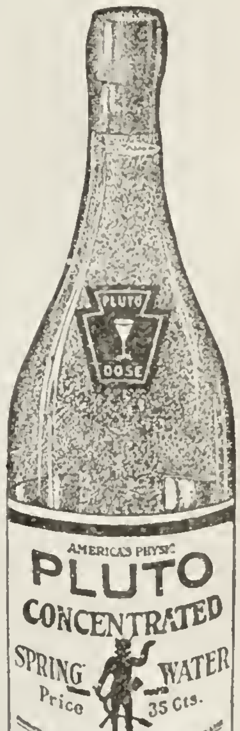

Fig. 2.—Pluto Concentrated Spring Water. The stuff is essentially a solution of Epsom salt and Glauber's salt.

The exploiters of "concentrated" Pluto are evidently marketing a solution of Epsom salt and Glauber's salt under a name that has some commercial value, and are making claims for their saline laxative that range from gross exaggeration to positive fraudulency.

It may be asked, "Why does not the Food and Drugs Act protect the public against this fraud? How can the French Lick Springs concern label a mixture of this sort 'Pluto Spring Water'?" We cannot answer these questions. The only indication that the label gives of the facts we have stated is that in small type—so placed as to be unnoticed by the average person—appears the following:

> "Fortified with some of the natural products of the water."

This admission, so far as we have been able to learn, is made in none of the advertising matter.

One other point is worth attention. Much is made, in the booklets the exploiters send out, of the fact that sulphur is present in the "natural" Pluto in the form of hydrogen sulphid (sulphuretted hydrogen) and sulphuric anhydrid (sulphuric acid). This ingredient, says the concern, "is by many considered the most important constituent of the water." It is hardly necessary to remind our readers that whatever sulphuretted hydrogen gas may be found in the "natural" Pluto, not a particle of it exists in the "concentrated" Pluto. The company does not explain how it is possible to have sulphuric acid in an *alkaline* water!

The following requirements regarding "The Labeling of Medicinal and Table Waters" are part of "Food Inspection Decision 94" issued by the United States Department of Agriculture:

> "All waters which, though natural in the beginning have anything added to them or abstracted from them after they come from source, should either be labeled as 'artificial' or should be so labeled as to indicate that certain constituents have been added to or extracted from them. It is suggested that the word 'artificial' or the above explanation, as the case may be, should appear in as large type as the name of the water in question and on a uniform background."

One wonders whether the contempt which the label of Pluto Concentrated Spring Water shows for "Food Inspection Decision 94" bears any relation to the fact that the French Lick Springs Hotel Company has for its president—Thomas Taggart—a politician whose influence at Washington is such as to make it unnecessary for the company to worry about such trivial things as mislabeling.

ECKMAN'S ALTERATIVE

What One "Lunger" Thinks of It

A consumptive in Virginia wrote to The Journal within the last week or two ordering one of our pamphlets on "Consumption Cure Fakes." Part of his letter is so interesting that we give it:

> "I might add that I am a 'lunger' and have been taking treatment in some regular sanatorium for tuberculosis for the past fifteen months with excellent results, but my *well-wishing friends* besiege me with advice on 'patent medicines,' furnish the dope for me to take and then consider me ungrateful because I strictly adhere to my physician's advice, and do not try every fake that comes on the market; in fact, one acquaintance dying of tuberculosis bequeathed me three bottles of Eckman's Alterative, *which had done him so much good.*"

Correspondence

Progress in Medical Education

To the Editor:—In "Progress in Medical Education" (The Journal, March 8, 1913, p. 743) President Pritchett of the Carnegie Foundation mentions the University of Tennessee as "a university lending the shelter of its name and its charter to a medical school which it neither controls nor supports, and whose ideals of teaching are on an entirely different plane from those maintained in the other departments of its work." Inasmuch as this statement does a great injustice to our institution, I beg that you will allow me to say that the college of medicine of the University of Tennessee is an integral part of the state university and is absolutely and completely under the control of its president and board of trustees, and that no member of its faculty has any pecuniary interest in the school other than the salary which he is allowed for his services by the board of trustees. President Pritchett was evidently misinformed in regard to the status of our college of medicine; otherwise he would not, of course, have included it in the list of schools having connection with the parent institution which he deprecates.

Brown Ayres, Knoxville, Tenn.
President, University of Tennessee.

President Ayres' letter was referred to President Pritchett, who writes:

To the Editor:—In reply to President Ayres' letter I venture to say that it would be a genuine source of regret to me to do "a great injustice" to the University of Tennessee. I do not feel, however, that the report to which he refers can be so construed. If the college of medicine at Memphis is now an integral part of the University of Tennessee, it is nevertheless true that the history of the university in medicine up to a very recent date is correctly described in this paper. Certainly the University of Tennessee would not accept either its Nashville school or the Memphis school, as it was taken over, as representing the ideals of instruction in the university itself. For the improvement in the Memphis school I tried to give full credit; and if it still continues to bring forth the fruits of medical righteousness no one will be more ready than I to rejoice over it. The university cannot, however, expect to live down its medical past in a single year.

Henry S. Pritchett, New York

The Menace of Irrational Legal Processes

To the Editor:—We have all recently passed through a distressing experience here in Baltimore on account of an outrageously unjust decision of our court in a "malpractice" suit against Dr. Guy L. Hunner. My own utter disgust with the methods of the legal profession is such that if I were to act on the impulse of the moment I would abandon my surgical work, and retire to some distant field to escape as far as possible from the nauseating associations with courts and their wearing delays and postponements and their processes of flagrant injustice.

The case was this: Dr. Hunner operated on a woman with a large perinephritic tuberculous abscess. The lower pole of the kidney was calcareous and tuberculous; he did a remarkable conservative operation, resecting the diseased portion and saving a good organ which has healed perfectly and given no further trouble. The surrounding tuberculous abscess cavity naturally demanded prolonged drainage until it healed, in about seven months. During this period there was a trifling fecal drainage for a short time. Dr. Hunner in three days removed the substantial drain inserted by him at the operation, but his resident later left in the suppurating wound a tiny sliver of gauze just large enough to fill half an ordinary thimble. This appeared and was pulled out some weeks later by the physician at the patient's home in the country. A trap was then set for Dr. Hunner in the form of a letter complaining of carelessness and hoping that no axes, saws, etc., were still concealed in the wound. He replied indulgently, "I am sorry we were so careless," expressed the hope that there were no axes and saws, etc., still to be extracted and advised her as to further conduct. The patient gradually in the intervening months developed a pulmonary tuberculosis from which she now suffers to a marked degree.

Dr. Hunner gave his precious time and his faithful services over a period of more than half a year. It was alleged at the trial, and an "expert"—a doctor-lawyer—was produced to prove it, that the tiny drain caused both the fecal fistula and the pulmonary tuberculosis. It was also alleged that Dr. Hunner was responsible for leaving "the drain" in; and finally, that he ought, therefore, to be mulcted for damages. The "expert" lawyer-doctor qualified by alleging that he had had one kidney operation within the past year—a suspension of the kidney last August—"a simple operation," as he stated with becoming modesty.

All the expert witnesses testified for the defendant; namely, that the wound needed prolonged drainage and that the tiny sliver of gauze did no harm at all.

Dr. J. T. M. Finney said that its presence was beneficial as the wound needed the stimulus of a drain to hasten contraction and closure.

Dr. Thomas S. Cullen appeared with the identical piece of kidney which had been removed and showed that it was extensively tuberculous, demonstrating that inasmuch as the operation was done on a tuberculous kidney, the operation could in no way be said to have produced a condition which was antecedent to it.

I testified as to the general excellent care given the patient throughout, not only equal to the average as demanded by the court, but far exceeding it. I also showed how ridiculous was the contention that the wee piece of gauze in a wound which must suppurate until it closed could hurt the patient and induce any grave sequelae.

There were manifestly three things to be considered by the jury:

1. Did Dr. Hunner treat the patient properly? Did he do her any harm?

2. If his assistant introduced the tiny drain, was Dr. Hunner responsible for his act?

3. If these points were decided against Dr. Hunner, what damages should be assessed?

All the men who knew, the experts of real experience, as contrasted with the lonely pseudo-expert, testified emphatically that Dr. Hunner had treated the patient with the utmost skill and that she had in no way suffered, but was in every way benefited by the treatment.

The second point which the plaintiff sought to establish, namely, that the surgeon is responsible for all that his resident does, although he may have no control over his appointment to the hospital, was decided by the judge in the affirmative on the basis of a law sixty years old, framed even before the birth of modern surgery.

The third point—damages—naturally fell out of consideration if the first—no harm done—was decided in the doctor's favor.

In spite of the overwhelming testimony and of all the evidence and facts against the plaintiff's contention, the jury actually decided against Dr. Hunner and awarded $1,000 damages, a penalty of about $2,500, including court costs—this in the twentieth century in our enlightened land, with one of the best of judges, Judge Hemsler, on the bench, and a jury made up of men of exceptional character and intelligence. They simply did not understand the case, and acted on their sympathies. The whole court seemed muddled, like an infant-school solving a difficult mathematical problem. That which was transparent to every surgeon, and the very A B C of his daily practice, was to them a mysterious and impenetrable darkness. So, swayed by their sympathy, they gave the verdict in favor of the plaintiff.

It is evident that the best interests of the medical profession and therefore of the public are gravely menaced by such subversive threatening and irrational legal processes. The first thought of the newspapers has been that perhaps men of eminence will be less willing in the future to serve the poor; but the first effect is not here. I have already reaped the first crop of this suit in my own office. A patient whom I recently relieved from a life suffering by taking out a ureteral calculus casually remarked to an associate as she left for her home, "It is well that Dr. Kelly succeeded, for had he failed my husband would have been ready to sue him."

Another patient cured of a cancer of the face by radium developed a trifling transitory erythema; he at once forgot the inestimable service rendered at a nominal cost and assumed a harsh, bitter, criticizing tone. Another referred to me with a recurrent cancer of the rectum for radium treatment, who is probably recovering, under the best care I can give him, became violently incensed and threatening because of some fancied neglect.

In other words, such trials, with the publicity attending them, circulating unjust and distorted criticisms of the work of our best men, and implying that carelessness and neglect of patients is habitual, tend to influence the public against the profession and to make patients eager to search for fancied wrongs and overanxious to assess large damages for imaginary neglect.

I cannot see any solution of this distressing question which will not fall crushingly on the public. I cannot conceive of a greater misfortune to a community than that the administration of justice should come to depend, not on principles of righteousness, not on a rational determination of right or wrong in each individual case, but rather on the sharpness of the wits of lawyers contending for a prize and determined to have it by fair means or foul.

We see here the outcome of our nation-wide utter neglect in attending to the ethics and the morals of the communities in which we live, the natural sequence of being too busy with the subordinate questions of "science" and making money to think of the infinitely more important questions of ethics.

Howard A. Kelly, M.D., Baltimore.

The Grant Method in the Surgery of Epithelioma of the Lip

To the Editor:—In The Journal (Feb. 15, 1913, p. 507) is an article on "Operation for Epithelioma of the Lower Lip," by Dr. H. A. L. Ryfkogel of San Francisco. The operation is described as not being new, but as having been developed in Dr. Ryfkogel's service by combining the methods of other operators.

Kindly permit me to say that the diagrams and descriptive formation of flaps are a reproduction of my original operation for "Cancer of the Mouth," first published in the *Medical Record*, New York, March, 1899, and more fully elaborated, illustrated and read before the Section on Surgery of the American Medical Association in July, 1905, at Portland, Ore. It was published in The Journal, Sept. 30, 1905, p. 962. It is of course possible that Dr. Ryfkogel never read this article.

W. W. Grant, M.D., Denver.

A proof of the above was sent to Dr. Ryfkogel, who replies:

To the Editor:—As any one can readily verify by looking at Dr. Grant's and my articles on epithelioma of the lip, his statement that my diagrams and reading matter are reproductions of his is untrue. In fact they bear no more resemblance to his than they do to Stewart's, Dieffenbach's and others.' I have read Dr. Grant's article and have performed his operation. My objection to it was that it made a lip too tightly stretched; in fact, he himself mentions the frequent necessity of using tension sutures. In the operation performed in my clinic, even when the whole lip is removed, the flaps fall loosely into place without tension. Dr. Grant's flaps are triangular and are swung into place; mine are quadrilateral and are slid together. I should like again to emphasize the fact that there is nothing new in the operation described by me, but that it is rather an assembly of several technics which has given us so much satisfaction that we thought it worth recording. The same statement can also be made of Dr. Grant's operation. For other differences between the two articles I must refer the reader to the original communication.

H. A. L. Ryfkogel, M.D., San Francisco.

A proof of the above was sent to Dr. Grant, who replies:

To the Editor:—In reply to Dr. Rytkogel's note, kindly permit me to quote from my article as formerly published in The Journal, as follows:

"When half or more of the entire lip is removed, I am in the habit of perfecting and completing the operation by making an incision from each angle of the mouth backward and slightly downward half to one inch in length, down to the buccal mucous membrane, and then separating the latter from overlying tissues above, below and posteriorly to the extent of half an inch. The lip above and below is now beveled from the inner border in order to conform to natural conditions and also to make it easier to cover. The mucous membrane is now divided in the middle line and the flaps united to the skin by one continuous suture of chromicized catgut."

As to tension, my language in the article is as follows: "if the tension is great or considerable from the amount of tissue excised, I am in the habit of inserting one mattress suture." There is not a line as to the "frequent necessity" of using tension sutures.

W. W. Grant, M.D., Denver.

A Method of Making Buttermilk

To the Editor:—The use of buttermilk for several days or a week, to the exclusion of sweet milk, eggs or other food, is a simple and safe method of relieving the stomach which has proved useful and effective in many cases, especially when large quantities of sweet milk have been taken for a long period. It will be possible to return then to the former diet without difficulty.

The physician is often asked where the buttermilk may be obtained. When a supply of known purity is not available from a dairy, it may interest some to know that there are small glass churns on the market with a capacity of from 1 to 4 quarts, for use in the home. By taking new whole milk, allowing it to thicken in a warm room for twenty-four hours and then churning for from five to eight minutes you will have, after removing the small amount of butter which accumulates on the dasher, a fresh, evenly distributed, curdy buttermilk which is palatable and much superior to the artificial product made from lactic acid tablets.

Alexander Armstrong, M.D., White Haven, Pa.

Queries and Minor Notes

Anonymous Communications will not be noticed. Every letter must contain the writer's name and address, but these will be omitted, on request.

FRUITOLA AND TRAXO

To the Editor:—Could you send me any information concerning a "gall-stone cure" named "Traxo," which I believe is manufactured in California? A. M., Texas

Answer.—Our correspondent doubtless refers to a nostrum exploited in connection with the fraud, "Fruitola," both of which were exposed in The Journal, Sept. 24, 1910. The matter has been reprinted in a pamphlet entitled "Fake Gall-Stone Cures" (price 4 cents) and also appears in the second edition of "Nostrums and Quackery." Fruitola and Traxo are both put up by the Pinus Medicine Co., Los Angeles: Fruitola as a "cure" for gall-stones, and Traxo as a "tonic." Fruitola, as stated in The Journal article, consists of two parts, a liquid and a powder. The liquid was found to be essentially olive oil flavored with anise; the powders were found to be Seidlitz powders. The state chemists of Kansas analyzed Traxo and reported that in addition to 20 per cent. of alcohol it consisted mainly of taraxacum (dandelion) and cascara with a small amount of chloroform and soluble alkaloid.

INFORMATION CONCERNING A COPPER-MINING COMPANY

To the Editor:—Can you give me any information in regard to Haynes Copper Company, 82 Beaver Street, New York, or refer me to any one who can? The stuff, of course, has all the earmarks of a fake, and I wish to save a medical friend from making a foolish investment. W. P. Burdick, M.D., Kane, Pa.

Answer.—The following is digested from an article in the "Copper Handbook." This book is considered fairly reliable, but one may well bear in mind that it probably gives the best possible version of the matter.

The main office of the company is 301 Columbia Trust Building, Los Angeles; C. B. Stranahan, manager. The company was organized in 1906 under the laws of the state of Arizona as successor to the Jerome Mines Development Co., with a capital of 2,000,000 shares, $1 per share. The latest statistics given are of 1910: they have eight veins patented—an area of 160 acres; there are various veins carrying a variety of ores estimated by the company to average 6.2 per cent. copper, 3 ounces silver and $1.60 gold per ton. Sulphids were found about July, 1910, and the management hopes to find a continuation of the United Verde ore bodies. Considerable drilling and construction have been done. The mine is wet, causing occasional interruptions before the installation of the triplex pump. There are twelve buildings on the property.

SERODIAGNOSIS OF SYPHILIS—WORKS ON THE DUCTLESS GLANDS AND ON IMMUNITY

To the Editor:—1. Please tell me where I can obtain material for the Noguchi skin test for syphilis. 2. Please refer me to some works on the ductless glands and on immunity.

M. B. McCausland, M.D., Imlay City, Mich.

Answer.—1. The Noguchi test for syphilis is supplied by H. K. Mulford Co., Philadelphia. See N. N. R., 1913, p. 237.

2. The following are good books on these subjects:

Vincent, S.: Internal Secretions and the Ductless Glands, Longmans, Greene & Co., New York, price $3.50.

Fraser, E. T.: A Manual of Immunity, Macmillan Co., New York, price $1.25.

Simon, C. E.: Study of Infection and Immunity, Lea & Febiger, Philadelphia, price, $3.25.

Ricketts, H. T.: Infection, Immunity and Serum-Therapy, American Medical Association, price, $2.

BEEBE'S THYROID SERUM

Dr. A. T. Downing, Littleton, N. H.: We summarized the facts March 23, 1912, p. 880.

DOUBTFUL CAUSE OF DEATH OF INFANT

To the Editor:—I wish to report a recent case of an infant's death. It seems extremely interesting to me as I cannot find anything in the literature of a similar nature, while several physicians with whom I have discussed the case are likewise agreed. The family history of the father and the mother was possibly tuberculous; otherwise negative. The mother, a primipara aged 28, apparently in good health and of ruddy complexion, went through pregnancy with nothing to indicate any deviation from the normal, and was delivered at full term (low forceps left occipito-anterior) of an apparently normal girl baby weighing 8 pounds. Both mother and child did nicely until the morning of the fifth day, when the baby was found dead in its crib about an hour after nursing. There was nothing to indicate the cause of death. Autopsy showed the small intestine in a condition of complete collapse and the large intestine enormously distended. Macroscopically the peritoneal surface showed small yellowish-white spots dotting the greater part of the large bowel. The mucous membrane showed nothing abnormal macroscopically. A section of the large bowel (about 6 inches long) was sent to a laboratory with a returned diagnosis of congenital absence of follicles of the large intestine, making it incompatible with extra-uterine life.

I would like to hear from some one who has had or heard of such a case. It might be well to add that the patient was in the hospital and that the baby nursed its mother with apparent satisfaction. H. E. Thompson, M.D., Bethlehem, N. H.

Answer.—We are of the opinion that the condition noted should not be regarded as the cause of death.

NO AUTOMOBILE NUMBER THIS YEAR

To the Editor:—Will there be an Automobile Number this year?

J. E. Asay, M.D., Rock Island, Ill.

Answer.—No.

Medical Education and State Boards of Registration

COMING EXAMINATIONS

Arizona: Phoenix, April 7-8. Sec., Dr. John Wix Thomas.

California: San Francisco, April 1. Sec., Dr. Charles B. Pinkham, 929 Butler Building.

Colorado: 612 Empire Building, Denver, April 1. Sec., Dr. David A. Strickler.

Idaho: Boise, April 1. Sec., Dr. O. J. Allen, Bellevue.

Illinois: Armory Battery B, Chicago, April 29-May 1. Sec., Dr. James A. Egan, Springfield.

Minnesota: State University, Minneapolis, April 1-4. Sec., Dr. Thomas S. McDavitt, Lowry Building, St. Paul.

Montana: The Capitol, Helena, April 1. Sec., Dr. W. C. Riddell.

New Mexico: Santa Fe, April 14. Sec., Dr. W. E. Kaser, East Las Vegas.

Oklahoma: Oklahoma City, April 8. Sec., Dr. John W. Duke, Guthrie.

Rhode Island: State House, Providence, April 3. Sec., Dr. Gardner T. Swarts.

West Virginia: Huntington, April 14. Sec., Dr. H. A. Barbee, Point Pleasant.

A PREMEDICAL COLLEGE YEAR

Recognizing the need of a better training for those who are to study medicine than that furnished by the usual high school, the Council on Medical Education of the American Medical Association, in 1904, prepared what was termed an "ideal standard" which suggested, that, in addition to an accredited four-year high-school course, a year in physics, chemistry and biology and a reading knowledge of a modern language, preferably German or French, be made the minimum requirement for admission to medical colleges. It was understood that this additional year's work might be taken either in a college of liberal arts or in a preliminary year given by the medical school itself. At the annual meeting of the American Medical Association at Atlantic City in June, 1912, the House of Delegates adopted a recommendation instructing the Council on Medical Education to include in Class A (among acceptable colleges) after Jan. 1, 1914, only medical schools which require for admission not less than one year of college credits in chemistry, biology, physics and a modern language.

At a regular meeting held in Chicago, Feb. 23, 1913, the Council on Medical Education adopted a resolution that the work of the preliminary year should correspond in excellence and in content at least with the work in the freshman year in standard colleges and universities. A subcommittee was appointed to prepare a detailed outline of the minimum requirements for the preliminary year's work.

At its annual meeting held Feb. 26, 1913, the Association of American Medical Colleges appointed a committee, with power to act, to cooperate with the committee of the Council on Medical Education in the preparation of an outline of minimum requirements for the preliminary year's work, thereby going on record as favoring this advance requirement.

At a meeting of the subcommittee of the Council on Medical Education Saturday, March 22, the following minimum requirements for admission to the proposed preliminary college year were adopted:

ADMISSION TO THE PRELIMINARY COLLEGE YEAR

A. For admission to the preliminary college year, students must have completed a four-year course of at least fourteen units in a standard accredited high school, or have its equivalent as demonstrated by an examination, and a transcript of the student's work should be secured directly from the principal of the high school by the college authorities and kept on file.

B. The required and elective subjects for which credits for admission to the preliminary college year may be accepted are shown in the following schedule:

SCHEDULE OF SUBJECTS OFFERED IN ACADEMIC AND SECONDARY SCHOOLS, CREDITS IN WHICH ARE ACCEPTABLE FOR ENTRANCE TO THE PRELIMINARY COLLEGE YEAR LEADING TO THE MEDICAL COURSES

SUBJECTS.	UNITS.	REQUIRED.	ELECTIVE.
ENGLISH			
READING AND PRACTICE	2	2	...
Study and Practice	1	...	1
MATHEMATICS			
ALGEBRA TO QUADRATICS	1	1	...
Algebra (Quadratic Equations, Binomial Theorem and Progressions)	½	...	½
PLANE GEOMETRY	1	1	...
Solid Geometry	½	...	½
Trigonometry	½	...	½
LATIN			
GRAMMAR AND COMPOSITION	1	1	...
CAESAR	1	1	...
Cicero	1	...	1
Virgil	1	...	1
Cornelius Nepos	1	...	1
Greek			
Grammar and Composition	1	*	1
Xenophon	1	...	1
Homer	1	...	1
GERMAN (OR FRENCH)			
ELEMENTARY	2	2	...
Intermediate	1	...	1
French (or German)			
Elementary	2	**	2
Intermediate	1	...	2
Spanish			
Elementary	2	...	2
Scandinavian			
Elementary	2	...	2
HISTORY			
AMERICAN HISTORY AND CIVIL GOVERNMENT	1	1	...
Greek and Roman History	1	...	1
Medieval and Modern History	1	...	1
English History	1	...	1
Science †			
Botany and Zoology, each	1	...	1
or Biology	1	...	1
Chemistry	1	...	1
Physics	1	...	1
Physiography	½	...	½
Physiology	½	...	½
Agriculture	1	...	1
Drawing	1	...	1
Manual Training	1	...	1
Domestic Science	1	...	1
Music			
Appreciation or Harmony	1	...	1
Total	38½	9	29½

A *unit* is the credit value of at least 36 weeks' work of 4 or 5 recitation periods per week, each recitation period to be of not less than 40 minutes. In other words, a unit represents a year's study in any subject in a secondary school constituting approximately a quarter of a full year's work. A satisfactory year's work in any subject cannot be accomplished under ordinary circumstances in less than 120 sixty-minute hours, or their equivalent.

Required Branches: Of the 44 units of high-school work the subjects in capitals aggregating 9 units are required. Other work to the amount of at least 5 units may be made up from any of the other subjects of the above schedule.

* Two units of Greek may be substituted for the two required units of Latin.

** Two units of French may be substituted for the two required units of German.

† Credentials of each science course must include evidence of laboratory work.

The Preliminary College Year

At a joint meeting of the committees representing the Association of American Medical Colleges and the Council on Medical Education of the American Medical Association held March 22, 1913, and with the advice of Dr. Kendric C. Babcock, higher education expert of the United States Bureau of Education, the following requirements were adopted for the preliminary college year:

A. The preliminary college year shall extend through one college session of at least thirty-two weeks of actual instruction, including final examinations.

B. In excellence of teaching and in content, the work of this preliminary college year shall be equal to the work done in the freshman year in standard colleges and universities.

C. This preliminary college year shall include courses in physics, chemistry, biology and German or French, each course to embrace at least eight semester hours of didactic and laboratory work in each subject as shown in the following schedule, provided that a student may satisfy the requirement of physics in presenting one unit of high-school physics and completing a half year of college physics which continues and does not duplicate the work done in the high school:

SCHEDULE

Subject.	Lectures or Recitations Per Week	Laboratory Periods * Per Week	Total Hours Per Semester	Total Hrs. Per Year.
Physics, 1...	2	2	4	8
Chemistry, 1.	2	2	4	8
Biology, 1 ..	2 or 3	2 or 1	4	8
German or French, 2..	4 or 3	....	4 or 3	8 or 6
Totals....	10	6 or 5	16 or 15	32 or 30

* Each laboratory period must extend over at least two hours.

D. In medical colleges planning to give the work of the preliminary year, provision should be made for full-time expert teachers in the various subjects. Sufficient equipment should be provided to enable the students to do the work intelligently—in amount such as will compare favorably with the equipment for these courses in standard colleges and universities.

E. It should be remembered that the chief object of the work of the preliminary college year is to provide the student with a training that will enable him to enter more readily and intelligently on the study of the fundamental medical sciences in the medical school.

Illinois September Report

Dr. James A. Egan, secretary of the Illinois State Board of Health, reports the written examination held at Chicago, Sept. 24-26, 1912. The number of subjects examined in was 16; total number of questions asked, 100; percentage required to pass, 75. The total number of candidates examined was 154, of whom 112 passed and 41 failed. One candidate did not complete the examination. The following colleges were represented:

College	PASSED Grad. Year	Examined Total No.
College of P. & S., San Francisco	(1903)	1
George Washington University	(1911) (1912)	2
Bennett Medical College	(1910) (1911, 2) (1912, 18)	21
Chicago Coll. of Med. and Surg.	(1911, 3) (1912, 19)	22
Chicago Homeopathic Medical College	(1892)	1
Hahnemann Medical College and Hospital	(1912)	4
Jenner Medical College	(1912)	5
Northwestern Univ. Med. School	(1903) (1911) (1912, 3)	5
Reliance Medical College	(1911)	2
Rush Medical College	(1911) (1912, 9)	10
College of P. and S., Chicago	(1911, 3) (1912, 16)	19
University of Louisville	(1912)	1
Louisville Medical College	(1896)	1
Tulane University of Louisiana	(1906)	1
Johns Hopkins University	(1912)	1
Harvard Medical School	(1911)	1
Tufts College Medical School	(1903)	1
St. Louis University	(1912)	1
American Medical College, St. Louis	(1911) (1912, 4)	5
Barnes Medical College	(1911)	1
University of Buffalo	(1912)	1
Jefferson Medical College	(1912)	1
University of Pennsylvania	(1869)	1
Milwaukee Medical College	(1912)	2
Trinity University, Canada	(1897)	1
University of Toronto	(1911)	1

FAILED

College	Year Grad.	Number
Northwestern University Medical School	(1912)	1
College of P. & S., Chicago	(1911) (1912, 3)	4
Chicago College of Medicine and Surgery	(1910) (1911, 3) (1912, 4)	8
Bennett Medical College	(1911) (1912, 5)	6
College of Medicine and Surgery, Physiomedical, Chicago	(1908) (1909) (1910)	3
Hahnemann Medical College and Hospital, Chicago,	(1893) (1910) (1912, 4)	6
Hering Medical College	(1912)	2
Illinois Medical College	(1911)	1
Jenner Medical College	(1912)	1
Reliance Medical College	(1911)	2
American Medical College, St. Louis	(1912)	1
Barnes Medical College	(1912)	1
St. Louis Coll. of P. and S.	(1908) (1910, 2)	3
National University, Greece	(1908)	1
University of Modena, Italy	(1903)	1

Ohio December Examination Report

Dr. George H. Matson, secretary of the Ohio State Medical Board, reports the written and oral examination held at Columbus, Dec. 10-12, 1912. The number of subjects examined in was 10; total number of questions asked, 100; percentage required to pass, 75. The total number of candidates examined was 20, of whom 16 passed and 3 failed. For one candidate the decision is pending. The following colleges were represented:

PASSED

College	Year Grad.	Per Cent.
Rush Medical College	(1912)	84.2, 87.6
Cleveland College of P. and S.	(1912)	75.8, 79.6, 81
Western Reserve University	(1912)	84.7
Cleveland-Pulte Medical College	(1912)	75.6, 78.9
Ohio-Miami Medical College	(1912)	77.1, 86.6
Starling-Ohio Medical College	(1912)	77.6
Toledo Medical College	(1912)	76.3
University of Pennsylvania	(1910) 89.4; (1911)	87.2
University of Toronto, Ontario	(1911)	83.1
Royal University of Naples, Italy	(1910)	78.1

FAILED

College	Year Grad.	Per Cent.
Harvard Medical School	(1910)	74.2
Ohio-Miami Medical College	(1912)	73
Eclectic Medical College, Cincinnati	(1911)	73.7

Medical Economics

This Department Embodies the Subjects of Postgraduate Work, Contract Practice, Legislation, Medical Defense, and Other Medicolegal and Economic Questions of Interest to Physicians

THE PRESENT LEGAL STATUS OF OSTEOPATHY

In The Journal[1] over three years ago, a summary of the situation then existing, regarding osteopathy appeared as a part of the special matter on medical education. The situation has changed somewhat since that time, so that an up-to-date summary of the situation seems advisable, on account of many requests received for information on this point. The present time is particularly favorable for such a summary, as osteopathic legislation has apparently reached its high-water mark. Some form of regulation is now on the statute-books in forty-one of forty-nine jurisdictions, including the District of Columbia. All of this legislation has been enacted in the last twelve years, Connecticut, which in 1901 enacted a law creating a separate board of osteopathic examiners, being the first state to take action. The classification of states with reference to this subject naturally divides them into (1) those having laws authorizing a separate osteopathic board; (2) those having laws adding an osteopath to the membership of existing boards; (3) those with laws authorizing the existing board to examine and register osteopaths as such, and (4) those having no specific regulation on the subject.

1. The states which have established separate examining boards with the date of the passage of the law are twenty in number, being Connecticut, 1901; Arkansas, Michigan and Minnesota, 1903; Vermont, 1904; Tennessee, New Mexico, Montana, 1905; Idaho, Missouri and South Dakota, 1907; Louisiana, 1908; Georgia, North Dakota, Nebraska, Florida, 1909; California, 1910; New Hampshire and Pennsylvania, 1911, and Kansas, 1913.

2. The eleven states which amended the existing medical practice acts by including an osteopathic member on the state examining board are Iowa, 1902; Wisconsin, 1903; Kentucky, 1904; Indiana, 1905; New York, Oklahoma, Oregon, Texas, Utah, 1907; Washington, 1909, and Massachusetts, 1911.

3. In nine states osteopaths are examined and registered as such by the state board of medical examiners. These are South Carolina, 1904; Wyoming, 1905; Ohio, 1906; West Virginia and Delaware, 1907; North Carolina, 1909; New Jersey and Colorado, 1910; Virginia, 1911.

4. In seven states and the District of Columbia there is no specific regulation. These are Alabama, Arizona, Illinois (in which osteopaths are licensed by the state board of health under the drugless healers clause), Maine, Mississippi, Nevada and Rhode Island. In one state, Maryland, they are specifically exempt from the operation of the medical practice act.

Regarding the legal status of osteopathy in the courts, in the following states it has been declared to be the practice of medicine, either by statutory enactment or by judicial decision: Alabama, Arizona, California, Delaware, Indiana, Iowa, Kentucky, New York, Ohio, Texas, Utah, Virginia, West Virginia, Wisconsin and Wyoming. In the following states it has been specifically declared not to be the practice of medicine: Arkansas, Colorado, Connecticut, Georgia, Idaho, Illinois, Kansas, Louisiana, Michigan, Minnesota, Missouri, Montana, Nebraska, North Carolina, Pennsylvania, Oklahoma, Oregon, South Carolina, South Dakota, Tennessee and Vermont. We have therefore the situation of osteopathy being the practice of medicine in fifteen states, while there are twenty-one states in which it is not.

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[1] Aug. 14, 1909, p. 582.

LEGISLATIVE NOTES

COLORADO

Governor Ammons has signed the bill providing for registration of tuberculosis.

ILLINOIS

A bill, providing a bureau of child welfare, modeled after the federal Bureau of Child Welfare, has been introduced. It creates a child welfare commission of three members.

KANSAS

The governor has permitted the chiropractic bill to become a law without his signature and has signed a bill providing for a state board of osteopaths. He has also permitted a sterilization bill to become a law without his signature. The enactment of the chiropractic bill is the first definite result which has been secured by this cult, after four or five years of effort, Kansas being the only state in which such a measure has so far become a law.

WYOMING

The following bills have been passed and signed by the governor: a bill providing for the inspection and sanitation of any place where food products are to be handled, to be enforced by the state dairy, food and oil commissioner, and a bill regulating the sale of habit-forming drugs. This law prohibits the sale of such drugs to any person, except on prescription of a licensed practicing physician, such prescriptions not to be refilled, and to be open to inspection by the State Board of Pharmacy. Practitioners of medicine are forbidden to prescribe such drugs for any person not under their treatment. Legally qualified practitioners are permitted to prescribe in good faith not to exceed 4 grains of cocain, morphin or their derivatives within any consecutive periods of twenty-four hours, and not to exceed 24 grains of chloral. The osteopathic bill was killed in the senate.

The Best Sign of Bronchial Obstruction.—I regard loss of vocal fremitus over an area still resonant, or even tympanitic, as one of the earliest and best signs of bronchial obstruction—a wrinkle I got many years ago from my old teacher and friend, Dr. Glynn.—John Hill Abram in *Clin. Jour.*, London.

Book Notices

Digest of the Laws and Regulations in Force in the United States Relating to the Possession, Use, Sale and Manufacture of Poisons and Habit-Forming Drugs. By Martin I. Wilbert and Murray Galt Motter. Paper. Price, $0.25. Pp. 278. Public Health Bulletin No. 56. Washington; Superintendent of Documents, 1912.

Few of the recently issued government publications are destined to attract greater attention on the part of physicians and pharmacists than this bulletin. As a plea for greater efficiency, greater uniformity and greater simplicity in laws and regulations relating to the manufacture, sale and use of poisons and habit-forming drugs, it comes at an opportune time. No one can even casually review the tremendous number of laws reflected in this bulletin without appreciating that we are indeed a law-burdened and yet a lawless people. It is pointed out, for instance, that in many of the states the antinarcotic laws are so comprehensive that every retail druggist, and in some states practically every physician, would be subject to fine or imprisonment were an earnest attempt made to execute the legislation on the statute-books. In other states the laws are so burdened with exceptions and provisos as practically to nullify the evident intent of legislation to control the sale or use of potent or habit-forming drugs; and in all states, quite regardless of the efficiency of the state laws themselves, legislation is to a considerable extent inoperative because of the inability of state officials to control or even to learn of the extent to which the several proscribed drugs are being sent into the state.

In addition to the laws dealing directly with restrictions on the sale of poisons and narcotic drugs, this bulletin reviews those restricting the occurrence of poisons in foods and other articles of commerce and those relating to the practice of pharmacy and the standards for drugs. The nature and extent of the laws relating to occupational intoxications are indicated. In this connection it is perhaps not necessary to do more than suggest that there is probably no form of calamity that can be so readily prevented by a wise and efficient enforcement of law as the now all-too-numerous occurrence of fatal poisoning, either acute or chronic, due to the ingestion or the inhalation of poisonous substances. A table showing the comparative number of cases of suicide and the number of deaths from acute and chronic poisoning, compiled from the mortality statistics of the census bureau, shows a total of more than 8,500 deaths from various forms of poison reported for the year 1910 alone. Even this comparatively large number is merely a fraction of all the deaths due directly or indirectly to the use of poisons in one form or another, but should suffice to demonstrate the immediate need for a more practical solution of the question of legislation relating to the manufacture, use and sale of poisons of all kinds. An earnest and consistent effort should be made to bring the laws now on the statute-books of the several states into accord so as to provide reasonable but not directly burdensome restrictions on the manufacture, sale and use of all drugs that are in any way dangerous to human life. This bulletin should prove of value to physicians, pharmacists, manufacturers and officials entrusted with the enforcement of the existing laws.

The Chemic Problem in Nutrition (Magnesium Infiltration). A Sketch of the Causative Factors in Disorders of the Nutrition as Related to Diseases of the Nervous System. By John Aulde, M.D., Demonstrator of Physical Diagnosis and Clinical Medicine, Medico-Chirurgical College, Philadelphia. Cloth. Price, $3. Pp. 410, with 4 illustrations. Philadelphia: John Aulde, M.D., 1305 Arch St., 1912.

We would hesitate to furnish space for a reference to this hodgepodge of fact and ridiculous fancy, jumbled together into the semblance of serious statement, were not the title sufficiently misleading to attract some unsuspecting reader whom we hope hereby to disillusionize. "Magnesium infiltration" is presented as the unseen, unrecognized "insidious ailment" which "affects the infant in arms as well as the octogenarian, the factory operative and the millionaire," etc. "It secures entrance to every sick-room, to every hospital," etc., etc. A few quotations will suffice to exemplify the sort of pseudoscience perpetrated in the guise of a legitimate treatise, and make further comment unnecessary. "Magnesium infiltration may be defined as an abnormal condition in which the cellular structures are surcharged with magnesium, with coincident depletion of the lime content" (p. 4). "Magnesium infiltration is essentially a disorder of the nervous system. Its development depends on various conditions. Thus, it may appear as the actual disease, as in neuritis, neuralgia, angina pectoris, locomotor ataxia, arteriosclerosis, or whenever the nerve-supply is surcharged with magnesium—effecting insulation, by chemic transformation" (p. 8). "Bearing in mind that this condition will change the capacity for imbibition (absorption), lead to a disturbance in the structure, and further, that it will interfere with the uninterrupted transmission of nerve impulses, the magnesium infiltration (deposits), acting as a resistance coil to the electric current—which supplies the energy for such transmission—the phenomena attending bowel troubles in children will be readily understood" (p. 9). Elsewhere we are told that "magnesium oxid is produced within the body by the action of oxidase on magnesium salts" (p. 44); and again that "treatment should be directed to reestablish the normal physiologic equilibrium as regards alkalescence, which would thus prevent nerves from becoming 'electroplated' with magnesium oxid" (p. 44). Enough of a "system" which includes everything from jaundice to insanity, old age to tonsillitis in one scheme! Huxley once wrote that science commits suicide the moment it adopts a creed.

Eighteenth Annual Report of the Craig Colony for Epileptics, Sonyea, Livingston County, N. Y. Paper. 1912.

This report of the oldest and most important of the public institutions for epileptics reveals many shortcomings in the way of buildings and equipment in the institution, but is a highly interesting document in that the pathologist's report furnishes considerable valuable information on which to base further study of the etiology of epilepsy. While the statistics of the colony in regard to recovery do not seem to be encouraging, the pathologist's report largely explains the reason for this. Notable among the findings are that a considerable percentage of epileptics have various congenital deformities or developmental defects, not, however, conforming to any particular classification; that various forms of encephalitis bearing a relation, perhaps, to the infectious diseases are frequently found; that constipation or intestinal stasis with consequent probable intestinal toxemia constantly obtrudes itself on the attention; that nephritic changes are present in a large number of cases, due probably to heightened blood-pressure and congestion during attacks, it being found that albuminuria accompanies these attacks, and in case of death during or immediately following an attack intense congestion of the kidneys is always found; the brain atrophies of various regions as well as internal hydrocephalus are frequently found and also meningeal adhesions and thickenings, but neither these nor the tumors found could be ascertained to bear any constant relation to the epilepsy. The report has numerous illustrations of the colony and of a number of brain specimens.

The Hunterian Lectures on Color-Vision and Color-Blindness. Delivered before the Royal College of Surgeons of England in February, 1911. By Prof. F. W. Edridge-Green, M.D., F.R.C.S. Cloth. Price, $1.50 net. Pp. 76. New York: Paul B. Hoeber, 1912.

For many years Edridge-Green has been the recognized English authority on color-vision; he has probably devised the most accurate and most practical tests for the detection of color-blindness that we have. This little volume is the substance of two lectures before the Royal College of Surgeons last year. The first is an exposition of the author's well-known theories of color-vision and color-blindness, and contains a number of references to his other writings on these subjects. The paragraphs on the "evolution of the color-sense" are interesting and form a good foundation for what follows on the "facts of color-blindness." The second lecture is devoted to the detection of color-blindness, and contains descriptions and illustrations of the author's lantern, his so-called "classification test," his pocket test, and color-perception spectrometer

A Treatise on Diseases of the Hair. By George Thomas Jackson, M.D., Professor of Dermatology in the College of Physicians and Surgeons, Medical Department of Columbia University, and Charles Wood McMurtry, M.D., Instructor in Dermatology in the College of Physicians and Surgeons, Medical Department of Columbia University. Cloth. Price, $3.75 net. Pp. 366.

The first edition of Dr. Jackson's work on the diseases of the hair appeared in 1887, and since that time it has remained the fullest and best book on the subject. In fact, it has been the only complete treatise on the subject. The work before us, while a lineal descendant of Jackson's treatise, is put forth as a new work; and a new work it is. The diseases of the scalp and hair—cosmetic diseases though they are for the most part—have received the most exhaustive and painstaking investigation in the last twenty years. Under the leadership of Unna in Germany and Sabouraud in France, the subject has assumed a new meaning and a vastly increased interest. Sabouraud has made the subject of tinea one of the large topics in microbiology. In no treatise has the great amount of work in the mycotic diseases of the hair and scalp hitherto been collected into a compact available form, and if this new work had no other reason for existence, the part on the trichophyton diseases would make it valuable. In no other place, except Sabouraud's work in French, is there collected the knowledge on this topic. In addition to this, the work is equally complete on the other diseases of the hair and scalp; that as a whole it is satisfactory goes without saying from the previous editions. Dr. Jackson has made this field peculiarly his own, and in it no other dermatologist—at least among the English-speaking—approaches his authority. His book, giving as it does an authoritative and complete statement of the subject, constitutes a valuable service to the profession.

A Clinical Manual of the Malformations and Congenital Diseases of the Fetus. By Prof. Dr. R. Birnbaum, Chief Physician to the University Clinic for Women at Göttingen. Translated and Annotated by G. Blacker, M.D., B.S., F.R.C.P., Obstetric Physician to University College Hospital, London. Cloth. Price, $5. Pp. 379, with 66 illustrations. Philadelphia: P. Blakiston's Son & Co., 1912.

The author has collected information pertaining to malformations and some congenital diseases—anatomic, physiologic, pathologic and clinical—and made a book of it. Those congenital conditions, such as syphilis, which are fully dealt with in books on obstetrics, etc., are not included. Malformations are taken up in detail, as for instance, their causation and classification, the arrest of development of the whole embryonic rudiment, defective development of the spinal canal, brain, face, neck, thorax and its contents, digestive apparatus and other abdominal viscera, genitalia, bony skeleton, skin, etc. The final chapter discusses the legal rights of monsters. The book is well written and the illustrations, although not numerous, are well made. The many references to the literature cannot fail to prove of value. The book certainly fills a long-felt want because heretofore many books had to be consulted to gain even a small amount of the information which has been collected in this book.

Surgical Operations with Local Anesthesia. By Arthur E. Hertzler, M.D., Surgeon to the Halstead Hospital, Halstead, Kan. Cloth. Price, $2 net. Pp. 205, with 104 illustrations. New York: Surgery Publishing Company, 1912.

The articles on this subject which appeared serially in a medical journal have been collected and form the basis of the text of this book. Local anesthesia is treated exhaustively, the author being an enthusiast on the subject. The needs of the general practitioner who must work without the advantages which hospital facilities and trained assistants afford are kept in mind, and the author records his own experiences, thus consistently assuming responsibility for the efficiency of the methods recommended. The general principles of local anesthesia, technic and drugs employed are fully discussed, and its application to various operations in which it may be employed is detailed. Numerous well-made illustrations add much to make this work not only interesting but also useful and valuable

A System of Surgery. Edited by C. C. Choyce, B.Sc., M.D., F.R.C.S., Dean of, and Teacher of Operative Surgery in, the London School of Clinical Medicine (Post-Graduate). Pathologic Editor J. Martin Beattie, M.A., M.D., C.M., Professor of Bacteriology in the University of Liverpool and Bacteriologist to the City of Liverpool. In Three Volumes. Price, $21 net. Vol. I, pp. 957, with 250 illustrations. Vol. II, pp. 1105, with 375 illustrations. Cloth. Price, $7 a volume. New York: Funk & Wagnalls Co., 1912.

This book "is destined for the practitioner of surgery who desires to keep himself abreast of the most modern teaching, and for the senior student who aims at a sound and comprehensive knowledge of present-day surgery." The work is of a character to meet this demand. The absence of fads and the descriptions of intricate methods of treatment make the work of value to the student and the general practitioner. Volume I describes the various features of surgical bacteriology and pathology. The chapters on inflammation, on suppuration and on neoplasms are very good. Volume II describes the surgery of the different regions of the body. Among the chapters deserving commendation are those on carcinoma of the breast, anatomy and surgery of the tongue, the surgery of gastric and duodenal ulcers, and the chapter on hernia. That the modern attainments and advancements of surgery have not been neglected is evidenced by the description of such conditions as Hirschsprung's disease, the consideration of pancreatic surgery, and the treatment of diseases of the esophagus and esophagoscopy. The work is profusely and instructively illustrated. On the whole it is one that may be thoroughly recommended to those for whom it has been written.

New Aspects of Diabetes. Pathology and Treatment. By Prof. Dr. Carl von Noorden, Professor of the First Medical Clinic, Vienna. Lectures Delivered at the New York Post-Graduate Medical School. Cloth. Price, $1.50. Pp. 160. New York: E. B. Treat & Co., 1912.

The lectures do not cover the whole field of diabetes, but emphasize particularly some of the phases on which our knowledge has been especially enriched by modern research. The action of the various causes leading to an increased production of sugar is well illustrated by a diagram. The author regards the nervous influences as acting by stimulation of the adrenals to an increased production of epinephrin, while the thyroid and hypophysis on the other hand are supposed to act by depressing the pancreas. The therapeutic principles are carefully stated and the author lays stress on the importance of abolishing glycosuria in mild cases. The book closes with a special chapter on acetonuria, which constituted another lecture delivered in St. Louis.

Bacteria. By Dr. Max Schottelius. Translated by Staff-Surgeon Herbert Geoghegan, R. N. Second Edition. Cloth. Price, $3.50. Pp. 324, with 43 illustrations. New York: Oxford University Press, 1912.

This is a brief elementary statement in regard to the position of bacteria in the scheme of Nature together with general details as to bacteriologic investigations and their connection with disease. It will serve as a groundwork for the understanding of bacteria in disease. There is a chapter on immunity and one on protozoal organisms. The translator has apparently adhered so closely to the original German text that he has unnecessarily failed to transform it into easily readable English. The book is interesting, however, as a simple statement on the important subject of bacteriology.

A Student's Manual of Surgical Diagnosis. By George Emerson Brewer, M.D., Professor of Clinical Surgery, College of Physicians and Surgeons, Columbia University. Cloth. Price, $1. Pp. 40. New York: D. Appleton & Co., 1912.

This is a brief manual used by the author in teaching surgical diagnosis to undergraduates. Surgical affections are first grouped and charted under the four general heads of injuries, deformities, inflammations and new growths. After the affection has been assigned to one of the general groups further differentiation is aided by means of ten regional charts and two particular charts on ulcers and external hernias, respectively. Final diagnosis is reached mainly by exclusion. As an aid to students in class work the manual possesses considerable merit.

MILITARY HYGIENE AND SANITATION. By Colonel Charles H. Melville, M.B., D.P.H., Royal Army Medical Corps. Cloth. Price, $3.50 net. Pp. 418, with illustrations. New York: Longmans, Green & Co., 1912.

This treatise is an elaboration of the lectures delivered by the author while professor of hygiene at the Royal Army Medical College. He has wisely not attempted to deal with all the problems of hygiene, but has selected those which are more likely to be encountered in time of war. The same applies to the discussion of the prevention of communicable diseases. The introductory chapter is one of the most valuable in the book as it not only is an introduction, but also gives a summary of information indispensable to every sanitary officer. The author then takes up the topics in the logical order, beginning with sanitary organizations, and the recruit, physical training, marching, food, the ration, water-supply, ventilation, disposal of waste matters, clothing, equipment, prevention of infectious diseases, and disinfection, and closes with a short chapter on sanitation of the battle-field. The appendixes give scales of field-service rations, tabulated statements of the comparative value, total food consumed, energy expended, ration scales and variations in weight in practice marches, and a table showing the emergency rations of the armies of the various nations of the world.

SLEEP AND THE SLEEPLESS. Simple Rules for Overcoming Insomnia. By Joseph Collins, M.D., Physician to the Neurological Institute of New York. Cloth. Price, $1 net. Pp. 129. New York: Sturgis & Walton Co., 1912.

In this little book Dr. Collins describes entertainingly for the insomniac some of the theories of sleep and the varieties of insomnia, the physical and mental causes of sleeplessness, and simple, rational methods of overcoming this distressing condition. He says that sleeplessness may become a habit and may be overcome by training just as one may improve the wind or the muscular development by exercise. In the treatment of insomnia, however, he does not confine himself to the acquirement of the sleep habit but writes sensibly on the various bodily conditions which induce sleeplessness, chief of which, perhaps, is indigestion in its various forms. Important in a book for laymen is the wise teaching of the author of the comparative uselessness of drugs for overcoming the conditions inducing insomnia and of the danger of hypnotic drugs in all forms. The simpler physical methods of treatment, including exercise, baths, judicious diet and the cultivation of a tranquil mind, are the things properly emphasized. The book is charmingly written.

THE CARE OF THE SKIN IN HEALTH. By W. Allan Jamieson, M.D., F.R.C.P.E. Cloth. Price, $1. Pp. 109. New York: Oxford University Press, 1912.

It has been proposed to measure the civilization of a community by the amount of soap which it uses. The present work is iconoclastic in this respect. The author, who is a dermatologist, has given a plain account of the structure of the skin and hair, and good directions for their ordinary care. He discountenances the use of soap and recommends daily friction and massage of the skin by means of a roller belt or massage glove. The condemnation of soap will seem heretical to many, but the author asserts that the alkali set free robs the skin of its natural oil greatly to its detriment. Good directions are given for the care of the hair and nails.

EINFÜHRUNG IN DIE MODERNE KINDERHEILKUNDE. Ein Lehrbuch für Studierende und Aerzte. Von Dr. B. Salge, Professor der Kinderheilkunde in Freiburg i. B. Third Edition. Cloth. Price, 9 marks. Pp. 392, with 15 illustrations. Berlin: Julius Springer, 1912.

This is not intended to be "an exhaustive text-book, or a compend, or least of all a compilation," but "an introduction for practitioners and students to the methods and point of view (Art der Auffassung) of modern pediatrics." That it has well fulfilled this purpose and has found for itself a useful niche among so many good books on diseases of children is evidenced by the fact that three editions have appeared in less than as many years. The author has the happy faculty of being concise, without showing evident effort to be brief.

Medicolegal

Requirements as to Having and Recording Licenses—Violation of Statute by Chiropractics

(State vs. Zechman (Ia.), 138 N. W. R. 387)

The Supreme Court of Iowa affirms the conviction of two defendants, separately indicted. The court says that it was complained that the indictments charged a failure to file a license with the county recorder of Polk County, without any allegation that the defendant was a resident of that county, and that the trial judge instructed the jury in each case that the practice of medicine in Polk County by the defendant without recording a license in that county would constitute a crime, although there was no allegation or proof that the defendant was a resident of that county. The construction of the statute relied on for the defendants was unquestionably correct, for it is provided in Section 2577 of the code that the certificate of license granted by the state board of examiners shall be filed for record "in the office of the recorder of the county in which he (the person licensed to practice) resides," and that "the same record must be made of the certificate in any county to which the holder may remove and in which he proposes to practice." Plainly, under these statutory provisions, a practitioner who has procured the proper certificate or license, and has had it recorded in the county of his residence, is entitled to practice in any county in the state, unless he is an itinerant physician as described in Section 2581 of the code; and he is required to have it recorded in another county only in the event of a change of residence.

But the court thinks that any prejudice to the defendants from the error in the instructions to the jury in the matter here referred to was clearly negatived by the record. The indictments sufficiently charged the defendants with practicing in Polk County without having a certificate from the proper authorities so to practice. If the defendants did not have such certificates, then their practice in Polk County or any other county in the state was unlawful without regard to the filing of a certificate in Polk County or any other county; for, if the defendants did not have certificates, no such certificates could be filed anywhere. The charge of practicing without having procured certificates was fully made out in the indictment, and the additional charge of failure to file with the recorder of Polk County was in that respect surplusage.

It appeared, too, from the record that the defendants had no certificates whatever from the board of medical examiners of the state. They were, therefore, not entitled to practice medicine in any county of the state, and the county of residence was necessarily immaterial. The jurors could not have possibly predicated their verdicts on the failure of the defendants to record certificates in the proper county. They could not, therefore, complain that, with reference to the recording of certificates which confessedly they never had, the jurors were improperly instructed.

There was also complaint that the jurors were improperly instructed as to what constitutes a practice of medicine without a certificate as provided by the statute, particularly when they were told that the defendants might be convicted on a finding that without certificates they "did publicly profess to cure or heal" or did devote themselves to and employ "means of curing and healing and of alleviating pain," as also that the defendants might be found guilty if it appeared that they "performed any services in a professional capacity in attempting to cure or heal or alleviate pain in those who applied" to them for treatment. The complaint in this respect was that persons, not physicians, might "devote themselves to curing, healing and alleviating pain" without any violation of the statute. And it was suggested that a nurse or a mother of an infant is not guilty of the illegal practice of medicine without a license, although devoted "to curing, healing and alleviating pain." Now it must be confessed that in using the language complained of the judge did not accurately state the provisions of the statute, for the court does not find in the statute any specific reference to the act of devoting one's self to and employing means of "curing and healing and of alleviating pain." It may well be suggested, however, that neither a professional nurse nor the mother of an infant devotes himself or herself to the employment of means of curing and healing and of alleviating pain.

But, however this may be, the record in this case showed, without any possible ground of controversy, that the defendants professed to be chiropractics, maintaining an office in Polk County, holding themselves out to treat and treating patients for disease, with the purpose of curing and healing, holding diplomas from a chiropractic school; and that they did so without having procured certificates from the state board of medical examiners. In view of these undisputed facts, it is plain that even in devoting themselves to and employing means of curing and healing and of alleviating pain without licenses they violated the statute. While, therefore, the language used by the judge, as above indicated, was in some respects inapt, it could not possibly have misled the jury into the error of finding guilt without proof beyond a reasonable doubt that the defendants either professed to be physicians, or made a practice of prescribing and furnishing medicine for the sick, or publicly pretended to cure or heal.

The contention in argument that one who advertises and holds himself out as a chiropractic is not within the provision of the statute unless he actually undertakes in specific cases to cure and heal is not well founded. The statute applies equally to those who profess to be physicians and assume the duties of such profession and publicly profess to cure or heal, and to those who make a practice of prescribing for the sick. That the defendants did make a practice of prescribing their method of treatment for sick persons appeared from their own testimony; but, whether they did so or not, if they held themselves out as publicly professing to cure or heal, they were required to have certificates.

When Masseurs Liable for Practice of Medicine—Receiving Payment Indirectly—"Physician" and "Doctor" Synonymous

(Milling vs. State (Tex.), 150 S. W. R. 434)

The Court of Criminal Appeals of Texas affirms a conviction of the defendant Milling of unlawfully practicing medicine, for which the penalty was fixed at a fine of $50 and twenty minutes in jail. The court says that it was not necessary for the indictment to allege that the treatment he practiced was not within the particular sphere of his labors as masseur, and to negative that he did not publicly represent himself as a masseur. The issue in this case was sharply drawn. The state alleged and proved that the defendant practiced on human beings and treated them for disease and disorder as a doctor or physician and charged indirectly therefor without procuring and having registered a license therefor. The defendant claimed that he did not so practice, but that he practiced simply and solely as a masseur, so advertising himself.

It was entirely proper to instruct the jury that masseurs in their particular sphere of labor who publicly represent themselves as such are exempt from the law requiring a certificate of their authority to be recorded before practicing that art, but that if, notwithstanding he so represents himself as a masseur, he undertakes to cure diseases for pay, and represents himself as able to cure diseases in that manner, he could not do so legally without the proper certificate registered in the clerk's office, etc. In other words, he could not hold himself out as a masseur, claiming to treat diseases without pay, and as a matter of fact treat human beings for disease and disorder as a doctor and indirectly charge them therefor, without a certificate registered, etc.

The jury were also correctly instructed that if they found from the evidence that the party alleged to have been treated by the defendant paid him $2 for board and lodging, and did not pay him that sum for treatment of disease of the body, to find him not guilty; but, if they should find beyond a reasonable doubt that the $2 was in reality paid, and received by the defendant as payment, for a treatment of disease, and that the understanding between them was, if there was any understanding, that the $2 paid for board and lodging was a mere subterfuge to evade the law, and they further found that every other allegation in the indictment was fully sustained by the proof, then they should find the defendant guilty. And the proof clearly showed, or authorized the jury to find and believe, that, notwithstanding he advertised himself as a masseur and to treat diseases free of charge, as a matter of fact, the defendant charged for treating diseases as a doctor under the guise and sham of charging a hotel bill, and that, instead of treating simply and solely as a masseur without pay, he treated diseases continuously and received pay therefor.

There was nothing in the contention that the verdict of the jury was unsupported by the evidence in that the allegation was that the defendant treated a physical disease and disorder in the capacity of a physician or doctor, or both, being in the disjunctive and not in the conjunctive. "Physician" and "doctor" are synonymous, and are so understood and used, and the allegation in the indictment where these two words were used could not be considered as disjunctive allegations. Nor could a distinction be made between manipulations with the hands "over" and "upon" a person's body.

Society Proceedings

COMING MEETINGS

American Medical Association, Minneapolis, June 17-20

Alabama State Medical Association, Mobile, April 15-18.
Amer. Assn. of Genito-Urinary Surgeons, Washington, May 6-7.
Am. Assn. of Pathologists and Bacteriologists, Washington, May 6-8.
American Climatological Association, Washington, May 6-7.
American Dermatological Association, Washington, May 6-8.
American Gastro-Enterological Association, Washington, May 5-6.
American Gynecological Society, Washington, May 6-8.
American Laryngological Association, Washington, May 5-7.
American Laryn., Rhin. and Otol. Society, Washington, May 8-10.
American Neurological Association, Washington, May 5-7.
American Ophthalmological Society, Washington, May 6-7.
American Orthopedic Association, Washington, May 6-8.
American Otological Society, Washington, May 6-7.
American Pediatric Society, Washington, May 5-7.
American Society of Tropical Medicine, Washington, May 6-8.
American Surgical Association, Washington, May 6-8.
American Therapeutic Society, Washington, May 5-6.
American Urological Association, Boston, April 15-17.
Association of American Physicians, Washington, May 6-7.
California State Medical Society, Oakland, April 15-17.
Congress Am. Phys. and Surg. of N. America, Washington, May 6-7.
Georgia State Medical Association, Savannah, April 16-18.
Iowa State Medical Society, Des Moines, May 7-9.
Kansas Medical Society, Topeka, May 7-8.
Louisiana State Medical Society, Baton Rouge, April 22-24.
Maryland Medical and Chirurgical Faculty, Baltimore, April 22-24.
Mississippi State Medical Association, Vicksburg, April 8-10.
Nat. Assn. for Study and Prev. of Tuberculosis, Washington, May 8-9.
New York State Medical Society, Rochester, April 29-May 1.
North Dakota State Medical Association, Minot, May 7-8.
South Carolina State Medical Association, Rock Hill, April 15-17.
Tennessee State Medical Association, Nashville, April 8-10.
Texas State Medical Association, San Antonio, May 6-8.

COLLEGE OF PHYSICIANS OF PHILADELPHIA

Meeting held Feb. 5, 1913

The President, Dr. James C. Wilson, in the Chair

Thymus Death in the New-Born; Report of Case

Dr. Edward P. Davis: The patient was pregnant, near term and had had irregular bleeding for several days. She was delivered promptly by cesarean section, and her convalescence was uninterrupted. The child did well for twenty-four hours but died in spasm with dyspnea. During the life of the infant its neck and thoracic region presented nothing abnormal. Recent studies in relationships existing between the placenta and the thyroid gland suggest that the large thymus in the new-born must share in various disturbed conditions of maternal and fetal metabolism. In my case it is possible that the mother's hemorrhage had altered the condition of the fetal blood and in consequence produced alteration in the size and condition of the thymus. That the gland was enlarged before delivery is shown from the fact that the fetus was observed to make inspiratory movements of an unusual character before the membranes were opened. Evidently the disturbance of eventrating the uterus and compressing the lower segment to control hemorrhage was sufficient to influence the fetus. It is difficult in the present state of our knowledge to suggest measures for preventing thymus death. Attention to the mother's hygiene during pregnancy is certainly demanded. Delivery by cesarean section exposes the child to the least possible mechanical disturbance, and in this case no prolonged or vigorous efforts were made to establish respiration. A further study of the thymus from the point of view of toxins and serums may throw light on this obscure condition.

Dr. J. P. Crozer Griffith: The term "thymus death" is rather an unfortunate one because it does not always have the same meaning. Death undoubtedly may be due to pressure of the thymus gland on the trachea. The majority of so-called thymus deaths have been *sudden* deaths. I believe that such deaths are cardiac deaths. There is no anatomic proof of the occurrence of sudden congestion. The most generally accepted theory for these cases of sudden death is that the condition is a neurosis, toxic perhaps in origin, and that for some unknown cause, varying with the case, there is a sudden arrest of the heart's action.

Myocardial Hydrothorax

Dr. James M. Anders: The association of cardiac disease and unilateral hydrothorax is not rare. In thirteen out of my sixteen cases of hydrothorax due to myocardial changes, the condition was wholly on the right side throughout. In five of the sixteen cases, clear and convincing evidence of well-pronounced chronic interstitial nephritis was present. In nine cases the cardiac incompetency was caused by chronic myocarditis. Myocardial hydrothorax is especially apt to go unrecognized in cases in which external edema is absent, the severe dyspnea being attributed principally to so-called cardiac or cardiorenal asthma and pulmonary congestion. It is not uncommon to meet cases of myocardial insufficiency that simulate closely valvular disease, particularly mitral incompetency, with which may be associated a mild grade of stenosis. There is not obtainable, however, a clear history of acute articular rheumatism in chronic myocarditis, but commonly of one of the exciting factors of secondary dilatation of the heart, such as physical or mental overstrain, an intercurrent febrile affection and the like.

Treatment has reference to removal of transudate by tapping the chest and correction of the causative condition as far as possible by hygienic and medicinal means. It is futile, as a rule, to attempt to get rid of the transudate by the exhibition of digitalis and other cardiac stimulants without first withdrawal of the fluid by aspiration if it be considerable in amount. The myocardial insufficiency demands resort to remedies that will strengthen the heart muscle. Rest is the most valuable adjunct in the treatment of the cardiac dilatation to which the hydrothorax is due, but must be absolute and long continued. The use of saline laxatives carried to the point of rather active catharsis was of decided service in a few of my cases. In five instances of the series herewith reported a salt-poor diet was employed with favorable effect, reaccumulation of the transudate being thereby noticeably delayed.

DISCUSSION

Dr. Judson Daland: As the symptomatology is readily explained by the condition of the myocardium, the liquid in the pleura is overlooked because no physical examination is made. In my experience certain of these cases have not done well under the influence of digitalis, more especially if we have reason to believe there is degeneration of the myocardium. Strophanthus is more uniformly beneficial, provided the preparation is active. The tincture as ordinarily obtained is inert. In hypertension with myocardial inflammation or degeneration I have been unable to demonstrate that the hypertension has been permanently reduced by such doses of nitroglycerin as could be given with safety. Particularly important is it for us to bear always in mind the possibility emphasized by Dr. Anders that a latent unilateral hydrothorax may develop at any time during the course of myocardial inflammation or degeneration, and require early and prompt removal by the aspirator.

Dr. James Tyson: Whatever may be the more remote cause of non-inflammatory accumulations of fluid in the chest cavities, I believe they are practically due to cardiac weakness or obstruction to the onward movement of the blood or to both combined. The frequency of the invasion of the right chest as compared with the left might have been further illustrated by reference to the observations of the late Dr. J. Dutton Steele, who found that out of 100 cases 83 were double and 17 single, and that of the 83 double cases three-fourths were right-sided, and of the 17 single cases 10 were right-sided. I have learned that it is not well to wait before tapping for the effusion to become large if one is certain that it is present on one side or on the other.

Dr. Thomas McCrae: One possibility of error in the recognition of these cases lies in the fact that when the amount of fluid is not very large, the dulness is regarded as being due to increase in the size of the liver. The fluid may persist in these cases for long periods, and sometimes increases and decreases without any special change in the cardiac condition. This is particularly seen in patients who refuse tapping. In some cases the removal of a very small amount of fluid is followed by rapid absorption of the remainder.

Dr. J. M. Anders: My object in presenting this paper was to refer to the cases of hydrothorax in which there was no external dropsy at the onset and no valvular disease, and therefore little ground for suspecting the presence of fluid in the pleural sacs. I want to emphasize the fact that we should systematically examine the thorax in chronic myocarditis, independently of either valvular disease or chronic nephritis. I believe that right-sided hydrothorax of cardiac origin is more often due to myocardial disease than has been supposed by clinicians. I would lay special stress on the extreme latency of right-sided hydrothorax due to foregoing chronic myocarditis, and agree with Dr. McCrae and Dr. Tyson that we should do tapping early in the presence of a weak or dilated heart.

NEW YORK NEUROLOGICAL SOCIETY

Meeting held Feb. 4, 1913

The President, Dr. Smith Ely Jelliffe, in the Chair

Tumor of the Base of the Brain Immediately Behind the Hypophysis

Dr. H. Climenko: The patient, a girl aged 9, came under observation Nov. 10, 1912. Family history was unimportant. The patient was delivered instrumentally and breast-fed. Teething occurred in the seventh month; patient began to speak and walk when about a year old. She attended school until her present illness, and was of average intelligence. She had whooping-cough at 4, and measles a year later.

For the past twelve months the child had suffered from unusual thirst and occasional vomiting, although these symptoms were not of sufficient severity to interfere with her regular school work. Urine was negative. About six weeks ago she developed an alveolar abscess of the right lower molar; the abscess was incised, and a few days later the tooth was extracted. On the following day, ptosis of the right eyelid was noticed, and two days later a similar condition developed on the left side. She began to suffer from intense headaches and profuse vomiting.

Examination showed a pale, emaciated child of normal size and good development. Her station and gait were negative. All the tendon-reflexes were increased; no Babinski; no clonus. The abdominal reflexes could not be elicited. No sensory disturbances. Smell was unaffected. There was complete bitemporal hemianopsia, with pallor of the optic disks. There was complete ophthalmoplegia of the left eye, and the right eyeball was drawn outward. Both pupils were widely dilated and failed to react to light and accommodation; the other cranial nerves revealed no abnormalities. The heart, lungs and abdominal viscera were negative.

The blood and spinal fluid were negative as to the Wassermann test. The roentgenogram showed a marked depression of the middle fossa of the skull, presenting a trough-like appearance, while the posterior clinoid process was pushed forward, narrowing the upper part of the sella turcica. With these findings, the diagnosis of a tumor of the base of the brain was established. The headaches and vomiting have disappeared completely for the past few weeks, but the child is extremely emaciated and totally blind. No other symptoms have developed.

Air in the Cerebral Ventricles Following a Fracture of the Skull

Dr. W. H. Luckett: The patient, a machinist, aged 47, admitted to the hospital Nov. 24, 1912, shortly after he had been struck by a trolley-car and thrown to the pavement, was conscious and rational on admittance. The pupils reacted equally to light. There was a right subconjunctival hemorrhage and a lacerated wound over the right eyebrow, connecting with a circular fracture of the frontal bone just above the orbital ridge. The tongue was covered with a bloody fluid, probably cerebrospinal fluid. A diagnosis of fracture of the skull was made and confirmed by two roentgenograms. The patient was prepared for immediate operation, but his symptoms cleared up so rapidly that it was decided to wait. On the fourth day he was sitting up in bed; on the seventh he was out of bed, and five days later he left the hospital contrary to advice and under protest.

One week later he was readmitted with the history that two days previously he had had a severe headache, with occasional vomiting. Up to that time he had been reading the papers daily, although he was dull and listless and would not converse with any one, and took no notice of his surroundings. For the past few days he had not replied when spoken to, although he understood what was said to him.

Two days after his readmission to the hospital the patient was examined. At this time he was conscious; he answered questions and obeyed commands intelligently; cerebration was slow and he was inclined from time to time to lapse into a condition of mental confusion; there was no aphasia at this time; no disturbance of speech; no astereognosis; tremor of tongue and hands. The pupils were normal and reacted equally. Facial innervation and motility of the tongue were normal. No tenderness on percussion over skull. No rigidity of neck. Upper extremities normal; the lower extremities showed no paresis or rigidity, but were resistive to examination. Both knee-jerks were increased, especially the right. Diagnosis, increased intracranial pressure; probably abscess.

A blood-count, made December 15, showed 15,900 leukocytes, with 86 per cent. of polymorphonuclears and 8 per cent. of lymphocytes. An ophthalmoscopic examination on the same day showed that the external ocular muscles of both eyes were normal, with a slight subconjunctival hemorrhage in the right temporal quadrant. In the right fundus the veins were enlarged and tortuous, with the central vein markedly dilated over the disk and also at the exit from the nerve. The arteries were slightly contracted. The disk borders were indistinct, owing to marked edema. In the left fundus the veins were also markedly dilated, the arteries were contracted, the disk borders were indistinct and there was a suspicion of retinal hemorrhage. Diagnosis, bilateral optic neuritis indicative of intracranial pressure.

A second series of roentgenograms showed that the ventricles of the brain were enormously dilated with what was probably either air or gas, and the patient apparently growing worse, a right-sided subtemporal decompression was done, December 16. On exposure, the dura did not bulge and was not particularly tense. No fluid escaped on incision of the dura and pia; a slight meningitis was noted. A needle was then passed into the anterior horn of the lateral ventricle, and the removal of the trocar was followed by two or three quick spurts of air and fluid, and then 8 c.c. of clear cerebrospinal fluid.

Because of the presence of a slight meningitis, the large quantity of fluid and the presence of air in the ventricles, it was determined to drain them. Accordingly a suboccipital operation was performed. The bone was exceedingly thin. The dura was incised, and then the pia into the cisterna magna, and immediately there escaped considerable clear fluid, admixed with bubbles of air. A small piece of twisted rubber tissue was inserted as a drain. The patient did well until the fourth day after the operation, when his temperature suddenly rose to 107 and he died.

At the necropsy air was shown to be present in the ventricles when they were incised with the brain submerged in a vessel of water. There was a lacerated wound of the base of the right frontal lobe just beneath the right anterior horn and just over the fracture in the orbital plate that communicated with the frontal sinus. It was subsequently learned that air was probably forced up through the fracture in the frontal sinus into the ventricles during an attack of sneezing.

Some Anomalous Tremors

Dr. Smith Ely Jelliffe: I wish to report two cases. The first patient was a woman, aged 29, with a tremor of the left hand which was continuous during the day, disappearing during sleep. The tremor had come on gradually about seven months previously. Its rate was from 5 to 6 to the second, and had little intention quality. There was also a slight inequality in the pupils, but no modification of the reflexes. Wassermann and other examinations were negative throughout. The eyegrounds were normal.

The second patient, a woman, aged 34, had a tremor which began fourteen years previously in a manner similar to that illustrated in the first case. It began in one hand and gradually became generalized, until now it involved almost the entire body. There was marked stiffness and a tendency to retropulsion at times. There were no palsies or sensory changes, except that the sole of the left foot showed a slight diminution to light touch. All the reflexes were fairly active; there was no distinct Babinski. The eyes showed a slight inequality of the pupils, which was also present in the first case, and a distinct pallor of the temporal side of both disks. The fields were normal; there was no nystagmus. There were no speech defects. The patient was a sensible, intelligent young woman, and careful analysis failed to show any complex constellations. She had gradually lost weight, but there was no appreciable diminution in muscular power.

DISCUSSION

Dr. B. Sachs: I think that the first case was one of paralysis agitans and the second one of multiple sclerosis. The first case was absolutely typical of paralysis agitans. There was no other type of tremor that it could be mistaken for, and the only one that could be at all compared to it was an occasional functional tremor. I recall one case of the kind in which the husband had paralysis agitans and the wife developed a similar functional tremor. In the case shown by Dr. Jelliffe the woman had the facies of paralysis agitans, and no symptoms which would lead one to think of any other diagnosis. Her age, 29, would not necessarily militate against the diagnosis, as paralysis agitans may have its onset in early life. I once saw a case of paralysis agitans in a young man coming on at about the age of 18 or 20. In that case the patient eventually developed all the symptoms of a disseminated sclerosis, although at their onset they were quite characteristic of paralysis agitans.

As to the second case, there is no doubt that it was an example of multiple sclerosis. The woman had a tremor which became worse on exertion, and she had just a slight tremor—an unconscious tremor we might call it—of the head and neck muscles, which we do not see in paralysis agitans. This is significant of multiple sclerosis. She had also had a pallor of the optic disks and some monotony of speech.

Dr. J. Ramsay Hunt: In the first case, on passive motion, there could be elicited a slight interrupted rigidity of the muscles. This is a phenomenon to which Dr. Moyer has applied the name of the "cog-wheel" symptom of paralysis agitans, and in early cases it is of distinct value. As to the second case, a positive diagnosis cannot be made. That offered by Dr. Sachs would be a probable working one; at the same time I am inclined to regard it as a case of progressive degeneration, perhaps in the pyramidal tracts.

Dr. William Leszynsky: The unusual factor in the first case is the age of the patient. The character of the tremor is not at all unusual. I can recall perhaps half a dozen cases in which it was unilateral, being confined to one hand for many months. When the patient's attention is directed to the opposite hand, the tremor on the affected side increases, which is quite characteristic in paralysis agitans. As to the second case, I do not think much stress can be laid on the pallor of the disks, as ophthalmologists frequently differ in their view of its significance—whether it is pathologic or physiologic. In this case there is apparently no disturbance of the field of vision. I would favor the diagnosis of paralysis agitans.

Dr. Edward D. Fisher: I have seen a case similar to the first one in which there was evidently a lesion in the crural tract, but the tremor was constant and increased on motion. As to the second case, I would be inclined to look on it as a paralysis agitans rather than a multiple sclerosis.

Dr. B. Onuf: In the second case there might be a diffuse brain sclerosis instead of a multiple sclerosis.

Dr. M. Neustaedter: About two years ago I reported the case of a man aged 28, who after a shipwreck developed a tremor of one hand, the nature of which was at first uncertain. It was finally shown to be a case of paralysis agitans, as proved by the tremograph.

Dr. L. Pierce Clark: The two cases impressed me much as they do Dr. Sachs, and for the same reason. I was surprised to hear from the discussion that paralysis agitans should be looked on as such an entity. It is rather premature to insist on an anatomic basis for that disease. In the first case, the tests showed that there was a distinct alteration of the vibrations to the intention type of tremor. I believe that this was a case of paralysis agitans, while the second was one of disseminated sclerosis. I saw a case of paralysis agitans in a man 29 years old, although these patients look older on account of the mask-like expression of the face.

Dr. S. E. Jelliffe: I feel justified in inferring that the two cases are of a similar type—that the first case represents the beginning stage of what might ultimately develop into the condition of the second case. I believe that in both cases the process is one of multiple sclerosis, but one which was localized at first and primarily in the midbrain structures. Here we have midbrain or paralysis agitans types of multiple sclerosis, the multiple sclerotic area involving those pathways which in the more recent works on this subject are referred to as being involved in paralysis agitans. As to the character of the tremor, at least three definite types of tremor originating in the midbrain structure, depending on the point of interruption of the mechanism, are to be distinguished. These are the athetoid, the paralysis-agitans-like, and the intentional tremor. From the more recent studies of this subject we are able to say in just what portion of the arc the mechanism was interrupted. In both of my cases the tremor was like that of paralysis agitans. The presence of vasomotor signs indicated possibly the implication of the thalamus, while the eye signs pointed to lesions located near the red nucleus.

Social Service and Public Health.—Social service in its study of character under adversity meets certain problems, certain forces that are breaking down character. The work of social service in remedying these evils has to deal with public health. One phase of the subject of public health which will do much to prevent feeble-mindedness, degeneracy, etc., is requiring a physical examination before marriage. A huckster, before he can get a license to pursue his trade in Chicago, must be asked a variety of questions and have his rating looked into, but all a man has to do to get a marriage license is to hand through a wicket the money and the names of the parties. No one should be allowed to get such a license who hasn't a certificate from a physician "declaring that he or she has no incurable or communicable disease." The teaching of sex-hygiene will help along this line. Every possible means should be employed to bring about accurate and wholesome knowledge of this subject.—Dean Walter T. Sumner, *Child Welfare Bull.*

Current Medical Literature

AMERICAN

Titles marked with an asterisk (*) are abstracted below.

American Journal of Medical Sciences, Philadelphia

March, CXLV, No. 3, pp. 313-468

1 *Symptomatic Differentiation Between Disorders of Two Lobes of Hypophysis Cerebri. H. Cushing, Boston.
2 *Gastric Disturbances in Tabes Dorsalis. W. F. Cheney, San Francisco.
3 Lymphocytosis of Infection. R. C. Cabot, Boston.
4 *Gastric Ulcer Without Food Retention; Clinical Analysis of 140 Operatively Demonstrated Cases. F. Smithies, Rochester, Minn.
5 Economic Aspects of Uncinariasis in Porto Rico. B. K. Ashford, U. S. Army.
6 *Urticaria Treated with Epinephrin. A. W. Swann, New York.
7 *Dissemination and Prevention of Yellow Fever. J. H. White, New Orleans.
8 Sanatorium of Future. H. J. Hall, Marblehead, Mass.
9 Diagnosis of Functional Activity of Pancreas by Means of Ferment Analyses of Duodenal Contents and Stools. B. B. Crohn, New York.
10 Study of Empyema, with Special Reference to Feasibility and Importance of Dependent Drainage. T. T. Thomas, Philadelphia.

1. **Disorders of Two Lobes of Pituitary Body.**—The view is advanced by Cushing that skeletal overgrowth, possibly combined with certain cutaneous changes and hypertrichosis, is an indication of anterior lobe hyperplasia. On the other hand, certain types of adiposity with an increased assimilation limit for carbohydrates, often with dry skin, subnormal temperature and pulse, are characteristic of the metabolic disturbances from posterior lobe insufficiencies. Hypotrichosis and sexual dystrophy are common accompaniments.

Assuming the combination of these factors, certain not unfamiliar clinical syndromes, in which overgrowth is associated with adiposegenital dystrophy, can be explained. They differ from the accepted syndrome of Fröhlich not only in the absence of an hypophyseal tumor with sellar enlargement, but also in their opposed skeletal features. These physical states, in brief, are interpreted as the expression of an anterior lobe hyperplasia combined either with posterior lobe hypoplasia or with what is in effect the same thing, stasis of posterior lobe secretion.

2. **Gastric Disturbances in Tabes Dorsalis.**—It is maintained by Cheney that the recognition that certain gastric disturbances are really due to tabes is never difficult if one is alert to the possibility. There is no fixed unchangeable rule about the nature of these disturbances, or about their duration, or their frequency of recurrence, to make their diagnosis easy. They are not accompanied by the evidences of organic disease in the stomach that one expects to find; they recur in spite of treatment of all kinds directed to the stomach, even in spite of laparotomy; they usually appear abruptly, without reason, and cease suddenly regardless of treatment, leaving the patient perfectly free from gastric disturbance in the intervals. On the other hand, no manifestations of "locomotor ataxia" may be present for years during which the stomach upsets continue, and the patient may make none of the complaints that one expects to hear when spinal disease exists. The proof of the connection between the gastric disturbance and the spinal lesion, therefore, must often depend on the discovery of signs of tabes of which the patient is unaware, such as faulty reflexes and cutaneous sensibility and changes in the spinal fluid obtained by lumbar puncture; while the demonstration that active syphilis exists, by the Wassermann reaction in the blood and spinal fluid or even in the latter alone, adds the last link to the chain.

4. **Gastric Ulcer Without Food Retention.**—A clinical analysis of 140 cases of operatively demonstrated surgical gastric ulcer without food retention was made by Smithies. He found that in more than one-third of operatively demonstrated gastric ulcers the stomach's emptying power is maintained. Ninety-two per cent. of this group of ulcers occurs between the ages of 30 and 60. Males are affected three times as frequently as females. The American-born farmer furnishes a large number of gastric ulcers. Irregularity of food ingestion with the use of alcoholic stimulants is not an uncommon con-

comitant of gastric ulcer. A rather striking frequency of history of previous infectious disease is shown; 18.9 per cent. of the patients had had typhoid. A mild grade of secondary anemia is present in the average gastric ulcer. Weight loss averaging more than twenty pounds without marked cachexia was shown in this series. The loss may be so rapid as frequently to suggest malignant disease. Some patients consistently gain weight. Appetite is lost or is capricious in nearly three-fourths of the cases. More than 65 per cent. are constipated. Nearly three-fourths of the patients have "spells" or "attacks" of discomfort, with good health between. Such a history may extend over thirty years without alarming clinical manifestations. The attacks are usually called "biliousness" or "dyspepsia." They often show a peculiar seasonal relation. In 36 per cent. of instances the disability is continuous, with or without nutritional disturbances. Abdominal pain or distress is a constant symptom in gastric ulcer. It is "colicky" in nature in more than 22 per cent. of cases, requiring hypodermic medication in 12.7 per cent. It is frequently mistaken for appendix, or gall-bladder disease, and is often associated with such in addition to gastric ulcer. Night pain, with interference with sleep, is present in 19.2 per cent. of cases. Eighty per cent. of patients complain of epigastric distress, frequently referred to the right rib margin or the back. In 87.7 per cent. of proved ulcers, pain or distress has definite relation to food ingestion. Eighty-three per cent. of cases show pain or distress coming on within four hours following eating. Nearly two-thirds of pyloric ulcer cases have discomfort from two to four hours after eating, more than one-half of lesser curvature ulcers from one to three hours after eating, more than two-thirds of posterior wall ulcers within three hours after eating, and more than two-thirds of ulcers near the cardia less than two hours after eating, while more than 44 per cent. of this class less than one hour after eating. Discomfort is most frequently controlled by ingestion of food, alkalies and by vomiting; 12.2 per cent. required morphin.

On palpation, epigastric tenderness is exhibited in 95 per cent. of cases. In more than three-fourths of the series, tenderness was most marked in the right upper abdominal quadrant; 2.8 per cent. of cases showed palpable ridges. More than four-fifths of the ulcers were located at the pyloric half of the stomach. and this was in general the anatomic area of greatest complaint or distress on examination. The diagnosis of the character of ulcer to be found on exploration is only possible where a careful anamnesis is made.

Vomiting is present in nearly three-fourths of gastric ulcers without food retention. About 17 per cent. vomit food. Only rarely is delayed vomiting observed. Vomiting is induced in more than 10 per cent. of cases to relieve pain. Nearly 40 per cent. of patients vomit regularly. "Waterbrash" is a prominent feature in 19 per cent.; pyrosis and eructation in 87.8 per cent. In nearly one-third of the cases, vomiting comes at the time of maximum abdominal distress. In 28 per cent. the ingestion of food precipitates vomiting; more than 53 per cent. vomit within three hours after eating. In 7 per cent. night vomiting is a feature. Ulcers at the pyloric half of the stomach are most commonly associated with vomiting even when there is no interference with the emptying power of the stomach. Of 140 proved ulcers in this group. bleeding (hematemesis or melena) was noted in but 40.7 per cent. About one-fourth of the cases had hematemesis alone, one-third hematemesis with or without melena, while 7.1 per cent. had melena alone. Severe hemorrhage or frequently repeated moderate hemorrhages are usually associated with faint feelings or actual fainting (40 per cent.). Hematemesis is more frequent than melena, but melena alone may occur entirely independent of the location of the ulcer. While bleeding is associated with any type of ulcer, nearly two-thirds of those doing so show operative evidences of perforation. Test-meal findings. Acidity: Irrespective of location of the ulcers the average total acidity was 55; the average free HCl, 42.5; the "combined" HCl in 82 per cent. of cases between 10 and 20. Total acidity is most commonly higher in ulcers involving the lesser curvature and anterior wall than where other parts of the stomach are affected. High free HCl is noticeably more frequent where the ulcer is at the pylorus. While high free HCl is usual in cases in the third decade of life, this is not the rule. Following food ingestion the great majority of cases show pain within four hours. This series shows that during this period free HCl is progressively increasing. Patients complaining of continuous distress do not necessarily have high acidity. Vomiting is not usually associated with high free HCl. More than half of the non-vomiting cases had higher acidity than was the average of those vomiting. The average free HCl of patients bleeding was 35 +. More than half of the cases giving no history of hemorrhage had average free HCl of 46. The highest free HCl averages are associated with subacute perforating ulcer. Operative Findings: More than two-fifths of the ulcers were at the pylorus. Of fifty ulcers microscopically examined in this series 24 per cent. showed active inflammatory change, 12 per cent. early carcinoma. In 35 per cent. of cases, diseased appendix was associated with gastric ulcer. In 15 per cent. cholecystitis and cholelithiasis were demonstrated as concomitant processes. In nearly two-thirds of this group of gastric ulcers, diseased appendix and gall-bladder were revealed operatively. In view of these figures it is evident that all laparotomies should be thoroughly exploratory even when a well-marked gastric ulcer has been demonstrated. Operative procedure should be adapted to the individual finding on exploration. A routine technic is frequently accountable for poor post-operative progress. Prompt relief of symptoms with a comfortable after-course is the rule following operative treatment of retention-free ulcer cases. This series shows an operative mortality of 1.4 per cent. Rather more than 4 per cent. required a second operation. This usually occurred in uncommon cases.

6. **Urticaria Treated with Epinephrin.**—In six cases of urticaria which Swann has treated by the subcutaneous administration of epinephin the injections were followed by a rapid disappearance of the erythema and wheals. In each case a dose corresponding to about eight minims (1-1,000 solution) for an adult of one hundred and forty pounds was given hypodermically, and the dose was repeated in ten minutes. Two doses sufficed in every instance to cause the complete fading of the rash. An improvement was usually evident eight minutes after the initial dose, and was most marked between ten and twenty minutes, during which time, especially in the severe cases, the rapidity with which the eruption subsided was very striking. After twenty minutes there usually remained some erythematous blotches, or small, pale wheals, which continued to fade until the skin looked entirely normal. All itching ceased in from five to twenty minutes after the first dose.

7. **Dissemination and Prevention of Yellow Fever.**—That the mosquito is the only disseminator of yellow fever, and the female stegomyia the only genus and species proved to be the carrier is emphatically stated by White. Further, he says that yellow fever is only infective during the first three days of the attack, and the mosquito biting a patient after that time receives no infection. The stegomyia itself cannot convey the infection to another human until after the lapse of at least ten days subsequent to the ingestion of yellow fever blood. One attack of yellow fever generally gives immunity—not always. Feeble susceptibility in the negro is sometimes confused with immunity. Mild cases are the rule with that race, and this causes many cases to be overlooked. Destruction of all breeding-places for all varieties of mosquitoes, and especially stegomyiae, anophelines and culicidae, is necessary in dealing with endemic foci. Rapid anti-epidemic work may be confined to destruction of infected stegomyiae alone; but this is short-sighted.

American Journal of Public Health, New York

February, III, No. 2, pp. 101-196

11 Value of Human Life. C. V. Chapin, Providence, R. I.
12 Mosquito Catching in Dwellings in Prophylaxis of Malaria. A. J. Orenstein, Washington, D. C.
13 Public Health Service Not a Medical Monopoly. M. Knowles, Pittsburgh.
14 Plea for More General Recognition of Qualifications of Sanitary Engineer for Administrative Public Health Work. C. H. Wells, Montclair, N. J.
15 Revitalizing Devitalized Children. W. W. Roach, Philadelphia.
16 Efficiency. M. T. Stevens, Seattle, Wash.

17 *Medium for Isolation of Colon Group. F. L. Rector, Brooklyn.
18 Plan for Reorganization of Public Health Service in State of New York. C. F. Bolduan, New York.
19 Comparison Between Sand Filtration Method and Bubbling Method for Enumerating Bacteria in Air. J. Weinzirl, Seattle, Wash., and J. B. Thomas, Baltimore.
20 *Effect of Freezing on Typhoid Vaccine. A. P. Hitchens and G. Hansen, Glenolden, Pa.
21 *Effect of Mixed Typhoid Vaccine with Regard to Formation of Agglutinins. A. P. Hitchens and G. Hansen, Glenolden, Pa.

17. **Isolation of Colon Group.**—As is well known, not all red colonies on litmus lactose agar prove to be of the colon type, and a medium giving a larger number of positive tests is desirable. A medium of the following composition was devised by Rector and tested for adaptability to this line of work:

Dried ox bile	10 per cent.
Peptone (Witte)	1 per cent.
Agar (shredded)	1.5 per cent.
Lactose	1 per cent.
Neutral red (1 per cent. sol.)	1 per cent.
Distilled water	q.s.

The dried bile and peptone are added to the distilled water, boiled and filtered through paper. The agar is then added and heated for one hour in the Arnold steamer. While the agar is dissolving prepare a filter of cheese cloth and absorbent cotton as proposed by Major Russell of the U. S. Army, and place this in the sterilizer with the bile solution. When the agar is dissolved it is filtered through the cotton, and the lactose, which had been dissolved previously in a small quantity of hot distilled water, is added, also the neutral red solution. After thorough mixing the material is tubed, placing from 6 to 10 c.c. in each tube, depending on the size of Petri dish used, and autoclaved for ten minutes at 12 pounds pressure. When in tubes, this medium looks quite red, but when placed in Petri plates in a thin layer, it is yellowish brown in color, and more or less opaque. On this medium colon-like colonies produce a distinct purplish red zone, which is characteristic. There is a clear area immediately surrounding the colony, which shades off into the denser medium. Owing to the inhibitory action of the bile, many bacteria which grow on litmus lactose agar will not grow on this medium. Plates of bile agar and litmus lactose agar were made from a suspension of horse feces using sterile distilled water as the diluting medium. At the end of twenty-four hours' incubation, sixty-five colonies, all showing characteristic appearance, were found on the bile agar plates, while 200 colonies, only forty of which were red, were counted on litmus lactose agar plates. Sub-cultures of various colonies from the bile agar plates showed them to be of the colon group. A series of seventeen cultures isolated at various times from water and one colon culture were inoculated into plates of bile agar and litmus lactose agar. Only eight of the eighteen grew on bile agar, and only two of these gave typical colonies on the plates. One of these was the colon which has been isolated from feces and the other was a member of the group isolated from a municipal water supply. Nine cultures, only two of which were of the colon group, gave a red growth on litmus lactose agar plates.

20. **Effect of Freezing on Typhoid Vaccine.**—If freezing effects vaccine at all, the authors claim that the weakening is slight. Under the ordinary conditions of the market a vaccine would be frozen only once or twice and thus the deterioration in strength would be negligible.

21. **Formation of Agglutinins.**—Vaccination with a mixture containing the ordinary number of typhoid bacilli and half the quantity of the paratyphoids confers as much immunity to each individual germ as though the single vaccine were used.

Archives of Diagnosis, New York

January, VI, No. 1, pp. 1-100

22 *Surgeon's Diagnosis in Neurasthenic Conditions. R. T. Morris, New York
23 Therapeutic-Differential Diagnosis of Constitutional Dysmenorrhea. S. W Baudler, New York.
24 *Atony of Cecum (Typhlatonia). H. Stern, New York
25 Differential Diagnosis of Diseases of Genito-Urinary Tract. L. Heitzmann New York
26 Symptomatology, Diagnosis and Treatment of Aneurysm of Thoracic Aorta. C. G. Cumston, Boston.
27 Diagnostic Features of Phrenocardia (Sexual Psychogenic Cardiac Neurosis). J. Gutman, Brooklyn.
28 Family and Personal History Registers. J. M. Taylor, Philadelphia.
29 Prognosis of Operative Mastoiditis. H. Hays, New York.
30 Atypical Case of Acute Miliary Tuberculosis, Pulmonary Form. S. B. Ward, Albany, N Y.
31 Recent Advancement in Roentgen Ray Diagnosis of Diseases of Genito-Urinary Tract. W. H. Stewart, New York.

22. **Neurasthenic Conditions.**—The surgical point of view in relation to cases of neurasthenia according to Morris begins from the standpoint of the bacteriologist's report, no matter whether it relates to a well constructed individual suffering directly from the influence of colonic toxins, or whether he is dealing with progeny of such individuals, who are still more susceptible than were the parents to microbic influences. Other toxins, the end-products of various proteolytic changes, no doubt are influential in causing injury to the protoplasm of cells. Various products of waste improperly metabolized also act as toxins. In making a diagnosis of neurasthenia, however, or of the relative values of various phases of the condition, Morris says, we must begin from the bacteriologist's report of colonic findings. The surgeon can help in many of these cases by relieving the patient from features which exert a precipitating influence in the development of various symptoms belonging to neurasthenia. He can fix the loose kidney by a ten-minute operation. He can suspend the sagging colon and can separate adhesions which interfere with gastric or intestinal motility. He can break a part of the vicious circle, but his work does not end the possibility of our still continuing to make the diagnosis of neurasthenia in these cases.

The internist can help in most of these cases, by controlling the output of toxins from the colonic bacteria. The ophthalmologist and various other specialists can help by relieving the patient from the influence of peripheral irritations which precipitate the appearance of symptoms.

24. **Atony of Cecum.**—This condition, Stern says, prevails frequently in young individuals, but it is also common in both sexes between the twenty-fifth and forty-fifth year of life. Obstinate constipation continuing even during the attack-free intervals is the paramount characteristic of the affection. Paroxysms of severe griping pain lasting, as a rule, for some hours, supervene at irregular periods. In a certain proportion of the cases definite paroxysms of pain never occur; the patient may experience a certain amount of discomfort, at some times more, at others less. There may be fulness at the site of the cecum and a dragging on the ascending colon, which may even be felt in the region of the hepatic flexure. The atonic cecum may readily be mistaken for a case of latent cholelithiasis. At other times the discomfort may be due to traction of the cecum on its mesentery or on lateral adhesions. Pains, especially those in the flank, may be due to constriction of veil-like structures partly or entirely enveloping the cecum.

During an acute attack of colic there may be noted loss of appetite, often nausea and vomiting, and sometimes marked symptoms of collapse. Temperature elevation does not take place in the average case. The pulse frequency is unchanged and the leukocyte count is normal. Palpation evinces a localized resistance or even a circumscribed tumefaction in the cecal region. The resistant area or tumefaction is never firm, but rather soft and elastic, and feels to the touch like a moderately inflated toy balloon. In the absence of adhesions the palpating hands can passively displace the resistant area. A cecal balloon is not always readily distinguishable from an incomplete direct inguinal hernia. Examination by the rectum does not reveal the cecal ballooning. Percussion confirms the palpatial findings by determining a circumscribed area of tympany which corresponds more or less closely to the area of resistance offered by the distended and atonic cecum.

Ileocecal gurgling is said to be probably the most characteristic symptom of the dilated atonic cecum; in a number of the cases cecal splashing sounds may be elicited. The palpatorial findings and acoustic phenomena are not constant during the pain-free intervals. Still, superficial resistance and cecal tympany of some degree may be educed in most, and gurgling sounds in many cases of the quiescent stage of typhlatonia.

Constipation may irregularly alternate with diarrhea during the attacks as well as in the intervening periods. Myxorrhea may occasionally supervene. Indicanuria is of frequent occurrence in typhlatonia, albuminuria is not rare during an attack, and moderate hematuria has ensued in some of Stern's cases in which there was also prolapse of the right kidney. Acetonuria was found by him in two non-diabetic patients with atony of the cecum, which latter was constricted by veil-like membranes in both instances. Of special value in the recognition of typhlatonia, particularly when associated with typhlectasia, is the radiographic examination and the employment of Stern's procedure, viz., displacement toward the midabdomen of the cecum, i. e., cecal tympany and gurgling, when the patient occupies the left lateral posture. In case, however, the cecum is laterally fixed by adhesions, or when it is retained by embryonic membranes, it cannot, of course, perform any excursion toward the midabdomen. In the fixed cecum, on the other hand, gurgling sounds may be evoked after the patient has been placed a few times from one side to the other.

Archives of Ophthalmology, New York

March, XLII, No. 2, pp. 117-226

32 Clinical and Experimental Researches on Intraocular Drainage. M. J. Schoenberg, New York.
33 Unusual Duration of Mental Symptoms in Case of Atropin Poisoning. C. W. Burr, Philadelphia.
34 Case of Conical Cornea Successfully Treated by Actual Cautery. W. C. Posey, Philadelphia.
35 Effect of Chronic Glaucoma on Central Retinal Vessels. F. H. Verhoeff, Boston.
36 Optic Disk in Purulent Otitic Disease and Its Complications. E. Gruening, New York.
37 Rods as Color-Perceptive Organs. V. O. Siven, Helsingfors, Finland.
38 Etiology of Parinaud's Conjunctivitis. Krusius and Clausen, Berlin.
39 Case of Eversion of Pigment Layer of Iris. R. Hack, Würzburg.

Arkansas Medical Society Journal, Little Rock

February, IX, No. 9, pp. 205-228

40 Our Professions and the Sick Man. W. A. Snodgrass, Little Rock.
41 *Involution of Uterus, or Care of the Puerperium. E. N. Davis, Little Rock.
42 *Sterilization of Skin in Emergency Work with Special Reference to Benzin-Iodin and Iodin Methods. C. H. Holt, Fort Smith.
43 Occurrence of Chills at Irregular Intervals, that Are Usually Pronounced of Malarial Origin. T. M. Fly, Little Rock.

41. Abstracted in The Journal, June 29, 1912, p. 2048.

42. **Sterilization of Skin in Emergency Work.**—To test the efficiency of the iodinbenzin method, Holt had several laboratory experiments made in comparison to bichlorid treatment. The tests consisted in cleaning the skin as done in routine work, with the application finally of a 1-2,000 bichlorid solution. Subsequent scraping of the skin and planting on Petri dish cultures showed in 75 per cent. of cases that after seventy-two hours' incubation a few colonies of bacteria would appear, showing conclusively that all germs had not been killed and prevented from reproducing themselves. The same course carried out with the iodin-benzin treatment showed in all cases negative results, showing its efficiency in killing all bacteria with which it came in contact.

Boston Medical and Surgical Journal

March 13, CLXVIII, No. 11, pp. 373-408

44 Ureteral Obstruction. B. Tenney, Boston.
45 Conservative Treatment of Toxemia of Pregnancy with Convulsions. C. M. Green, Boston.
46 Prevention of Foot Strain. R. B. Osgood, Boston.
47 Typhoid Vaccination. J. H. Young, Newton, Mass.
48 *New Method of Dealing with Peripheral Branches of Fifth Cranial Nerve in Tic Douloureux. B. B. Cates, Knoxville, Tenn.
49 Collection of Facts, Ideas and Theories Relating to Diverse Elements that Contribute to Success in Treatment of Joint Diseases. H. W. Marshall, Boston.
50 Ball-Valve Apparatus for Administration of Salvarsan. L. L. Albert, Boston.

48. **New Method of Dealing with Peripheral Branches of Fifth Cranial Nerve in Tic Douloureux.**—In respect to the supra-orbital nerve, after pulling it out, Gates carries the proximal end of the distal branch by tunneling a variable distance under the muscles of the forehead, then splits the occipitofrontalis, and anchors it with catgut to the under surface of the skin of the forehead. The proximal end of the distal extremity of the infra-orbital nerve is pulled down and attached with fine catgut to the tissues of the cheek under the skin. This, he says, prevents the continuity of the nerve being reestablished.

California State Journal of Medicine, San Francisco

March, XI, No. 3, pp. 97-134

51 Successful Removal of Intradural Tumor from Spinal Canal. L. Newmark and H. M. Sherman, San Francisco.
52 Variations of Clinical Picture of Meningeal Affection in Pulmonary Tuberculosis in Adults. J. L. Pomeroy, Monrovia.
53 Two Cases of Appendicitis with Certain Postoperative Complications. J. L. Lohse, Oakland.
54 Chinese Medicine in America. C. K. Roys, Wei-hsien, China.
55 Sarcoma of Uterus. E. Rixford, San Francisco.
56 Uncinariasis and Its Importation Into California. J. W. Colbert, Albuquerque, N. Mex.
57 Suppurative Appendicitis. R. T. Legge, McCloud.

Illinois Medical Journal, Springfield

March, XXIII, No. 3, pp. 249-352

58 Efficient and Easily Removable Nasal Packing. E. F. Ingals, Chicago.
59 Rheumatism in Children. J. G. Campbell, Chicago.
60 Infant Mortality and Eugenics. M. Solomon, Chicago.
61 Ductless Glands and Diabetes. A. C. Croftan, Chicago.
62 Diagnosis and Treatment of Diseases of Prostate and Verumontanum. J. R. Caulk, St. Louis, Mo.
63 Contract Practice in England Under Insurance Act. C. M. Wood, Decatur.
64 Some Sexual Disorders in Male: "Impotency and Involuntary Seminal Emissions." A. E. Mowry, Chicago.
65 Differential Diagnosis of Gall-Bladder Disease. A. B. Kanavel, Chicago.
66 Pott's Fracture. E. M. Brown, Chicago.
67 Meningitis in Infancy. R. H. Smith, Seaton.
68 Attempted Suicide by Hara-Kiri Method with Recovery. E. L. Cornell, Chicago.

Journal of Biological Chemistry, Baltimore

March, XIV, No. 2, pp. 53-157

69 *Studies in Cottonseed-Meal Intoxication. I. Pyrophosphoric Acid. W. A. Withers and B. J. Ray, Raleigh, N. C.
70 Influence of Function on Lime Requirements of Animals. H. Steenbock and E. B. Hart, Madison, Wis.
71 Effect of High Magnesium Intake on Calcium Retention by Swine. E. B. Hart and H. Steenbock, Madison, Wis.
72 Extremes of Variation of Concentration of Ionized Hydrogen in Human Urine. L. J. Henderson and W. W. Palmer, Boston.
73 *Estimation of Creatinin and Creatin in Diabetic Urines. I. Greenwald, New York.
74 Colorimetric Determination of Uric Acid in Urine. O. Folin and W. Denis, Boston.
75 *Nature of Iodin-Containing Complex in Thyreoglobulin. F. C. Koch, Chicago.
76 *Experiments Bearing on Functions of Liver in Metabolism of Fats. H. S. Raper, Toronto.
77 Influence of Phlorhizin on Dogs with Eck's Fistula. J. E. Sweet and A. I. Ringer, Philadelphia.
78 Influence of Phlorhizin on Splenectomized Dog. J. H. Austin and A. I. Ringer, Philadelphia.
79 Method for Determining Surface Tension of Liquids for Biological Purposes. C. C. Erdmann, Waverly, Mass.
80 Action of Leukocytes on Some Hexoses and Pentoses. P. A. Levene and G. M. Meyer, New York.
81 Enzyme Concerned with Formation of Hydroxy Acids from Ketonic Aldehyds. H. D. Dakin and H. W. Dudley, New York.

69. **Toxicity of Cottonseed-Meal.**—Experiments made by Withers and Ray show that pepsin-pancreatin extract of cottonseed-meal is toxic generally to rabbits, when fed in amounts corresponding to from fifteen to twenty times the amount of meal normally fed, and that the pyrophosphoric acid corresponding to this extract is toxic if fed similarly. The pepsin-pancreatin residue is more toxic than the aqueous or pepsin-pancreatin extracts of the meal—in fact it is the only one of the three fractions which is toxic under the conditions of the feeding. A fraction of cottonseed-meal containing a non-toxic amount of pyrophosphoric acid may be toxic. The results indicate that pyrophosphoric acid is not the cause of toxicity of cottonseed-meal.

73. **Estimation of Creatinin and Creatin.**—In urines containing acetoacetic acid or acetone, Greenwald says creatinin may be estimated accurately by the Folin method only after removal of these substances. Dextrose, in concentrations up to 5 per cent., is without appreciable effect on the estimation of creatin by the Folin method.

75. **Iodin Complex of Thyreoglobulin.**—Koch found that the full activity of thyroid tissue is contained in the thyreoglobulin fraction when this activity is measured by the Hunt method. The full activity per iodin unit is still present in the metaprotein fraction from this globulin, although the iodin content in the metaprotein fraction has been increased over threefold that of the globulin itself. The other products of the hydrolysis studied, primary albumose, iodothyrin and secondary albumose, show a gradual decrease in activity per unit of iodin in the order given. The amino-acid fractions precipitated and not precipitated by phosphotungstic acid from the partially hydrolyzed thyreoglobulin still contain very small amounts of iodin and per unit of iodin are either extremely low in activity or entirely inactive. Tetra-iodohistidin and anhydrid and iodotryptophan do not possess thyroid activity as determined by the Hunt method.

76. **Hepatic Functions in Fat Metabolism.**—Cocoanut oil administered to cats or dogs by the mouth was detected by Raper in the liver in five or six hours. The amount present after times varying from five to twelve hours does not exceed 6 per cent. of that absorbed. If cats be anesthetized (urethan and ether), and a solution of cocoanut oil soaps containing glycerin and bile salts be run into the small intestine, then about 30 per cent. of the absorbed fatty acid is found in the liver. When cocoanut oil is given to cats or dogs intravenously in the form of a very fine emulsion, containing about 4 per cent. of the oil, then from 25 to 60 per cent. of the oil which enters the systemic circulation is found in the liver. Raper believes that it is probable that the greater retention of the oil by the liver, when it is administered in the form of soap or a fine emulsion, is partly due to the anesthetic and partly to the rapidity of administration. When cocoanut oil is being absorbed, the fat in the chyle contains fatty acids with an average higher molecular weight than those in the oil administered. It is probable, therefore, that the lower fatty acids in the oil are partly absorbed as sodium salts. The volatile acids obtained from the liver in the above sets of experiments absorbed more iodin than the volatile acids from normal livers. The increase was not great but it probably indicates that saturated fatty acids containing 10, 12 or 14 carbon atoms may become unsaturated in the liver.

Journal-Lancet, Minneapolis

March 1, XXXIII, No. 5, pp. 127-158

82 *Treatment of Hernia in Children. A. J. Ochsner, Chicago.
83 Observations on German Surgery. C. H. Mayo, Rochester, Minn.
84 Plaster-of-Paris Casts. E. S. Geist, Minneapolis.
85 Medical Education. C. P. Lommen, Vermilion, S. D.
86 New Public Health. H. W. Hill, Minneapolis.

82. Abstracted in The Journal, Sept. 7, 1912, p. 823.

Kentucky Medical Journal, Bowling Green

March 1, XI, No. 5, pp. 177-232

87 Address in Medicine. J. A. Witherspoon, Nashville, Tenn.
88 *How United States Public Health Service Can Help in Eradication of Preventable Diseases in Kentucky. J. Goldberger, Washington, D. C.
89 *Public Health Problem—Constructive Efforts Towards Its Solution. W. L. Heizer, Bowling Green.
90 What Federation of Women's Clubs Will Do to Conserve Health and Lives of Women and Children of Kentucky. L. Riker, Harrodsburg.
91 What Will Be Attempted by State Department of Education to Lower Sick and Death Rate of Kentucky. B. Hamlett, Kentucky.
92 Some Practical Public Health Work That Will Be Attempted by Kentucky Press Association. E. Shinnick, Louisville.
93 Plans of Cooperative Health Work That Will Be Presented for Action by Kentucky Educational Association. R. L. McFarland, Louisville.
94 Possibilities of Concerted Public Health Work by Young Men's Christian Association. P. C. Dix, Louisville.
95 What Is Opportunity of Minister to Assist in Public Health Work, and How to Secure His Active Assistance. E. L. Powell, Louisville.
96 Idem. W. W. Landrum, Louisville.
97 Antituberculosis Campaign. U. V. Williams, Frankfort.
98 Cases of Cerebrospinal Meningitis with Deductions. E. B. Bradley, Lexington.
99 Certain Surgical Conditions of Upper Right Quadrant of Abdomen. W. Barrow, Lexington.
100 Gunshot Wounds of Intestines. C. Graham, Henderson.
101 Intestinal Obstruction. W. D. Haggard, Nashville, Tenn.
102 Care of Breast During Pregnancy and Lactation. S. L. Beard, Shelbyville.
103 Etiology and Pathogenesis of Puerperal Eclampsia. G. J. Herman, Newport.
104 Sense and Nonsense of Domestic Medicine. J. J. Youtsey, Newport.

88 and 89. Abstracted in The Journal, Nov. 30, 1912, p. 1999.

Medical Record, New York

March 15, LXXXIII, No. 11, pp. 461-506

105 *Malignant Disease of Tongue and Mouth. R. Abbe, New York.
106 Occupation Neuroses; Nature and Treatment. T. A. Williams, Washington, D. C.
107 Municipal Clinic of San Francisco. J. Rosenstirn, San Francisco, Cal.
108 Tuberculosis in Early Life. E. P. Copeland, Washington, D. C.
109 *Use of Fetal Membranes in Skin Grafting. N. Sabella, New York.

105. **Malignant Disease of Tongue and Mouth.**—During the past ten years Abbe has observed in private practice, 40 cancers of the tongue, 15 leucoplakias, 27 sarcomas of the jaw and epuli, 40 sarcomas of the pharynx and tonsil, and carcinomas of mouth and cheeks, besides many tumors of the lips, palate, and buccal mucosa. As the result of his observations he has reached the conclusion that thorough surgery is still the supreme reliance in eradication of malignant disease of the mouth and early resort to it is the patient's chief hope of cure. Radium, he says, has many interesting conquests in this field, but in advanced cases of cancer its good effect is transient; in giant-cell sarcoma it is a specific cure. He is convinced that the vicious causative effect of tobacco in the mouth is demonstrated, and that leucoplakia has no curative remedy unless it be radium.

109. **Fetal Membranes for Skin Grafting.**—The amnion and umbilical cord, Sabella says, can be utilized to good advantage in skin grafting. Before cutting the grafts, he advises carefully looking over the membranes for any abnormality or diseased portion. Observe whether there are any diseased parts or ulcerations, and question the patient from whom these organs are obtained as to her previous history. If such caution is observed there will be no chance of infecting the patient. After the organs have been found free from disease or abnormality they are placed in a bottle containing normal salt solution. Before placing the organs in the bottle containing the salt solution they should be immersed in warm water to wash away any of the vaginal excretion which they have taken up during passage through the vagina. By keeping them immersed in normal saline solution and changing the solution a few times before the use of the organs they will keep alive for over seventy-two hours.

When the patient is ready for grafting the organs are dipped several times in a new solution of normal saline and then they are cut up into pieces in any shape and size desired.

The cord should be cut open and the blood-vessels scraped out. This is done so that the membrane which is to be used shall be free from any hindrance to its early union. The surface of the cord and amnion which is to be placed on the ulcer should be the continuation of the inner surface of the cord. The jelly of Wharton in the cord is of an alkaline reaction, and because of this fact it is easily absorbed and ultimately the membrane covering the cord is left on the surface of the wound.

The surface of the parts to be grafted must next be inspected. If there are undermined edges the edges should be cut away until healthy skin is reached. Then the surface is carefully cleaned and disinfected. If there are any exuberant granulations they should be leveled off to the skin. Then the surface is thoroughly asepticized. All bleeding must have ceased, whether the wound is recent or granulating. If oozing of blood persists the wound surface must be covered by a protective layer of rubber tissue, of silver foil, guttapercha tissue, oiled silk, or such like material, over which sterile gauze is applied and the skin grafting put off till next day. When on the next day the bleeding has ceased the grafting should take place.

The area to be grafted should be cleaned thoroughly first with peroxid of hydrogen which is washed off with a bichlorid solution of 1:1,000 or 1:10,000. After the use of the above the parts are next washed with decinormal salt solution. After thoroughly cleansing the area the grafts are placed over the wound carefully and smoothly.

When the whole wound is covered with grafts place over them oiled silk fenestrated so as to facilitate drainage. The next dressing should be ordinary sterile gauze and soaked in decinormal salt solution or Carrel's solution.

Over this gauze soaked with decinormal salt solution a damper or rubber tissue should be placed, so that the moisture may not evaporate. Over the damper more sterile gauze is placed and ordinarily dressed. The first dressing of sterile gauze should be daily changed and soaked in normal salt solution. In order that the grafts be not moved during the daily changing of the dressings, Sabella places collodion around the fenestrated oiled silk. No antiseptic lotion should be used, only the saline solution. The same kind of dressings should be applied until the healing process is complete. Very large surfaces can be made to heal in a short time by this process. Sabella has tried this method on several patients and states that he has gained great success with it.

New York Medical Journal

March 15, XCVII, No. 11, pp. 529-580

110 Acidosis. W. S. Gordon, Richmond, Va.
111 Blood and Sputum in Croupous Pneumonia. R. C. Rosenberger and C. V. Dorworth, Philadelphia.
112 Connection of Sexual Apparatus with Ear, Nose and Throat. V. Dabney, Washington, D. C.
113 Disease of Nasal Accessory Cavities. S. Oppenheimer, New York.
114 Uric Acid Calculi. W. H. Porter, New York.
115 Medical Efficiency. I. S. Wile, New York.
116 Extrasystoles. S. Neuhof, New York.
117 Specific Treatment of Pellagra. E. H. Martin, Hot Springs, Ark.
118 Carbonated Baths. I. M. Groedel, Bad-Nauheim, Germany.
119 Tuberculosis. M. W. McDuffie, New York.
120 Whooping-Cough. S. R. Kelin, New York.
121 Appendicitis or Not Appendicitis. H. A. Schatz, Philadelphia.

Southern Medical Journal, Nashville

March, VI, No. 3, pp. 147-217

122 Compelling Health-Study of Attitude. R. S. Carroll, Asheville, N. C.
123 *Symptoms and Clinical Diagnosis of Bubonic Plague. J. B. Guthrie, New Orleans.
124 *Diagnosis of Plague. R. L. Wilson, Charleston, S. C.
125 Prophylaxis of Plague. J. E. Beck, Mobile, Ala.
126 Toxemias from Alcohol. T. D. Crothers, Hartford, Conn.
127 Pediatrics. W. Weston, Columbia, S. C.
128 Sclerema Adiposum with Report of Case. J. R. Snyder, Birmingham, Ala.
129 Malarial Hemoglobinuria: Report of Case. A. Hand, Shubuta, Miss.
130 Review of 131 Cases of Pellagra. B. E. M. Green, Milledgeville, Ga.
131 Acute Pancreatitis with Report of Four Cases. S. H. Watts, Charlottesville, Va.
132 Some Modern Factors of Safety in Surgery. J. S. Horsley, Richmond, Va.
133 Identity of Cause of Aseptic Wound Fever and Post-Operative Hyperthyroidism and Their Prevention. G. W. Crile, Cleveland.
134 *Management of Fractures of Elbow. I. Cohn, New Orleans.
135 Nail Occluding Third Bronchial Ramus; Upper Bronchoscopy. Recovery. J. W. Jervey, Greenville, S. C.
136 Treatment of Chronic Laryngeal Stenosis by Specially Devised Intubation Tubes. H. Dupuy, New Orleans.
137 Cause, Prevention and Cure of Deafmutism. M. M. Stapler, Macon, Ga.
138 Surgical Treatment of Infections of Peritoneum with Special Reference to Immediate Sterilization of Same. J. A. Crisler and E. J. Johnson, Memphis, Tenn.

123 and 124. Abstracted in The Journal, Dec. 14, 1912, p. 2182.

134. **Management of Fractures of Elbow.**—Reduction, says Cohn, the essential factor in the treatment of all fractures, is maintained with the forearm in the hyperflexed position without the aid of artificial devices, such as splints. The triceps is a natural posterior splint; further, the lever action of the flexor muscles of the forearm is overcome by the relaxation which the hyperflexed position permits; there is, therefore, no tendency on their part to increase the deformity into the bend of the elbow. In fractures of the external condyle the position of hyperflexion brings the head of the radius closer to the condyles, and, with the aid of the triceps, prevents the displacement. Practically the same anatomic considerations indicate the use of this method in all fractures involving the condyles or portions of them. Cohn cites eleven cases. Of this number there are eight perfect results. The three cases in which there is limitation of motion were seen several days after the accident, in one case eleven days, and in two of these cases there was a fracture of the olecranon, complicating the fracture of the humerus. Therefore Cohn concludes that in the series of fractures in which the olecranon was not injured, eight out of a possible nine have perfect results, the ninth case not having been seen for eleven days. The management of these cases has been about as follows: Reduction has been accomplished by temporarily hyperextending to overcome any impaction, after which the elbow is acutely flexed, and the flexures are well powdered, the arm and forearm are padded well, and a roller bandage is applied. The bandage should include the hand. If this last-named procedure is not carried out, there will be a great amount of swelling of the hand, which will, in turn, be a source of alarm to the parent. The patient is always seen the following day, and, if necessary, the bandage is changed. At least twice a week the bandage is removed for the purpose of inspection; if no untoward accident has happened, the parts are carefully washed and redressed, as before, until the tenth or twelfth day. At this time there should be sufficient temporary callus thrown out to prevent a recurrence of the deformity unless the manipulations are too severe. After the twelfth day the dressings are changed every three days, and at each dressing the flexion is diminished until, at the end of about four or five weeks, the arm is fully extended. The position is maintained by the use of an anterior splint which has a hinge joint at the elbow (Levis). No great amount of massage or passive motion is allowed. After the fifth week the arm is taken out of all bandages and allowed to hang by the side. The patients are encouraged to practice the ordinary movements of the joint. If there is some limitation of motion on account of callus formation, dry heat and massage are made use of. Usually by the eighth week the patients have been able to use the arms with freedom.

Tennessee State Medical Association Journal, Nashville

March, VI, No. 11, pp. 435-476

139 Diagnosis of Prostatic Hypertrophy. P. Bromberg, Nashville.
140 Pediatrician as Dietetist. M. H. P. Panhorst, Jonesboro.
141 Goiter et Hyperthyroidism. J. B. Haskins, Chattanooga.
142 Artificially Induced Climatic Conditions as Adjunct to Treatment of Tuberculosis in Early Stages. D. M. Pearce, Union City.
143 Serotherapy of Tuberculosis. T. D. Cloyd, Mosheim.
144 Eye Injuries. C. B. Wylie, Chattanooga.
145 Subconjunctival Injection in Eye Diseases. E. B. Cayce, Nashville.
146 Needs of Eye, Ear, Nose and Throat Surgeon in General Hospitals. F. Allport, Chicago.
147 Pathologic Conditions of Gall Tract and Treatment. T. O. Burger, McMinneville.

West Virginia Medical Journal, Wheeling

March, VII, No. 9, pp. 289-324

148 Placenta Praevia. H. M. Campbell, Parkersburg.
149 Significance of High Red Blood-Corpuscle Count. C. W. Sawyer, Marion, O.
150 Puerperal Eclampsia. A. P. Butt, Davis.
151 Observations of a General Practitioner on Entering Institutional Work. C. A. Barlow, Spencer.

Wisconsin Medical Journal, Milwaukee

February, XI, No. 9, pp. 273-306

152 Needs of Eye, Ear, Nose and Throat Surgeon in General Hospitals. F. Allport, Chicago.

153 Symptoms and Diagnosis of Pathologic Conditions of Cecum and Terminal Ileum. N. Andrews, Oshkosh.
154 *Abnormal Pelvic Conditions in Insane Women and Their Relation to Mental State. M. Sauthoff, Mendota.
155 For an Earlier Diagnosis of Tuberculosis. G. L. Bellis, Wales.
156 Retention of Urine. E. A. Fletcher, Milwaukee.

154. **Abnormal Pelvic Conditions in Insane Women.**—Two hundred insane women taken without selection from the admissions to one of the Wisconsin insane hospitals were subjected to a pelvis examination by Sauthoff. One hundred and three were found to have some lesion that was grave enough to cause symptoms, or to have had lesions grave enough to have required operation before admission. Very small cervical lacerations with no erosions and very small tears of the perineal body with no symptoms were not classed as abnormal. In many of the women who have some pelvic abnormality more than one lesion was found and in the entire 103 abnormal cases there were 251 pathologic conditions. In noticing the character of these pathologic states, a non-adherent retroverted uterus was found in 33 per cent. of the abnormal cases, an adherent retroverted uterus occurring in only 5 per cent. Laceration of the perineum was found in 27 per cent.; arrest of development in about 12 per cent.; inflammatory lesions were found in about 54 per cent. but only a few were acute. Cervical tears of any magnitude occurred in about 16 per cent.; polypi were few in number, as were the cases of other tumors, and there was not a single case of malignancy. There were many cases that showed a post-operative condition in which the operation had been of greater or less severity varying from a perineorrhaphy to a panhysterectomy. This list, however, does not include those patients who had had an immediate repair of the perineum following parturition. It was found that 19 per cent. of the abnormal women and 10 per cent. of the entire number examined had had operations for the relief of some pelvic lesion and that in 60 per cent. of these cases the operation was performed after the onset of the mental symptoms and in only one case has it been possible to ascertain positively that the mental trouble came on after the operation. While the pregnant state was not classed as abnormal, 3½ per cent. of the whole number were in various stages of pregnancy at the time of their admission to the hospital and two-thirds of these cases were of the manic depressive group. In the infective exhaustive group 75 per cent. showed lesions. The cases of involution melancholia showed 61 per cent. of abnormal cases. The manic depressive group showed 58 per cent. and the dementia praecox 47 per cent. abnormal. In the paranoic condition and the epileptic psychoses there were only about one-third of the cases that showed lesions. In the alcoholics, the imbeciles and the psychoses with other brain or nervous diseases there were about one-half of the cases abnormal. Forty per cent. of the constitutionally inferior individuals and 43 per cent. of the senile cases showed lesions. The cases of paresis were all of a chronic inflammatory nature and those of the infective exhaustive group were more acute. The manic depressive cases showed a relatively large number of lacerations, misplacements and subacute or chronic inflammatory conditions, while among the cases of dementia praecox there was a large number of cases showing defect of development. Two-thirds of all the cases of arrest of development were found in the dementia praecox group and in those cases listed as imbeciles and inferiors. About fifty-three of the 103 abnormal women received treatment. The treatment consisted of conservative measures such as douches, tampons, pessaries, etc., with the result that none of the patients have seemed to grow worse as far as the mental condition is concerned, while twenty have shown various degrees of improvement, and in thirty-three cases there has not been very much, if any, change in the mental condition. Of these thirty-three cases some are still in the hospital. There was a greater improvement in the manic depressive group but this form of insanity tends toward recovery and it would seem doubtful if the recovery had been the result of the treatment, though it is impossible to state that the attack might not have been shortened by the treatment and the removal of this source of irritation.

FOREIGN

Titles marked with an asterisk (*) are abstracted below. Single case reports and trials of new drugs are usually omitted.

Australasian Medical Gazette, Sydney

January 18, XXXIII, No. 3, pp. 49-72

1 Toxemias of Pregnancy. T. G. Wilson.
2 *Idem. C. T. De Crespigny.

January 25, No. 4, pp. 73-96

3 Removal of Thyroid Under Local Anesthesia. H. C. Hinder.
4 *Two Cases of Rare Skin Diseases. W. McMurray and L. Johnston.
5 Case of Anaphylaxis, Following Injection of Diphtheria Antitoxin. D. G. Hunter.

February 1, No. 5, pp. 97-120

6 *Biochemistry of Symbiotic Growth of Aerogen and Anaerogen Coliform Organisms. B. Bradley.
7 Eclampsia. A. G. Cribb.

February 8, No. 6, pp. 121-142

8 *Interesting Case of Cesarean Section. H. M. O'Hara.
9 Two Cases of Arteriorrhaphy. C. MacLaurin.
10 Frequency of Micturition Cured by Ventrofixation of Uterus. W. T. Chenhall.

2. **Toxemias of Pregnancy.**—In support of the statement that lower eliminative power and lowered resistance predispose to the toxic state, De Crespigny describes two kidneys which were removed from the body of a multipara, who, previous to her pregnancy, had albuminuria, and who died in the fourth month from toxemia. The ureters and pelves were dilated from pressure of the gravid uterus. The substance was tough, the capsule adherent, and the peeled surface slightly granular; the cortex was confused, and the organs much congested; they were of normal weight. Microscopically De Crespigny could see evidence of an interstitial fibrosis on which had been engrafted acute congestion, degeneration of the epithelium of the convoluted tubules and patches of inflammatory reaction. The kidneys to the naked eye were typical examples of the "large pale kidney;" microscopically they showed evidence of subacute tubular and proliferative nephritis. In certain cases, he says, puerperal convulsions seem to be due rather to renal failure than to hepatic involvement.

The following case is cited to illustrate this point: A nulliparous woman, aged 28, had three fits during one afternoon toward the end of the eighth month. She was admitted in a comatose condition within a few hours. Parturition was induced, and the child was born dead the next day. During the next four days she regained consciousness, and had no further convulsions, but she passed only 2 oz. of urine per day, and it was loaded with blood and albumin. On the fifth day after the fits she had three more fits in rapid succession, and died in coma within four or five hours. An autopsy was performed; the liver weighed 40 oz., and presented no macroscopic abnormality. Microscopically one could see slight scattered degeneration towards the periphery of the lobules. The kidneys, however, showed acute glomerulo-tubular nephritis. They weighed 7 ounces each, and were engorged with blood. The capsules were edematous. Microscopically, the tubules were filled with breaking down red corpuscles; the collecting tubules contained blood-casts and leukocyte casts. The epithelium was degenerated in the convoluted tubules, Bowman's capsules were distended by back pressure, and the glomeruli were collapsed. There were patches of leukocyte reaction and numerous capillary hemorrhages. The uterus was in a condition of acute septic puerperal metritis.

4. **Rare Skin Diseases.**—The first case cited by McMurray was that of a male, age 10 years. The father had been affected with a similar condition since birth, but there was no history of the disease in any other member of the family. The disease appeared in the first month of life. The parents noticed that blisters appeared on the feet and arms of the child. Whenever the baby kicked, a blister appeared on the part which came in contact with the bed. The parts affected were those most exposed to pressure, namely, the legs, ankles, feet, elbows, wrists and knuckles. The blebs appeared with great rapidity and varied considerably in size. The pressure on the knuckles from playing marbles was sufficient to cause blebs as large as a walnut. The finger- and toe-nails were atrophic. A few

epidermal cysts were present on the sites of the old lesions on the hands.

The second disease, monilethrix, occurred in a woman, age 30 years, and her two children, age 6 and 3 years, respectively. The affection occurred in the first month of life in all three cases. There was no history of any other member of the family being affected, the disease being confined to the mother and her two children. The disease began in the first month of life following a shedding of the first hair which was normal in appearance. Monilethrix is a very rare affection of the hair. The hair on the scalp of the patient is quite short, irregular, dull, lusterless, broken off and has a scorched appearance. This is especially noticeable on the occipital region, no doubt caused by rubbing on the pillow during sleep, causing the hair to fracture. The temporal regions are less affected. The eyebrows are thin and atrophic. On closer examination the hairs are broken off, and some close to the scalp at their point of exit from the follicles. This is especially noticeable on the occiput, which gives the appearance of the black dot variety of ringworm or comedones. In many places the follicles are surrounded with scaly papules as in keratosis pilaris. Microscopically the hairs show the characteristic spindle-form appearance.

6. **Biochemistry of Symbiotic Growth of Aerogen and Anaerogen Coliform Organisms.**—Bradley found that when *B. typhosus*, which is capable of producing acid on mannitol, is inoculated into mannitol-litmus-peptone water in company with *B. morgan*, No. 1, which by itself does not visibly affect mannitol media, but which produces acid and gas on glucose media, then the result of the combined action is shown by the production of acid and gas. The above symbiotic gas production occurs with similar and suitably arranged pairs of organisms when growing together in either lactose, dulcitol or arabinose. *B. morgan* is capable of producing gas from the sterile products of *B. typhosus* grown in mannitol-litmus peptone water. The conditions favoring gas production under these conditions are apparently intimately connected with, among other things, the time of incubation of the typhoid culture, and consequently with a degree of acidity. Where the acidity is artificially neutralized, there is generally noted much increased readiness of gas production, but instances are available showing that this result is not always attained, possibly the failure being due to overalkalinization.

Under certain conditions, *B. morgan*, No. 1, neutralizes the acidity of the mannitol typhoid cultures. This neutralization or reversal of reaction occurs apparently when the acidity is of slight degree. Although in most cases in which tubes showed gas formation from the unneutralized mannitol cultures, this reversal of reaction occurred; yet, as in one case gas formation was marked without reversal, and in another experiment reversal occurred, and no gas formation, it is doubtful if the autoneutralization has any definite favoring influence on the gas formation. *B. morgan*, in company with numerous other coliform organisms produces gas from 1 per cent. sodium formate peptone water. It differs from the vast majority of the coliforms Bradley has tested in its marked power of gas production from this salt. This is specially to be noted, inasmuch as the strain Bradley has produces more gas from sodium formate than do many colon organisms which produce nearly ten times as much gas from glucose as does *morgan* No. 1. The essential nature of the symbiotic effect was noted in the production of formic acid by *B. typhosus*, and its utilization by *B. morgan* to produce gas. Thus, Bradley concludes from his work, and from others quoted, that in the catalysis of sugars by gas formers, formic acid is formed and subsequently split up into gas; yet it is clear also that this process is not the only method used by all organisms. He believes that there are several processes side by side leading to similar final results.

8. **Case of Cesarean Section.**—A fibroid tumor in the lower segment of the uterus, filling up the pelvic outlet, was the obstruction to labor in the case cited by O'Hara. A cesarean section was made. After the uterus was emptied a supravaginal hysterectomy was done, removing the tumor with the uterus.

Clinical Journal, London

February 19, XLI, No. 20, pp. 305-320

11 *Septic Infection Versus Chronic Intestinal Stasis: Legality of Ileocolostomy for Arthritis. P. Daniel.

February 26, No. 21, pp. 321-336

12 Eczema, and Some Eruptions Often Mistaken for Eczema. H. G. Adamson.
13 Some Forms of Chronic Arthritis in Seamen. D. Duckworth.
14 Occlusion of Common Carotid by Metal Band. R. A. Stoney.

11. **Septic Infection vs. Chronic Intestinal Stasis.**—Daniel has learned from practical experience that chronic intestinal sepsis (i. e., "catarrh") is a very prevalent cause of constipation, and that from time to time such patients suffer from attacks of looseness of the bowel (hence the name "intestinal catarrh"), but that persistent diarrhea only occurs when definite colitis, especially sigmoiditis, supervenes. In short, sepsis first leads to stasis. Daniel is firmly convinced in his belief that the most potent factor in inducing all intestinal lesions commencing in the mucosa, and including constipation, is oral or nasal accessory sinus sepsis. To gastro-intestinal sepsis directly he attributes most osteoarthritis, while the varieties known as rheumatoid arthritis he considers are due to a combination of gastro-intestinal and genito-urinary sepsis.

He agrees with Lane in accepting the widely spread evils which may arise from the disordered gastro-intestinal tract, but does not believe that the primary cause is mechanically evolved bands and kinks which lead to stasis and the stasis in turn to auto-intoxication. Daniel holds that the evil is primarily an infection, and recurring reinfection, of the gastro-intestinal tract, and is in direct proportion to the number and virulence, also to the varieties, of the infecting germs, and that all the ill-effects Lane mentions may arise without any stasis in any part of the tract. Give these patients correct treatment, i. e., cleanse their mouths, nasopharynges, antra, etc., so removing infection, give them oils, suitable laxatives and diet, and the number of cases requiring colectomy will be at once reduced to those unfortunates in whom the damage done to the mucosa has progressed to ulceration.

Daniel also disagrees with Lane as to the origin of the kinks and bands which he blames for the stasis. In common with most pathologists he attributes the formation of the bands, etc., to local peritonitis, the result of bacterial activity in the underlying hollow viscus or in the lymph tract leading from and draining its wall, which necessarily implies that bacterial infection of the mucosa is primary; since absorption of toxins does not take place through the healthy mucosa, the bands and kinks are secondary to this pathologic absorption; stasis may or may not result from the infection, therefore may or may not precede the formation of the bands, etc.

He is also totally at variance with Lane in the line of treatment he adopts in general, especially in its bearing on arthritis. He believes that if the infection is cured, i. e., the origin of the infection in the mouth and elsewhere is cured, the stasis in the vast majority of cases will tend to cure spontaneously, and if appropriately aided the patients entirely recover, i. e., they are damaged, but the stomach and intestine functionate sufficiently well, often as if the patient were normal; should bands or other grave pathologic sequelae have formed, the recovery will be partial and proportionate to the lesions. The bowel acts simply as a test-tube, but one which not only houses the bacteria, but permits the removal of their effete products, their end-toxins, to which fact is due the symptoms of toxemia. Hence, all evidence suggests that the grave constitutional symptoms which Lane attributes to stasis, a mechanical condition, are due to absorption of bacterial end-products, which takes place without stasis, and then produces just such symptoms as Lane credits to mechanical stasis.

It is Daniel's belief that typhlitis is the earliest lesion to arise in the case of intestinal sepsis, because the normal retardation in the passage of food which occurs in the cecum permits of a great concentration of the bacteria swallowed, and it is therefore especially subjected to toxic insults in which the peritoneum covering it participates, and sooner or later the appendix with its mesentery and their peritoneal covering is involved, and from their juxtaposition the two peritoneal layers readily cohere, leading to kinks, etc.

Indian Medical Gazette, Calcutta

February, XLVIII, No. 2, pp. 45-88

15 Differential Blood-Count in Dengue. W. L. Harnett.
16 Problem of Dengue, Three-Day and Seven-Day Fever. W. L. Hossack.
17 Teleologic Working Theory of Asymbiotic Relations of Malarial Plasmodium to Its Alternative Hosts—Man and the Anopheles Mosquito. N. P. O. Laior.
18 Sanitary Organization of Army in India In War. P. Hehir.
19 Effect of Overcrowding in Barracks on Tubercular Affections Among Gurkhas. C. H. Smith.

Journal of Obstetrics and Gynecology of British Empire, London

February, XXIII, No. 2, pp. 65-128

20 Burton ("Dr. Slop"): His Forceps and His Foes. A. Doran.
21 Immunology of Pregnancy. A Review. H. L. Murray.
22 *Teratoma of Thyroid in Fetus. A. W. Russell and A. M. Kennedy.
23 Needles In Abdominal Cavity as Complication of an Hysterectomy. A. Smith.
24 Case of Ovarian Pregnancy with Full-Time Fetus. T. B. Grimsdale.
25 Technic of Amputation of Vaginal Cervix. * V. Bonney.

22. **Teratoma of Thyroid in Fetus.**—Several important points are emphasized by the authors in connection with this case. It was associated with hydramnios, the liquor amnii measuring 14 pints. The presentation was abnormal—a brow—and there was consequent delay and difficulty in labor. This is as might be expected, proper flexion of the descending head being prevented by the tumor under the chin. The fetus was fully developed, mature and a female. Such deformities have occurred more frequently in the male and the birth has usually been premature. No hereditary influence could be discovered. The most important and interesting feature of the present case is its pathologic structure, which proves it to be a true teratoma of the thyroid. The cervical tumor formed a lobulated swelling in front of the neck about the size of a large Jaffa orange. It was situated beneath the deep cervical fascia and, vertically, in the middle line it extended from the symphysis menti to the suprasternal notch. Laterally the mass extended outward on either side of the middle line but more to the right than to the left. The sterno-mastoid muscle on the left side was flattened on the left lateral aspect of the tumor, whereas on the right side the tumor extended further out and overlapped the right sterno-mastoid muscle.

The upper margin of the tumor was bounded by the lower margin of the mandible; the lower margin of the left lobe was bounded by the clavicle, whereas the right lobe overlapped the clavicle and was situated at a lower level. Probably about two-thirds of the bulk of the tumor mass was situated on the right of the middle line of the neck.

The tumor had a distinct fibrous covering and could be more or less easily shelled out from all the structures of the neck, except the larynx, trachea and esophagus. Anteriorly three principal lobes were demarcated. The smallest one was in the middle and occupied the upper third of the mass. It was situated partly in the middle line of the neck but the greater bulk of it was to the right of the middle line. The next largest portion formed a somewhat rounded mass situated to the left of the first portion, a shallow sulcus lying between them. The third and largest portion was equal in bulk to the first two together and formed the right lobe of the tumor. It was separated from the central smallest lobe by a distinct sulcus; it formed a mass to the right of and below the central lobe and was continuous round the under surface of the latter with the left lobe. A few small knob-like lobules were evident on the surfaces of the left and the central lobes. Posteriorly the trachea and esophagus ran down on the surface of the tumor.

The tumor was definitely seen to have its origin in the thyroid and the portion corresponding to the thyroid was cystic, the cysts containing colloid or mucoid material. The tumor surrounded the trachea in front and on either side and was attached to it, and its attachment extended from the root of the tongue downward to a short distance below the thyroid cartilage. Histologic examination of several portions of the thyroid tumor showed that very little thyroid tissue was present. There was an adenomatous tissue which in many places was cystic and contained colloid material, in other places it showed numerous intracystic papillomatous growths, and the whole was supported by a fibrous tissue stroma. The epithelium of this adenomatous tissue was much richer than that of ordinary thyroid tissue. But the greater bulk of the tumor was made up of heterogeneous tissue-elements, and structures representing all three layers of the embryo were present. The tumor was undoubtedly a teratoma.

Stratified squamous epithelium was present covering a substratum of fibrous tissue containing many hair follicles representing embryonal scalp. Gland tubules, the epithelial lining of which had stratified squamous epithelium with the characters of epidermis of the embryo were present. Other gland tubules are present showing low columnar ciliated epithelium and containing mucus. A third group was lined with tall columnar ciliated epithelium and goblet-cells. Sweat glands could also be distinguished. Portions of pigmented columnar epithelium were observed and probably represent embryonic retina. Bone and hyalin cartilage were seen in places, and there was one piece showing bone developing from cartilage. Embryonic nerve tissue was present in abundance. In many places the various structures seem to be embedded in a gliomatous matrix.

Medical Press and Circular, London

February 19, XCV, No. 3850, pp. 189-212

26 *Intestinal Dyspepsia in Children. E. Cautley.
27 Bearing of Sex on Operation in Appendicitis. H. Macnaughton-Jones.
28 Some More Surgical "Don'ts." C. H. Whiteford.
29 Vaccine Treatment in General Practice. L. Grant.

February 26, No. 3851, pp. 213-240

30 Heart Disorders and Gastro-Intestinal Tract. J. F. H. Dally.
31 Appendicitis: Plea for Immediate Operation. E. Owen.
32 Hepatic Asystole in Chronic Hydruric Nephritis. J. Castaigne.

25. **Intestinal Dyspepsia in Children.**—The treatment of this condition, Cautley says, is general, dietetic and local. In severe cases, with marked neurotic symptoms, a few days in bed is a useful preliminary. Mere local treatment is insufficient, for the malnutrition implies general ill health. Prevent physical or mental overstrain, and forbid working for examinations. Change of air and surroundings cure many cases quickly, perhaps through the mental effect, the holiday and the increased metabolism due to an open-air life. Keep the abdomen and extremities warm and dry. Attend to the teeth. Remove enlarged tonsils and adenoids, if present.

Let the diet consist of simple, regular, mixed meals. Reduce milk, if it is given in excess and dilute it. Many of these children are stuffed with milk, on account of the malnutrition, and are made worse thereby. Limit the amount of fermentable foods, sweets, jams and carbohydrates generally. It is rarely necessary or advisable to omit them entirely. Malted and dextrinized foods, and honey, are the most suitable carbohydrates. As the child improves, try porridge or other oat foods and brown bread. At first the diet should be limited to eggs, fish, meat, bacon, butter and dripping, dry toast, rusks and malted foods. Greens, passed through a sieve, and ripe fruit may be added later. New bread, new potatoes, fried fish, hot greasy foods, pickles, tubers and stringy vegetables must be avoided. Cream suits a few children, especially country cream devoid of preservatives, and is best given with stewed fruit. On the whole, Cautley prefers to rely on butter, margarin, bacon fat and beef dripping to supply the necessary hydrocarbons. Many children develop intestinal indigestion because they are stuffed with cream and cod-liver oil, on the supposition that the malnutrition may be of tuberculous origin. For the same reason they are sent to the seaside, whereas country air is much more suitable.

Give no cod-liver oil or hypophosphites. If there is constipation, especially if there is also mucus in the stools, give grey powder, or rhubarb and soda, at night, and a dose of sodium sulphate or a laxative mineral water in the morning, and prescribe a mixture of alkali, nux vomica and a vegetable bitter to be taken three times a day before meals. Mild alcoholic drinks are also useful. Other appropriate remedies are bismuth and carbonate of magnesia for diarrhea; charcoal and salol for tympanites and excess of mucus; decoction of aloes, dr. ½-i before food, for voracious appetite; calomel for white stools; and small doses of Dover's powder or tincture of opium for lientery. Much more reliance should be placed on dietetic measures than on drugs, and attention should be paid to general hygiene, sleep, exercise and amusements.

Archives de Médecine des Enfants, Paris

February, XVI, No. 2, pp. 81-160

33 Alimentary Anaphylaxis to Eggs. (Anaphylaxie alimentaire aux œufs.) E. Lesné and C. Richet.

34 Tuberculosis and Asthma in Children. (Rapport entre la tuberculose et l'asthme dans l'enfance.) A. Rongel.

35 Arterial Pressure in Children. M. Leitao.

36 Diphtheritic Paralysis. (Diphthérie paralysante.) I. David.

37 Infantile Scorbutus; Three Cases. J. Comby.

Journal de Médecine de Bordeaux

February 16, XLIII, No. 7, pp. 99-112

38 *Indications and Results of Medical Treatment of Tuberculosis of the Kidney. J. Castaigne.

February 23, No. 8, pp. 115-128

39 Typography and the Hygiene of the Eyes. E. Ginestous.

38. **Medical Treatment of Tuberculosis of the Kidney.**—Castaigne gives statistics showing that medical treatment is liable to give good results in the early stages of a tuberculous process in the kidneys. After cavities have developed, with a purulent focus opening into the ureter, there is no hope save from nephrectomy. The early stage with more or less abundant granulations gives rise to symptoms such as recurring hematuria appearing and disappearing without apparent cause; simple albuminuria with cystalgia or nocturnal incontinence of urine, or simple albuminuria without any other sign of nephritis. Any of these may be the manifestation of an incipient tuberculous process in the kidney, and he has often found bacilli in the urine from one kidney in such cases while there was no bacillemia. He thinks that a syndrome like this should be treated with medical measures and not by nephrectomy. He is convinced that tuberculosis of the kidney is more frequent than hitherto supposed and that it often heals spontaneously.

Journal d'Urologie, Paris

February, XXX, No. 2, pp. 129-288

40 Leukoplasia of Kidney Pelvis. (Cas de leucoplasie du bassinet.) P. Lecène.

41 Both Kidneys Studded with Cysts. (Etude anatomo-pathologique et classification pathogénique d'un cas de reins polykystiques bilatéraux.) J. Anglada.

42 Tuberculosis of Child Kidney; Seven Cases. (Tuberculose rénale chez l'enfant. Cathétérisme à vision directe.) H. L. Rocher and J. Ferron.

43 Operative Treatment of Retention of Urine in the Kidney. (Les operations plastiques portant sur le bassinet et la partie supérieure de l'urétère dans le traitement des rétentions rénales.) H. Eliot.

44 *The Future in Treatment of Gonorrhea. (L'avenir du traitement de la blenorragie.) J. Janet.

44. **The Future of Gonorrhea Treatment.**—Janet regards gonorrhea and syphilis as, next to tuberculosis, the greatest scourges of humanity in civilized countries. He ranks them even above cancer, as cancer attacks those who have played their part in the world, while the venereal diseases attack the flower of the race and render them sterile or vitiate their reproductive power in their prime. He says that prostitution is unquestionably the nest of venereal disease, and that it is hopeless to expect to eradicate it among prostitutes. According to the statistics of Paris, no prostitute escapes syphilis longer than four years and none escapes gonorrhea longer than four weeks. The only thing that can be done is to provide for individual prophylaxis of their customers and for immediate abortive treatment when infection occurs. He insists on commencing treatment at the first sign of trouble, and has found this system of abortive treatment so effectual that he has had occasion to apply the abortive treatment on three separate occasions on one patient and twice on two others. The future hope of prophylaxis lies in teaching men that all prostitutes, open or clandestine, are infected and dangerous, and that if individual prophylaxis has been omitted or has failed they should apply for abortive treatment without a day's delay

Lyon Médical, Lyons

February 23, XLV, No. 8, pp. 377-432

45 The Granular Substance of Sarcosporidia in Non-Malignant Epithelial Tumors. M. Jaboulay.

46 Case of Postoperative Bulbo-Spinal Myasthenia. (Syndrome de Erb-Goldflam.) Pic and Blanc-Perducet.

Presse Médicale, Paris

February 15, XXI, No. 14, pp. 129-136

47 Phagocytes the Source of Hemolysins. (L'origine des hemolysines.) C. Achard, C. Foix and H. Salin.

48 Bedside Tests for Acetone and Diacetic Acid. S. Bonnamour and A. Imbert.

February 19, No. 15, pp. 137-144

49 The Bile. (Quelques considerations sur le rôle de la bile.) H. Roger.

February 22, No. 16, pp. 145-156

50 *Hexamethylenamin in Typnoid. (Les injections sous-cutanées d'urotropine dans le traitement de la fièvre typhoide.) H. Triboulet and F. Lévy.

51 Case of Multiple Tuberculous Perforation of the Intestines. J. Abadie.

50. **Albuminuria Under Hexamethylenamin in Typhoid.**—Triboulet and Levy gave a subcutaneous injection of 0.2 gm. hexamethylenamin in 1 c.c. of water to a child of 6, morning and evening, gradually increasing the doses up to 4.5 or 6 gm. a day. The dosage for older children and adults was proportional to this. They give the details of three cases in children 7, 12 and 14. All seemed to benefit materially by the medication and the only by-effect noted was a slight brief albuminuria due mainly to the presence of Mörner's mucoid body, a pseudo-albumin. There were only traces of serin and only a little more globulin while the microscope revealed only bladder cells or red corpuscles and there were no tube-casts, leukocytes or kidney cells. These findings excluded a tendency to nephritis as the cause of the albuminuria. They suggest rather that the albuminuria was really a pseudo-albumin of vesical rather than renal origin. Nothing was observed in any instance resembling the reaction in guinea-pigs reported by Frothingham. The tongue grew moist, the patients felt stronger, the diarrhea seemed to be influenced and the urine cleared. The temperature was normal by the end of the third week, but the pulse kept up fast for a few days longer.

Revue de Médecine, Paris

January, XXXIII, No. 1, pp. 1-80

52 *Thyroid Treatment in Epilepsy. (Opothérapie thyroidienne et Epilepsie.) E. Gelma.

53 *Headache in Acute Infections. (Cephalée dans les maladies infectieuses aigues.) H. Roger and J. Baumel.

54 Dental Caries in its Relation to General Pathology. (De l'érosion dentaire envisagée au point de vue de la pathologie générale.) Constaing and Filderman.

52. **Thyroid Treatment in Epilepsy.**—Gelma describes two cases of typical epilepsy treated by him with daily doses of 0.5 gm. of thyroid extract. The epileptic attacks ceased, nutrition and general health improved and there was a marked gain in the mental condition. Thyroid gland changes are frequent but not universal in epilepsy, and thyroid treatment is worthy of trial not only in marked cases of goiter and myxedema but in those manifesting the milder symptoms of hypothyroidism.

53. **Severe Headache in Infectious Diseases Cured by Lumbar Puncture.**—Roger and Baumel tabulate the results in fifteen cases of severe headache in typhoid, Malta fever and other infectious diseases, in which lumbar puncture was applied. From 10 to 30 c.c. of spinal fluid was removed and in severe cases the puncture was repeated several times. Marked relief was obtained and no bad effects were observed. They believe that soluble toxic products of the infecting organism circulate in the spinal fluid, causing congestion and hypertension. This is relieved by puncture and, moreover, a certain amount of toxic fluid being removed, the intoxication of the adjacent nerve centers is decreased.

Revue Médicale de la Suisse Romande, Geneva

February 20, XXXIII, No. 2, pp. 97-176

55 Trunkless Monster. (Cas de défect partiel congénital de la colonne vertébrale et de la moelle épinière avec fente thoraco-abdomino-pelvienne.) P. Stauffer.

56 Indications for Operative Treatment of Cirrhosis of the Liver. Juillard.
57 Serodiagnosis of Syphilis. (Étude du séro-diagnostic de la syphilis par le procédé de Sabrazès-Eckenstein et de ses applications en clinique infantile.) A. Perelmann.

Semaine Médicale, Paris

February 19, XXXIII, No. 8, pp. 85-96

58 *Treatment of Hemolytic Jaundice. (Le traitement des ictères hémolytiques.) J. Parisot and L. Heully.

58. **Hemolytic Jaundice.**—Parisot and Heully have found that calcium chlorid seems to render the red corpuscles more resistant to injurious influences. They gave four patients with hemolytic jaundice daily doses of 4 gm. of calcium chlorid and in each one the red corpuscles became much less fragile. This confirmed similar experiences that have been reported by Iscovesco, Teissier and others in nephritis accompanied by abnormal fragility of the red corpuscles. Parisot and Heully advocate the use of calcium chlorid in poisoning from chloroform, ether and poisonous gases in general, mushrooms, etc., which have a destructive action on the blood. But it seems to be entirely ineffectual in congenital hemolytic jaundice. Certain facts that have been observed suggest that a deficiency in the proportion of cholesterin in the blood has some connection with the abnormal weakness of the red corpuscles. The blood improves under administration of cholesterin. This effect has been amply demonstrated in animal experimentation and was confirmed in the few clinical cases on record in which cholesterin was given to combat hemolytic jaundice. They did not find either iron or arsenic permanently effectual in their experience. Better results were obtained with serotherapy. Rénon and Richet had a patient with serious anemia from destruction of red corpuscles whose blood improved to such an extent under hemopoietic serum that the number of corpuscles actually exceeded the normal figure. Excessive functioning of the spleen seems the main factor in certain forms of hemolytic jaundice, especially the congenital type, and benefit has been known to follow splenectomy. Equally good results can be obtained with radiotherapy. Parisot has had two patients under observation for over two years whose improvement under Roentgen-ray exposures of the spleen amounted to a clinical cure. The reds by the end of seven or eight months (up to eighty exposures) had increased to about 4.000.000 and the spleen had become much reduced in size. The improvement has persisted unmodified for up to fourteen months. The benefit in these cases is another argument in favor of the assumption that the spleen is the organ responsible for congenital hemolytic jaundice, and that treatment should be addressed to the spleen.

Archiv für Verdauungs-Krankheiten, Berlin

February, XIX, No. 1, pp. 1-120

59 *Differential Diagnosis of Gastric and Duodenal Ulcer. A. Sommerfeld.
60 *Schmidt's Meat-Digestion Test. (Untersuchungen über Schmidt's Bindegewebsprobe.) J. P. Gregersen.
61 Palpation of the Appendix. (Zur Frage der Palpation des Wurmfortsatzes.) F. Bjalokur.
62 Postoperative Gastro-Intestinal Paresis. J. T. Pilcher (Brooklyn).
63 *Blotting-Paper Test for Acidity of Gastric Juice. (Ueber die sogen. Kapillaranalyse vom Magensaft nach Dr. I. Holmgren.) K. Mattisson.
64 Therapeutic Action of Ozone Introduced into Gastro-Intestinal Tract. L. Breisacher (Detroit).

59. **Differential Diagnosis of Gastric and Duodenal Ulcer.**—Sommerfeld reviews the points learned from study of forty-four cases of gastric or duodenal ulcer confirmed by an operation or necropsy. There does not seem to be any special symptom peculiar to one or the other. Occult hemorrhage is possible with both but when there is blood in the stool only, a duodenal location is more probable. Hematemesis occurred in 33 per cent. of twenty-one cases of duodenal ulcer and occult hemorrhage from the stomach in 29 per cent., but hemorrhage in the intestines without hematemesis was encountered only in duodenal ulcer (in 14 per cent. of the twenty-one cases). Periodicity of the disturbances and tardiness of the pains following eating point to duodenal ulcer. Tumors or ulcer in the body of the stomach may induce symptoms simulating those of duodenal ulcer. Determination of the exact site of the pain is quite important and the way in which the pains radiate. They extended to the left more with gastric ulcer while the radiation was toward the right shoulder and arm and liver region with ulcers near the pylorus or in the duodenum. There was no pain on pressure in 20 per cent. of the duodenal cases, in 9 per cent. of the pylorus ulcers and in 10 per cent. of the gastric ulcers, but there was diffuse tenderness in the epigastrium in 25, 27 and 40 per cent. respectively; circumscribed tenderness below the xiphoid process in 10, 18 and 20 per cent. respectively, and circumscribed tenderness to the right of the median line in 30, 36 and 10 per cent., respectively There was circumscribed tenderness under the left costal arch with the gastric ulcers alone and only in 20 per cent., while it was observed to the right of the umbilicus, between this and the right costal arch, Mendel's point, in 15 per cent. of the duodenal cases and in 18 per cent. of the pylorus cases. The painful points in the back were found in accordance with the data in the literature. He discusses the explanation of the symptoms observed and reviews his cases in detail, emphasizing the connection between hypersecretion and spasm of the pylorus. There is an unmistakable connection between errors in diet or emotional depression and aggravation of an ulcer.

60. **Schmidt's Test for Gastric Digestion.**—Gregersen summarizes his findings in fourteen cases of achylia after application of Schmidt's technic for estimation of digestion of meat fiber, which he believes occurs only in the stomach. The patient is given 0.3 gm. carmin to stain the stool, and about 100 gm. of chopped meat is eaten at noon each day. The meat is only slightly cooked as the question is whether the raw meat is digested or not. The stools are examined for a period of four days. Undigested meat fibers were found in all but eight of the 116 examinations. On the other hand, in twenty two patients free from achylia, the digestion of the meat fiber was perfect. This Schmidt test diet proved surprisingly reliable, the presence or absence of connective tissue in the stool afterward revealed defective secretion in the stomach too slight to be detected by the Ewald test breakfast. With the Schmidt technic it is possible to detect defective pepsin digestion in the stomach regardless of its cause, whether due to defective secretion of acid or pepsin or to excessive motility. In case the test gives negative findings, the assumption of disturbance in gastric secretion may be dropped. It is a great advantage that a stomach tube is not required; all that is necessary is to have the patient eat from 50 to 100 gm. of chopped meat, raw or nearly raw. Further research with ten patients demonstrated that the administration of hydrochloric acid, in the amounts generally given, does not influence the meat-fiber test He found that even with a meal of only 35 gm. rolls, the stomach secretes hydrochloric acid in far larger amounts than the therapeutic doses. It is consequently easy to understand that a dose of 0.5 gm. HCl would not influence the digestion of the meat fibers when 100 gm. meat had been eaten. When hydrochloric acid is given it should be given in amounts to correspond to the 100 gm. or other amount of meat ingested.

63. **Blotting-Paper Test for Analysis of Gastric Juice.**—Mattisson reports application of Holmgren's capillary test for the acidity of the gastric juice, his conclusions being that the method is unreliable.

Berliner klinische Wochenschrift

January 27, L, No. 4, pp. 145-192

65 Eclampsia and its Treatment. J. Veit.
66 Biology of Tumors in Animals. (Tiergeschwülste.) C. Lewin
67 *Occult Blood in Gastro-Intestinal Tract. (Zur Methodik der okkulten Blutuntersuchung des Magendarmkanals.) I. Boas
68 Resection of Tuberculous Lymph-Nodes at Bifurcation to Relieve Tracheal Stenosis. P M. R. Betke.
69 Transduodenal Drainage of Hepatic Duct. Hörz.
70 Spontaneous Gangrene of Forefinger and Symmetrical Gangrene. H. Harttung.
71 *Electric Treatment of Obesity. F. Nagelschmidt.
72 Chemical Action of Thorium X on Uric Acid and Other Organic Substances. J. Plesch
73 Radiotherapy of Skin Diseases. (Ueber Radium und Mesothoriumbehandlung bei Hautkrankheiten.) E. Saalfeld
74 *Alcohol Injections in Neuralgia. (Zur Behandlung schwerer Gesichtsneuralgien Alkoholinjektion ins Ganglion Gasseri.) W. Alexander and E. Unger.

67. **Occult Blood in the Stools.**—Boas emphasizes that the only way to guard against errors from the presence of extraneous blood in the stools is to have the patient refrain from meat and fish for three or four days at least before the test is applied. He has been studying the various chemical tests in vogue to determine which is the simplest and most reliable. In the Weber guaiac test, instead of ether he uses an alcoholic solution of glacial acetic acid (acid. acetic. glaciale 25; alcohol. absol. 75). The color reaction is much prompter and more pronounced with this. But he thinks the phenolphthalin test is still better. (It was described in The Journal, Feb. 18, 1911, p. 546). In examining the stomach content he neutralizes it first with a few drops of a solution of soda or sodium hydroxid. The occult hemorrhage must be traced from day to day, systematically, to have the findings correctly interpreted. This shows whether the hemorrhage persists or subsides under treatment of the gastric ulcer. The occult blood findings thus permit control of treatment. They have demonstrated that the length of time required for an ulcer to heal varies widely in different persons. This suggests that the present routine method of treatment does not fit the cases of all alike. Not only the fact of the occult hemorrhage but the approximate amount of blood lost is also instructive, as noted in the intensity of the reactions.

71. **Electric Treatment of Obesity.**—Nagelschmidt has been using for eighteen months an electric apparatus which sets isolated parts of the muscular apparatus in rhythmic, regulated action, similar to Bergonié's work in this line since 1909. The muscles are thus exercised without fatiguing the patient. The method is proving useful in treatment of obesity, of contracture, of severe constipation and in atrophy of the muscles, in heart disease and asthma and after operations. The pulse and respiration are not affected, while even a fraction of the same muscular action under other conditions would influence them most decidedly and cause great fatigue, he says. The electric apparatus generates the special current which has been found of relief in headache, etc., and is responsible for the sensational account in the lay press that "sleep can now be turned on and off at will." Nagelschmidt's previous communication on the subject was summarized in The Journal, Nov. 2, 1912, p. 1661.

74. **Treatment of Facial Neuralgia.**—Alexander and Unger describe the technic followed in treating intolerable facial neuralgia by injecting alcohol into the gasserian ganglion. They injected the alcohol at numerous points in the ganglion with a very fine needle. By making the injections behind the first branch of the nerve, this is spared while the ganglion beyond is completely obliterated. The result was a complete cure to date (about five months) in the case related. The patient was a man of 55 with trigeminal neuralgia for eleven years when it was cured for a period of nearly four years by injection of 1 c.c. alcohol into the infra-orbital foramen. The neuralgia was then cured again by repeating the injection and again on another occasion, but it constantly recurred after a few months. The gasserian ganglion was then blocked and the cure seems permanent. The technic is described in detail with illustrations.

Correspondenz-Blatt für Schweizer Aerzte, Basel

January 25, XLIII, No. 4, pp. 97-128

75 *Cure of Tetanus by Magnesium Sulphate. (Weitere Beobachtungen über die Heilung des Tetanus mit Magnesiumsulfat.) T. Kocher. (Magnesiumbehandlung des Tetanus.) G. Arnd.

February 1, No. 5, pp. 129-160

76 *Criminal Abortion. (Der Kampf gegen die kriminelle Fruchtabtreibung.) H. Meyer-Rüegg.

77 Medicolegal Test for Poisonous Alkaloids. (Ueber den Nachweis von Alkaloiden in der gerichtlichen Medizin.) P. Cattani.

February 8, No. 6, pp. 161-192 and Supplement

78 Gall-Stones at Basel. (Eine Basler Gallensteinstatistik.) L. G. Courvoisier.

February 15, No. 7, pp. 193-224

79 Orthopedic Gymnastic Exercises. C. Staeubli. Commenced in No. 6.

75. **Magnesium Sulphate in Tetanus.**—Kocher has applied Meltzer's method of intraspinal injection of magnesium sulphate in seven cases of tetanus, with recovery of all but one young child whose hand had been run over by a loaded wagon and who had developed an extremely serious form of tetanus the eighth day. The head, back and chest muscles were intensely contracted from the first, rendering the intraspinal injections and intubation difficult, but even in this case great relief was evident. The child succumbed finally to paralysis of the heart, and it is possible that this might have been warded off if Meltzer's dosage had been followed. Kocher never dared to inject a solution stronger than 15 per cent., but he gave up to 10 c.c. Meltzer gives only 5 or 6 c.c. of the 25 per cent. solution. Kocher remarks that the assumption of a local action by the magnesium sulphate is sustained by the fact that the position of the patient has such a decided influence on the degree and rapidity of the distribution of the action upward. By removing the pillow the effect of the drug was remarkably enhanced, even when this was not done until several hours after the injection. He noticed further rigidity of the muscles of the chest on one side coming on as the effect of the drug was passing off. Additional proof is found in the rapid action of subsequent washing out of the spinal canal and also in the fact that the drug still lingered in the spinal fluid. But the most convincing proof of the penetration of the drug into the nerve substance was the presence of magnesium sulphate in a segment of the spinal cord from the neck and in another from the lumbar region, 3.44 per cent. of magnesium sulphate being found in the latter and 1.22 per cent. in the former. This demonstrates not only the penetration of the drug into the spinal cord but also the uneven distribution at different heights, the proportion diminishing upward. By raising or lowering the head it is in our power to restrict the action of the drug to the lower part of the spinal cord or to extend it to the medulla oblongata and the brain. When the muscles of the head and chest are affected, he advocates sending the drug to act on the brain from the start.

He says that mishaps need not be feared as we have reliable measures to combat the danger from the inhibiting action of the drug on the respiration center. When the complete relaxation of the voluntary muscles accompanying the anesthesia has prevailed for a certain time, the power of the spasm-producing toxin is broken, and the irritation of the ganglion cells reduced to such an extent that the dangerous spasmodic contractions cease and merely the continuous rigidity persists; this is practically harmless. In one of his cases the profound sleep lasted for nearly twenty-four hours and tided the patient past the danger point. The spasm of the respiration muscles and center can be effectually combated by insufflation of air or oxygen. In one of his cases spontaneous respiration was restored in an hour and in others the intense inhibiting action passed off without permanent injury, confirming Meltzer's experiences. Kocher adds that it might be possible to ward off impending arrest of respiration by a prophylactic injection of physostigmin or a prophylactic tracheotomy. The magnesium sulphate acts only while it is in direct contact with the substance of the spinal cord and nerve tissue. This is a disadvantage as the injection must be repeated when the drug disappears from the nerve tissue, as manifested by the subsidence of its effect. On the other hand, it is a great advantage to be sure that no permanent injury is left. The estimation of the effect and whether more injections are needed, is based on the recurrence or absence of further paroxysms. These constitute the main danger, while continuous stiffness, without interference with the respiration, is not dangerous. It may persist for days or weeks before gradually subsiding. Another point to which Kocher calls attention is the higher pressure in the spinal fluid after the injection. He regards this as a phenomenon of osmosis and as directly beneficial, the fluid pouring into the subarachnoid space having a detoxicating action. In one case he found that spasmodic contraction of the urethra prevented the introduction of the catheter; during the relaxation that followed the injection of magnesium sulphate the obstacle to the introduction of the catheter disappeared.

Arnd discusses the history of this method of treating tetanus to date, emphasizing that it should be only an adjuvant to serotherapy. The dosage is the great problem at present and some better mode of administration may yet be found. The inefficiency of the isotonic solution has not yet been established, nor whether the drug attaches itself to the meninges or the cord itself. The circumstance that it can be rinsed away shows that the affinity is slight. This much is certain, however, he adds, that this method of treating tetanus should be a routine measure in hospitals in all except the mildest cases.

76. **Criminal Abortion.**—Ruegg concludes his appeal for a fight all along the line against criminal abortion by saying that it is a source of depopulation far surpassing in importance all epidemic diseases. The state has every reason to fight it for the preservation of the nation. He adds that the public conscience should be trained to deprecate the induction of abortion. Medical men in general can help in this line by cultivating a deeper respect for germinating life.

Deutsche medizinische Wochenschrift, Berlin

February 20, XXXIX, No. 8, pp. 345-392

80 The Pharmacologic Basis for Bromin Treatment in Genuine Epilepsy. H. v. Wyss.
81 Roentgen-Ray Treatment of Tuberculous Focus. (Entgiftung des tuberkulösen Herdes durch Röntgenbestrahlung.) H. Iselin. First part in No. 7; abstracted in preceding issue.
82 Disease of Blood-Producing Organs. (Einige seltenere Fälle von Erkrankungen der blutbereitenden Organe.) A. Plehn.
83 *Acute Syphilitic Nephritis Soon After Infection. (Nephritis syphilitica acuta praecox.) E. Hoffmann.
84 Diphtheria Antitoxin Refound in Serum, and Proper Dosage. (Nachweis von Diphtherieantitoxin im Blutserum der damit behandelten Kranken, und Dosierung des Heilserums.) C. Schöne.
85 Dubious Findings with Blotting-Paper Capillary Test for Free Acid in Stomach Content. (Kapillaranalytische Bestimmung der freien Salzsäure im Magensaft.) H. Schmidt.
86 Copper Sulphate Test for Urobilin. T. Hausmann.
87 Resection of Wall of Thorax Under Insufflation Anesthesia. (Thoraxwandresektion mit Meltzerscher Insufflation.) O. Nordmann.
88 Injury of Eyes by Light. (Veränderungen und Schädigungen des Auges durch Licht.) F. Schanz.
89 Technic for Overcoming Defect in Singing Voice. (Deckung des Gesangstones.) R. Schilling.
90 Technic for Tonsillectomy. (Die Tonsillenexstirpation, ihre Gefahren und deren Bekämpfung.) M. Halle.
91 Adenoma of the Umbilicus. (Zur Kasuistik und Histogenese der Nabeladenome.) A. Zitronblatt.
92 Blood-Pressure in Diphtheria. (Zur Frage der praktischen Bedeutung der Blutdruckmessung bei der Diphtherie.) J. M. Brückner.
93 *The "Human Aquarium." W. Sternberg.

83. **Early Syphilitic Nephritis.**—Hoffmann reports two cases of acute syphilitic nephritis and remarks that he has encountered only six cases of any severity in his many years of practice. It is distinguished by the enormous proportion of albumin in the urine (3, 8, 13 per cent.). It generally develops during the period of eruption, possibly even before the roseola. It may appear with sudden edema and dropsy or develop insidiously. Spirochetes in the urine sediment clear up the diagnosis. The ordinary treatment for kidney trouble is not enough; specific measures are required.

93. **The "Human Aquarium."**—Sternberg describes his examination of a circus freak who is able to drink up to seven quarts of water at a time and expel it through his mouth at will without any evidence of nausea. He also swallows live frogs and fishes and expels them in the same way. His father and grandfather had this same faculty of being able to ingest and expel large quantities of fluid at will. Sternberg noticed that the young man swallowed the ten frogs first and also expelled them first. Roentgenoscopy showed the stomach apparently normal in every respect.

Medizinische Klinik, Berlin

February 16, IX, No. 7, pp. 241-280

94 Dementia Praecox. (Ueber Schizophrenie.) E. Stransky. Concluded in No. 8.
95 Alcohol in Fatigue. (Zur Kenntnis der essentiellen Ermüdung und ihrer Therapie durch Alkohol.) C. Widmer.
96 Pseudo-Appendicitis. (Appendicopathia oxyurica.) L. Aschoff.
97 Poisoning from Pudding. (Vanillespeisevergiftung.) A. Eisenheimer.
98 *Cholesterin in Treatment of Paroxysmal Hemoglobinuria. J. Pringsheim.
99 Gynecology and Psychiatry. J. Peretti.
100 A Dose of 1.8 gm. Phenolphthalein Did Not Hurt Child. F. Orland.
101 Fever-Producing Property of Casein. (Die pyretogenische Wirkung des Caseins aus Kuhmilch.) L. E. Holt and P. A. Levene (New York).

98. **Cholesterin in Paroxysmal Hemoglobinuria.**—Pringsheim's patient had been given previously a thorough tentative course of mercurial treatment but without effect on the hemoglobinuria. As cholesterin seems to have an inhibiting action on hemolysis in the test-tube, Pringsheim applied it to arrest the paroxysmal hemoglobinuria and found that it did actually abort the attacks and ward them off as long as the system was under the influence of the cholesterin. On its suspension the attacks recurred as before. He gave the cholesterin in five intramuscular injections of 5 c.c. each time of a 10 per cent. emulsion of cholesterin, in the course of eleven days. Exposure to the same cold and other external influences which before had brought on a severe attack of hemoglobinuria for eight or ten hours, induced only a slight elimination of hemoglobin, lasting only two and a half hours. Another time the characteristic chill and fever followed the exposure but there was no hemoglobinuria. A week after suspension of the cholesterin the same exposure brought on a severe and typical attack. No appreciable changes could be detected in the blood during the cholesterin treatment. The patient had no complement in the blood, but the complement from healthy blood showed no influence from cholesterin.

Monatsschrift für Kinderheilkunde, Berlin

XI, No. 9, pp. 421-454

102 Eosinophilia in the Exudative Diathesis. A. Benfey.
103 *Acute Poliomyelitis in Norway. A. Johannessen.
104 Hyperpyrexia in the Rectum in Children. (Ueber rektale Hyperthermie im Kindesalter.) E. Moro.
105 Use of Opiates in Childhood. (Ueber die Verwendung von Opiaten im Kindesalter.) E. Döbeli.

103. **Poliomyelitis in Norway.**—Johannessen reviews the history of poliomyelitis in Norway since the first known epidemic in 1868, and summarizes the present knowledge of it as expressed in the public health measures for its control: 1. Isolation of patients in the acute stage for three weeks. 2. Especial care with regard to the nasal secretions as well as other secretions and excretions of the patient. 3. Disinfection of all articles that come in contact with such secretions and excretions. 4. Especial attention to the transmission of the infection by healthy persons and abortive cases, particularly patients with angina. 5. Every new case is to be reported and the report must contain all possible information in regard to the etiology and development of the disease. 6. Schools in severely infected localities must be closed and children from infected houses must be forbidden to go to school for a certain length of time. Money has been appropriated by the Norwegian parliament for a systematic study of the disease and experiments on monkeys to determine its etiology.

Münchener medizinische Wochenschrift

February 18, LX, No. 7, pp. 337-392

106 The Mobilization of Glycogen. E. J. Lesser.
107 *Tubercle Bacilli in the Blood. (Auftreten virulenter Tuberkelbazillen im Blut nach der diagnostischen Tuberkulininjektion.) Baemeister. (Zum Nachweis der "Tuberkelbazillen" im strömenden Blut.) E. Kahn. (Tuberkelbazillennachweis im Blut.) Kessler.
108 Simplified Moving Pictures of the Stomach. (Vereinfachte Magen-Bioröntgenographie.) K. Kaestle.
109 High Frequency Current for Operating on the Bladder. (Ueber Operationen im Blaseninnern mit Hilfe von Hochfrequenzströmen.) G. Bucky and E. R. W. Frank.
110 Mixed Anesthesia. (Aethertropfnarkosen nach vorheriger Injektion von Pantopon-Atropinschwefelsäure.) E. Kisch.
111 Determination of Uric Acid and Purin Bodies in the Urine. L. Flatow.
112 Two Cases of Severe Intoxication from Neosalvarsan. (Neosalvarsanvergiftung.) P. Wahle.
113 Toe Substituted for Finger. (Ersatz von Finger- und Zehenphalangen.) W. Goebel.
114 Action of Gold Salts Injected Intravenously. (Wirkung von intravenösen Infusionen mit Aurum-Kalium cyanatum.) W. Heubner.

115 Substitutes for Coffee. (Die wirksamen und werthvollen Bestandteile des Kaffeegetränks mit bes. Berücksichtigung des koffeinfreien Kaffees Hag und des Thumkaffees.) K. B. Lehmann. Commenced in No. 6.

107. **Tubercle Bacilli in the Blood After Injection of Tuberculin.**—Baemeister states that no tubercle bacilli were found in the blood in his first research and he discovered that the structures which seemed to be typical acid-fast bacilli were not bacilli at all in numbers of cases. The pseudobacilli can be found in nearly every specimen. At the same time, positive animal experimentation has demonstrated that true tubercle bacilli inhabit the blood much more frequently than had been suspected until Liebermeister's recent research. Baemeister obtained constantly negative results on inoculation of animals with the blood from fifteen patients but after a diagnostic injection of tuberculin he tested the blood again, drawn from twelve to twenty-four hours afterward, at the height of the reaction. Four of the animals inoculated at this time developed tuberculosis. The four patients from whom the material had been, derived presented a pronounced local reaction in the focus to the tuberculin injection. The temperature did not run up very high but the focal reaction was marked. This fact that we are unable to foresee or control the extent of the focal reaction should warn against the indiscriminate application of the subcutaneous tuberculin test. No serious results were observed; the temperature soon subsided. The tubercle bacilli thus driven out of the focus into the circulation may have been destroyed or they may have settled down somewhere and are leading a latent existence.

Kahn reports research in this line which has confirmed the absolute unreliability of the microscopic findings in the blood. Inoculation of animals is the only instructive test.

Kessler says that the test for tubercle bacilli can be applied to coagulated blood as he describes in detail. He draws 0.5 or 1 c.c. blood into a capillary tube and seals it at both ends. When ready to apply the test, the ends are cut off, the thread of blood drawn out and placed in a tube with a knife-tip of trypsin and 1 c.c water. It is shaken up for a few times and by the end of the hour the blood is dissolved. Then the ordinary technic is applied and after centrifugation the specimen is ready for use.

Petersburger medizinische Zeitschrift

February 14, XXXVIII, No. 3, pp. 29-42

116 Hypertrophy of the Heart. (Ueber Herzhypertrophie.) A. Bertels.
117 Report of the Russian Uterine Cancer Commission. G. v. Knorre.

Zentralblatt für Chirurgie, Leipsic

February 22, XL, No. 8, pp. 265-296

118 Flap from Stomach Wall for Plastic Operation on the Esophagus. (Oesophagusplastik aus der Magenwand.) J. Galpern (Twer. Russia).
119 Modified Technic for Jianu-Roepke Gastrostomy and Plastic Esophagus Operation. (Vorschlag bezüglich der Gastrostomie und Oesophagoplastik nach Jianu-Roepke.) Willy Meyer (New York).
120 Improved Technic for Suturing Abdominal Wall. (Die Rekonstruktion der Bauchdecken.) F. Schultze.
121 Subserosa Appendicectomy. F. Derganc.

Zentralblatt für Gynäkologie, Leipsic

February 22, XXXVII, No. 8, pp. 265-296

122 Application of Active Principles of Ergot in Obstetrics. (Versuche zur Verwendung des Beta-Imidazolyläthylamins in der Geburtshilfe.) F. Jaeger.
123 Necessity for Dorsal Decubitus after Birth of Head. (Seitenlage intra partum und "endogene" Infektion.) F. Westphalen.
124 Obstetric Laceration of Roof of Vagina. (Kolparrhexis sub partu.) E. A. Bjorkenheim.

Gazzetta degli Ospedali e delle Cliniche, Milan

February 13, XXXIV, No. 19, pp. 193-200

125 Fracture of Fibula or Femur with Large Defect. (Due rari casi di traumatologia.) F. Bindi.

February 16, No. 20, pp. 201-216

126 Adrenal Organotherapy. (Apparato surrenale e forme convulsive con speciale riguardo all'epilessia.) T. Silvestri.

Semana Medica, Buenos Aires

January 23, XX, No. 4, pp. 189-252

127 Tumors of the Nose and their Treatment. (Estudio de algunos tumores nasales.) J. de la Cruz Correa.
128 Questions of General Biology. V. Delfino.
129 Reducing Power of the Liver. (El poder reductor del higado.) O. Fernandez.
130 *Indications for Prostatectomy. (Nuevas orientaciones para la prostatectomia.) N. Serrallach.
131 *Grave Danger from Sudden Change of Position in Febrile Diseases. (Peligro en las enfermedades febriles del paso brusco de la posicion horizontal a la vertical.) S. Leduc.

130. **Prostatectomy.**—Serrallach insists that for prostatectomy to be a complete cure of all disturbances, the prostate must be freed from irritating influences from the adjacent sexual organs. He therefore urges the necessity for ligation of the vasa deferentia and severing of all connection between the prostate region and the genital organs, obliterating the functions of the latter. They are usually already compromised beyond repair, and their complete functional destruction is the only means to ward off recurrence of trouble.

131. **Dangers of Abrupt Change of Position During Fever.**—Leduc warns that when a reclining person sits up suddenly, the heart bumps against the column of blood below it. In health the heart yields, the column of blood sinks down, the blood flows out of the vessels in the brain and there may be dizziness from the anemia in the brain. If the myocardium is weak, it may not be able to stand the sudden strain on it from this change of position. He has had five patients with pneumonia die just as they were raised to a sitting position. Other physicians have observed the same. Replacing the patient in the horizontal position at once may relieve, but the heart has been given a strain from which it may never recuperate. When a febrile patient sits up in bed, the pulse almost always runs up and grows weaker—the changes more pronounced the graver his condition. He should always be raised very gradually to the sitting position. By absolutely forbidding the patient to sit up during an acute febrile disease, Leduc adds, the physician renders him a greater and more certain service than he can possibly render by prescribing all kinds of heart tonics.

Hospitalstidende, Copenhagen

February 12, LVI, No. 7, pp. 153-184

132 *Benzol in Treatment of Leukemia. K. Jespersen.

February 19, No. 8, pp. 185-208

133 Experiences with Treatment of Concomitant Convergent Strabismus. E. Lindgren.

132. **Benzol in Leukemia.**—Jespersen reports a case of very severe myeloid leukemia in a man of 32, rebellious to all measures, including 100 exposures to the Roentgen rays. The man was extremely emaciated and entirely helpless, with fever and hemorrhages, when the benzol treatment was begun. The tenth day the number of leukocytes had dropped from 250,000 to 61,000 and the general condition showed marked improvement. The leukocytes dropped finally to 5,000 while the reds had increased from 2,000,000 to 3,500,000 and conditions gradually righted themselves until the man considered himself cured and returned to business. It is possible that the preceding radiotherapy may have prepared the way for the benzol. The prompt and remarkable improvement under it did not last long. Then the disease flared up again, the leukocytes ran up to 750,000 and the pernicious type of red corpuscles made their appearance. The patient died the twenty-third day after recurrence of symptoms. The dosage of benzol had never been over 5 gm. a day.

Ugeskrift for Læger, Copenhagen

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Dr H B Ward
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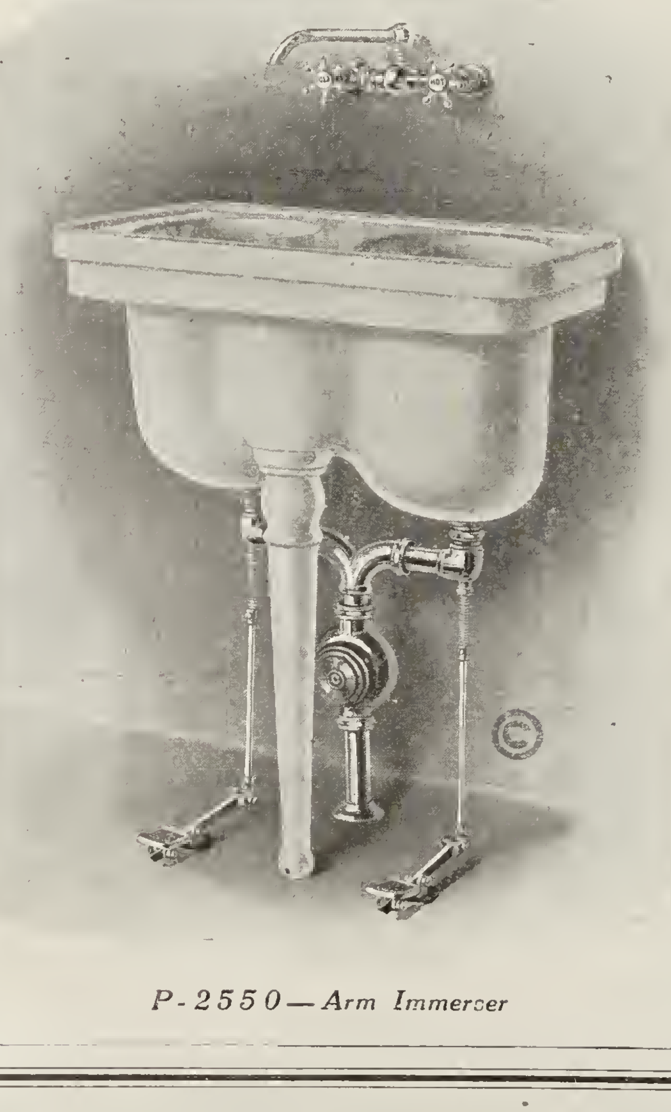

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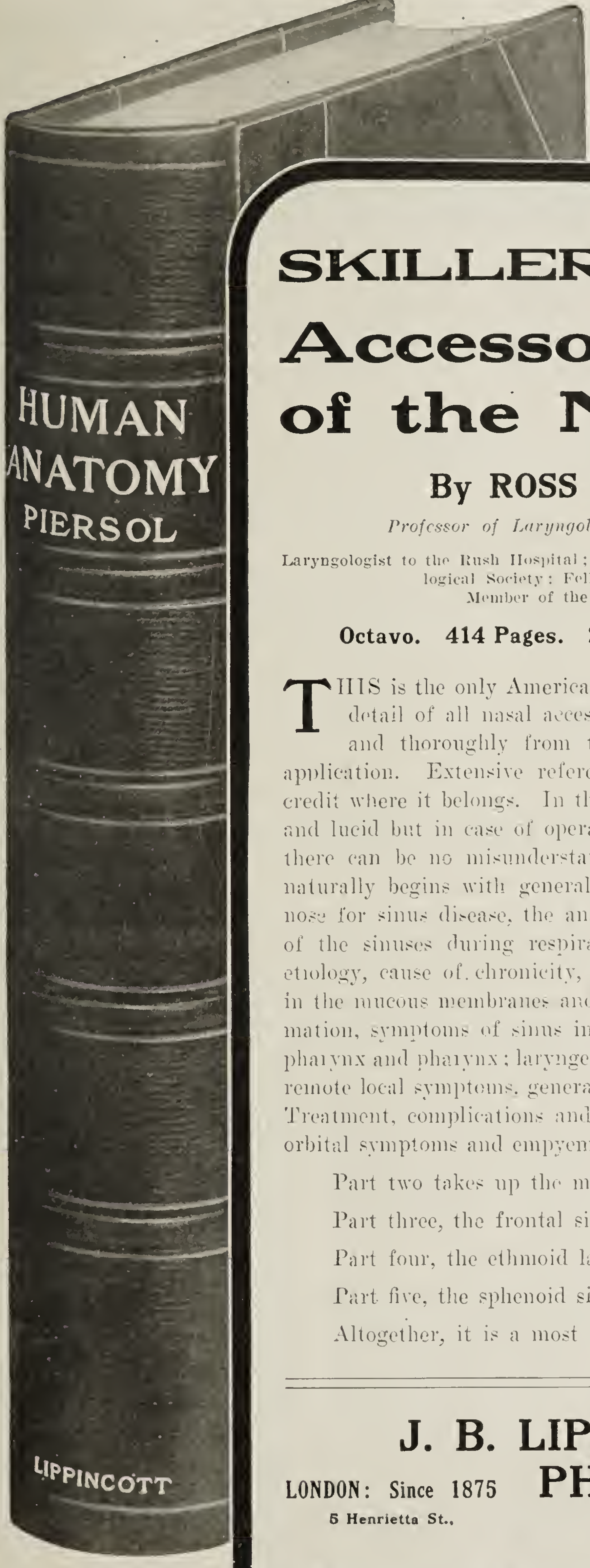

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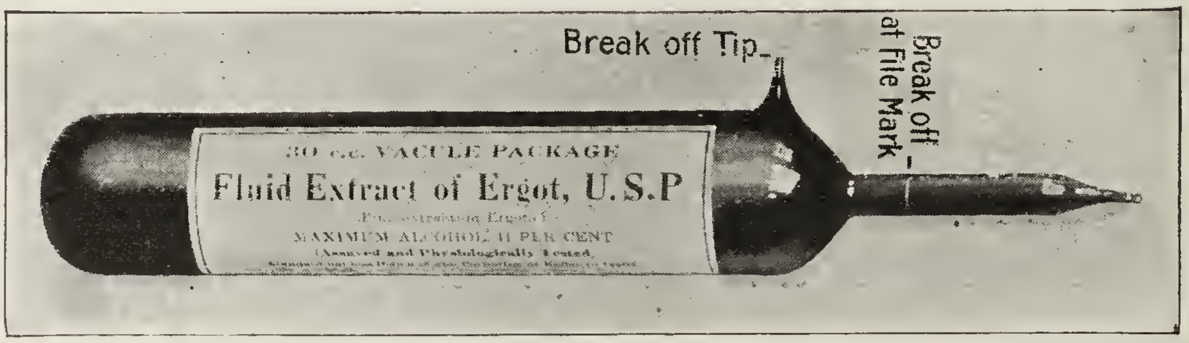
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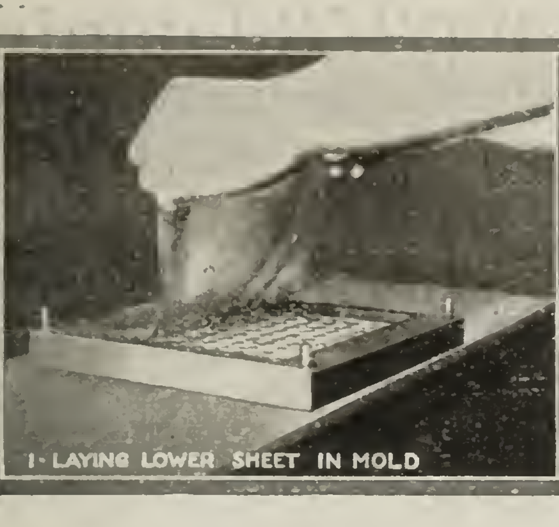
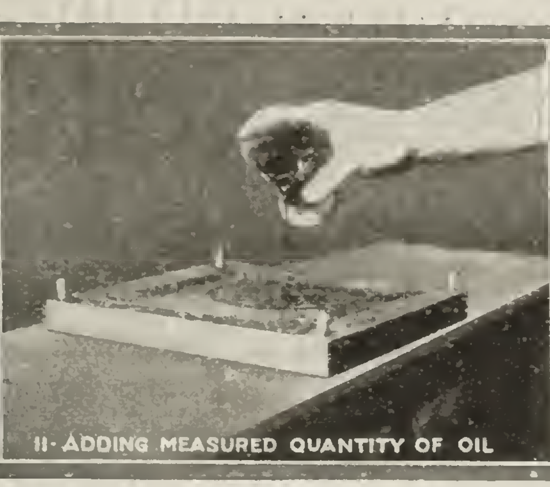
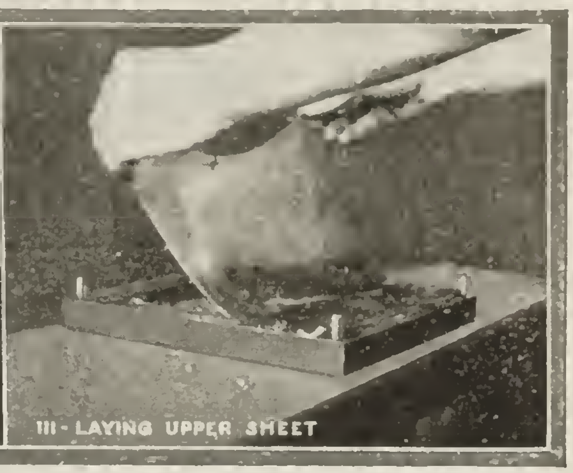

I-LAYING LOWER SHEET IN MOLD


II-ADDING MEASURED QUANTITY OF OIL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[The seventeenth of a series of articles on the Lilly Laboratories]

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Next Article—The Manufacture of Empty Capsules

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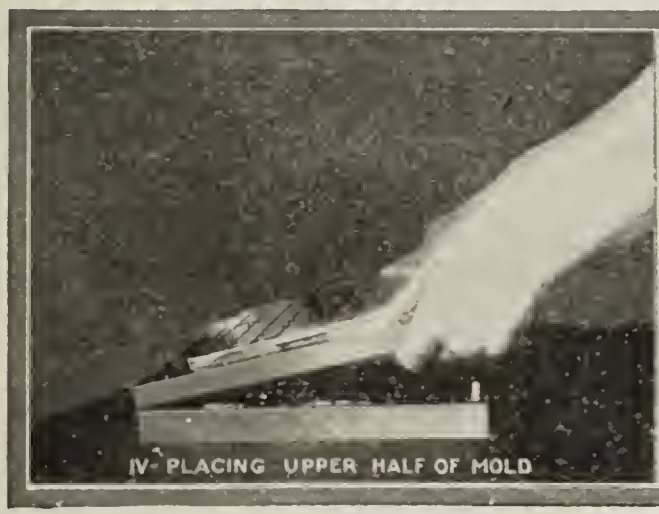
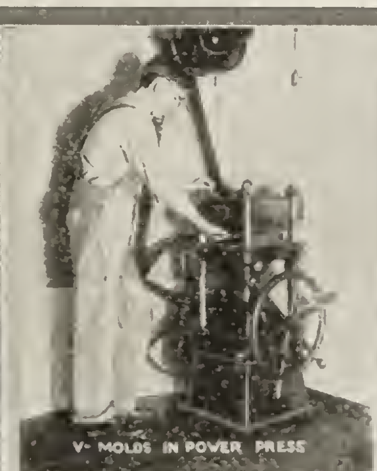
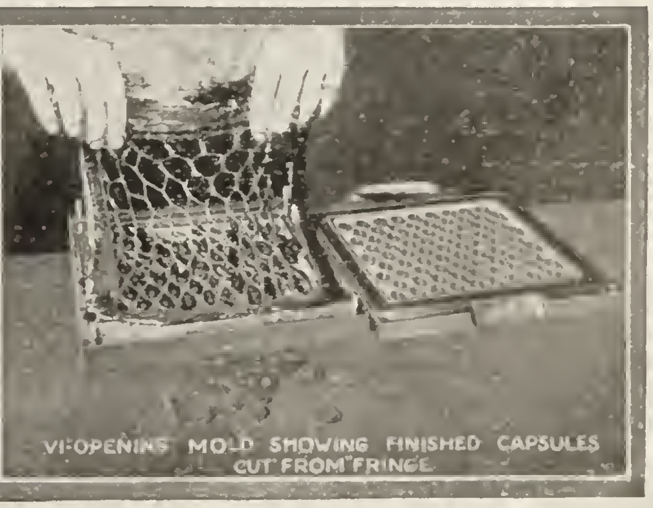

IV-PLACING UPPER HALF OF MOLD


V-MOLDS IN POWER PRESS


VI-OPENING MOLD SHOWING FINISHED CAPSULES CUT FROM FRINGE

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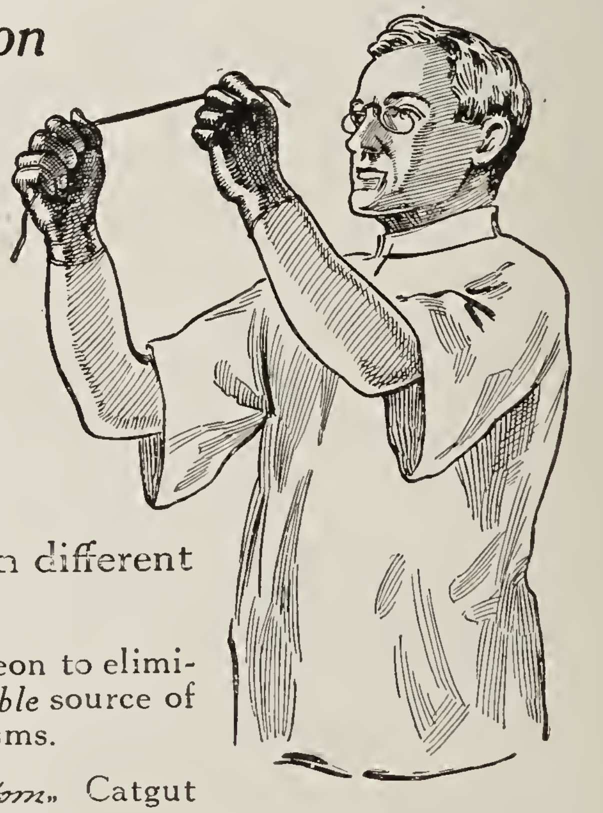

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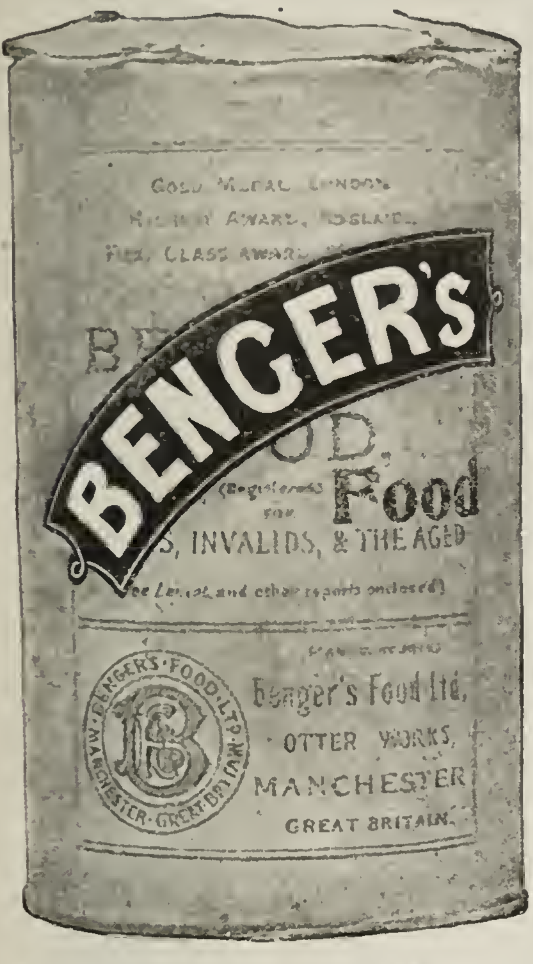

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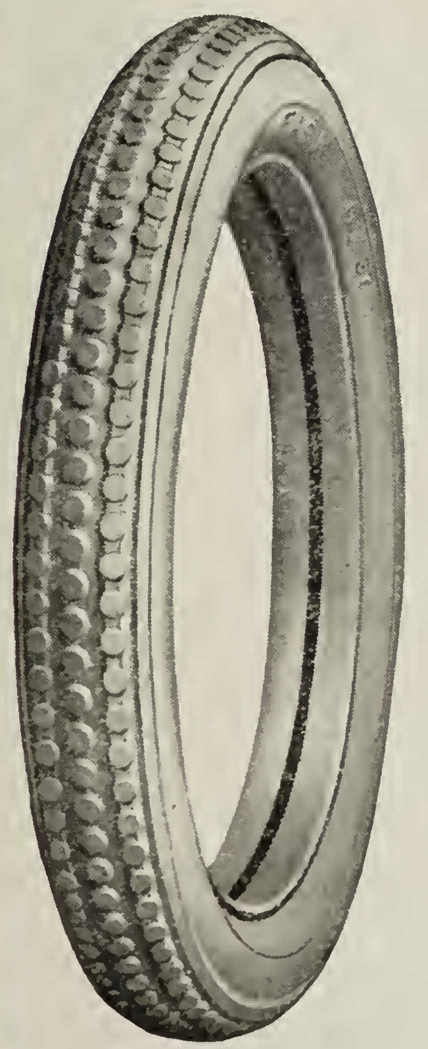

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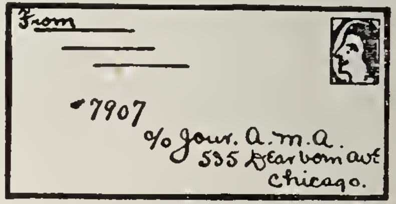

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N. B.—We exclude from our columns all known questionable ads. and appreciate notification from our readers relative to any misrepresentation.

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WANTED—MALE SUPERVISOR FOR PRIVATE sanitarium for nervous and mental diseases, near Milwaukee; applicants must have had similar experience, be over 30, preferably single and of exemplary character; salary $50 per month and maintenance; in answering state all qualifications fully and give references for past ten years. Add. 4403 B, % AMA.

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(Continued on page 22)

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Welch's is sold by all druggists.

The Welch Grape Juice Company
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A. M. A. ANNOUNCEMENT

(Continued from page 20)

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And I sincerely hope that for the good of humanity the time will come when the profession will rise above its organization; when its leaders will be men of learning and chosen for their achievements rather than because of their political astuteness. . . .

As for the supposed evil of "self medication" and "self diagnosis," of which much is said, I maintain that the average layman knows when he has a cold, or is constipated, or when he suffers from an ordinary ailment; and when his ailment is out of the ordinary he is forced to consult a physician who, if he is an average physician, is wrong in 50 per cent. of his diagnosis.—Extracts from a letter to a physician from Ervin F. Kemp, secretary of committees of the Proprietary Association (the "patent-medicine" men's association).

—o—

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—o—

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—o—

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The new American Medical Directory has been in the office long enough now for us to thoroughly test it out, and we wish to say with some emphasis that it has in no way been found wanting. Indeed, the pleasure of such a ready, available fund of information, known without a doubt to be thoroughly reliable, is daily becoming more impressive. It is amazing to contemplate the scope of this book and then consider the accuracy of the data contained. If the American Medical Association had done nothing more than to organize the great reference filing system which has made an absolutely accurate medical directory possible, and which bids fair to continue to yield data that money alone could not buy, all that that magnificent organization has cost in time, money and devotion would be a cheap price to pay for it.

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(Continued on page 24)

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(Continued from page 20)

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WANTED — WORKING ASSISTANT SUPERINTENDENT of nurses, qualified in teaching and dietetics and the giving of anesthetics or capable of learning to give same; good salary to bright, energetic person. Add. 4418 B, % AMA.

WANTED—AN ASSISTANT IN A BUSY surgical and general practice in Illinois; must be capable of doing laboratory work and of learning *x*-ray technic; none but first-class man willing to work need apply; good salary and opportunity for advancement to right party; give references in first letter. Add. 4280 B, % AMA.

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WANTED—KANSAS LOCATION—SMALL town preferred; give in detail what you have and tell all about your town and surrounding country in first letter; also why leaving, when you wish to leave and yearly income. Add. 4399 E, % AMA.

WANTED — SURGICAL LOCATION IN growing town of 6,000 or more, with good surrounding country, by a general surgeon of 17 years' hospital and sanitarium experience; must be ethical; $100 paid for information resulting in satisfactory location. Add. 4328 E, % AMA.

WANTED—LOCATION OR POSITION AS locum tenens in an unopposed or slightly opposed country practice; prefer North Dakota or any of the northwestern states; practice must not pay less than $2,500 per year; give full particulars in first letter. Add. Doctor A. H. K., Box 117, Flasher, N. Dak. E

WANTED — LOCATION IN IOWA — AT once; will consider assistantship or partnership; especially with doctor wishing to retire soon, or purchase of small deal if A1; write in full first letter. Add. 4360 E, % AMA.

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WANTED—I AM GOING ABROAD FOR six to ten months; want competent man to take my practice while I am away; prefer married man, graduate of Class A school and must be able to do major surgery; man pays local expenses and keeps what he makes; here by middle of April. Add. Dr. D. T. Quigley, North Platte, Neb. F

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WANTED—POSITION IN A STATE HOSPITAL for the insane by a doctor past middle life, single, who has had much experience with the insane in public and in private hospitals, north and south; a southern state preferred; salary expected at least $100 per month; references given and exchanged. Add. 4173 I, % AMA.

(Continued on page 24)

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KNOCKS AND BOOSTS

(Continued from page 22)

United States, Canada or any of our outlying territory, or anything about any of the hospitals, sanitariums or other institutions of like nature, or who wants to know about the medical laws of any state or province, or the medical organizations therein, to be able to pick up a book about half the size of an unabridged dictionary and in a few minutes get what he wants? A good deal, frequently. Then how much more is it worth to know that what he gets is as nearly the truth, the whole truth and nothing but the truth as it is possible for any human agency to come on an average in such a huge undertaking; that what is found there could not buy the space it occupies with love or money? The system of checking up data, and of keeping it alive from one edition to another, and the inexpensive, semi-official representatives of the American Medical Association in every nook and corner of this broad country, is what makes this directory reliable and at the same time possible as a financial undertaking.

No doctor's office is complete without this directory. It compares in value with the best reference books in any medical library and it costs but little more. It is surprising how frequently, once he has one of these directories, a physician will find occasion to refer to it. Formerly such items were permitted to go by default, their value collectively not being realized. This directory is not an advertising scheme; it is not an enterprise for profit, and there is no graft to it. It is published because we need it, and we hope every physician in Texas will arrange in some way to have ready access to one.—*Texas State Journal of Medicine.*

—o—

PHARMACISTS APPRECIATE THE WORK

To the Editor:—Will you inform me if I can purchase from you the copy of your valuable journal which exposed the Fruitola Company, which is marketing a cure for gallstones? I am very anxious to secure this issue, as we have had several requests from our physician friends for information in regard to Fruitola. We have informed them in every instance that the Fruitola Company was exposed in THE JOURNAL, and they are very anxious to secure the copy containing the exposure. Will you also inform me if it will be permissible for me to become a regular subscriber to THE JOURNAL? We have had the opportunity of reading it from our physician friends, and we have found it very interesting and profitable to us in our profession of pharmacy for the news on new remedies, the findings of your laboratory and also the many valuable exposures of frauds and charlatans who are constantly trying to impose on physicians and pharmacists. Peter G. Walter, Pharm.D., Pittsburgh.

Books Received

Books received are acknowledged in this column, and such acknowledgment must be regarded as a sufficient return for the courtesy of the sender. Selections will be made for review in the interests of our readers and as space permits.

ELECTROTHERAPEUTICS FOR PRACTITIONERS. Being Essays on Some Useful Forms of Electric Apparatus and on Some Diseases which are Amenable to Electric Treatment. By Francis Howard Humphris, M.D., F.R.C.P., M.R.C.S. Cloth. Price, $2.40 net. Pp. 243 with 56 illustrations. New York: Longmans, Green and Company, 1913.

SURGERY: ITS PRINCIPLES AND PRACTICE. By Various Authors. Edited by William Williams Keen, M.D., LL.D., Emeritus Professor of the Principles of Surgery, Jefferson Medical College, Philadelphia. Volume 6 Cloth. Price, $7 net. Pp. 1177 with 519 illustrations. Philadelphia: W. B. Saunders Company, 1913.

ELECTRICITY IN DISEASES OF THE EYE, EAR, NOSE AND THROAT. By W. Franklin Coleman, M.D., M.R.C.S., Professor of Ophthalmology in the Post-Graduate Medical School of Chicago. Cloth. Price, $5. Pp. 595 with 156 illustrations. Lincoln, Ill.: The Courier-Herald Press, 1912.

MENDEL'S PRINCIPLES OF HEREDITY. By W. Bateson, M.A., F.R.S., V.M.H., Director of the John Innes Horticultural Institution. Cloth. Price, $3.50 net. Pp. 413,

(Continued on next page)

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(Continued from page 22)

WANTED—PHYSICIAN AND PSYCHIATRIST, aged 33, married, no children, university training, desires position in a sanatorium or state hospital for mental or nervous diseases; capable of taking full charge or entering partnership; have had wide experience in institutional work and laboratory diagnosis, as well as psychoanalysis; very best references; nothing less than $1,560 per annum considered, living expenses inclusive. Add. 4239 I, % AMA.

WANTED—PHYSICIAN DESIRES POSITION as medical superintendent of sanitarium; at present medical director of large private institution; good reason for wishing to change; would invest in right proposition. Add. 4419 I, % AMA.

WANTED—WOMAN PHYSICIAN DESIRES position as assistant in hospital or sanitarium or to physician with private office practice; has had institutional experience in nervous and mental cases; familiar with modern laboratory methods; best references. Add. 4420 I, % AMA.

WANTED—EASTERN GRADUATE, SIX years' institutional experience, desires position as assistant superintendent of hospital or principal of training school; special attention given to economical administration, strict discipline and practical or theoretical class work; would also consider position as first assistant to surgeon or physician; preference given position in or near Chicago. Add. 4329 I, % AMA.

WANTED—POSITION WITH BUSY practitioner by a man who is graduate of Class A plus school of Baltimore; six years' college work before entering medical school; taught in several of the medical science courses; can do any kind of laboratory work; two years' hospital work. Add. 4331 I, % AMA.

WANTED—POSITION—GRADUATE MASSEUSE and masseur from Stockholm, Sweden (married couple), want position in sanitarium or springs; thoroughly experienced in massage, Swedish movements, hydrotherapy, electricity, medical gymnastics, trained nurses; Swede and German; aged 31 and 40; good habits and appearance; best of references. Add. 4378 I, % AMA.

WANTED—SALARIED POSITION AS ASSISTANT to general practitioner or salaried internship by graduate of Northwestern; aged 25; single; good habits; experienced in laboratory work; 18 months hospital experience; licensed in Illinois; good references; can come now. Add. 4362 I, % AMA.

WANTED—POSITION AS PATHOLOGIST or assistant physician with duties of pathologist; have had extensive experience with the Wassermann and supplementary tests; Noguchi modification, butyric-acid test, cell count, cobra venom and luetin tests; also complement fixation for gonorrhea and intravenous administration of "606"; spinal puncture and vaccines. Add. 4289 I, % AMA.

WANTED—YOUNG PHYSICIAN, HAVING had 8 years' experience in a specialist's office on genito-urinary and venereal diseases, wishes a position in an institution or as assistant to a specialist along this line; am in perfect health and can go anywhere; perfectly competent. Dr. L. V. Howard, Santa Monica, Cal. P. O. Box 515. 1

PARTNERSHIP WANTED

WANTED—PARTNERSHIP IN OR INTRODUCTION to an established lucrative practice in New York, preferably New York City or southeastern New York, by a gynecologist of large experience and known professional standing; or would assume the operative work of an ethically conducted private hospital or sanatorium. Add. 4298 H, % AMA.

PARTNERS WANTED

WANTED—PARTNER—THOROUGHLY qualified surgeon, aged 42, wants to purchase or establish first-class hospital in community offering abundant referred general and gynecological surgery; prefer partnership with first-class internist or rhinologist, or both; state full particulars and probable investment required in first letter. Add. 4340 G, % AMA.

(Continued on next page)

BOOKS RECEIVED

(Continued from preceding page)

with illustrations. New York: G. P. Putnam's Sons, 1913.

The Surgical Clinics of John B. Murphy, M.D., at Mercy Hospital, Chicago. Volume 2, No. 1, February, 1913. Paper. Price, $8 per year. Pp. 179 with illustrations. Philadelphia: W. B. Saunders Company, 1913.

Arequipa Sanatorium (Bothin Convalescent Home Inc. Foundation) for the Treatment of Early Cases of Tuberculosis in Wage-Earning Women, Fairfax, Marin County, Cal. First Annual Report. Paper. 1912.

Association Française pour l'Avancement des Sciences Fusionnée avec l'Association Scientifique de France, Reconnues d'Utilité Publique. Compte rendu de la 40me session. Cloth. Volume 1, 1911.

Common Diseases. By Woods Hutchinson, A.M., M.D. Cloth. Price, $1.50 net. Pp. 452. Boston: Houghton Mifflin Company, 1913.

Report of the Wills Hospital, Philadelphia. Paper. 1911.

Tonics and Sedatives

OCCUPATIONAL ODDITIES

The coal man is a sly old fox,
In fact, he's quite a paradox—
For coal he always makes us pay,
And yet he gives his coal a weigh.
—*Philadelphia Record.*

The house contractor is a man
Who works on a peculiar plan—
Suppose a building he would raze,
He pulls it down, so odd his ways!

The baker's an unselfish guy—
Such altruism dims our eye—
His bread he lets us have when he
Quite clearly kneads it more than we.
—Boston *Transcript.*

Now there's the newly fledged M.D.
But half a pair o' docs is he.
His patience is entirely spent,
Ere patients come, to pay his rent.

And Dr. Oldman 'cross the street
Doth make this pair o' docs complete.
Impatient patients make demands
On patience more than he commands.

—o—

PERMISSION GRANTED

Patient (who was somewhat spiflicated before he got hurt): "Doctor, did you ever hear me sing?"

Doctor: "O never mind; I don't care to hear you sing."

Patient: "O yes, you ought to hear me sing."

Doctor: "No, forget it. I do not care to hear you sing."

Patient: "I was going to sing On the Lake of Killarney."

Doctor: "O that's all right, then. I thought you were going to sing here."

—o—

EVEN A GOOD THING CAN BE OVERDONE

Here is a letter head, recently received. We reproduce it with the names changed. Dr. "Brown" seems to be something of a "jiner." Incidentally we may remark that we do not find his real name on the records as a "member American Medical Association." We have not investigated the other statements to see if they are equally correct.

> **GEORGE WASHINGTON BROWN, M.D.**
>
> PHYSICIAN AND SURGEON.
>
> Telephone connection.
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> Ex-Health Officer.
> Ex-Lcl. R. R. Surgeon.
> Author "Brown's Pocket Anatomy."
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> Member American Medical Association.
> Ex-Secretary Blank Medical Society.
> Member Pure Food Legislative Committee.
> Ex-Vice-President Lister Medical Society.
> Member Northern Michconsin Medical Society.
> United States Examining Surgeon (Pension Department.)
> County Physician to St. Sophia's Hospital, Poor Farm and Jail.
> Ex-Supreme Medical Examiner, Modern Unity Fraternal Order.
> President Local Board of the "Michconsin Children's Aid Society."
> Member of the National Association of United States Examining Surgeons.
> Member Medical Society of the College of Physicians and Surgeons, Podunk.
> President Local Board of State Charities, Auxiliary to State Board of Health.
> Special Lecturer on Anatomy in College of Physicians and Surgeons, Podunk.
> Honorary Vice President "Alumni Association of the College of Physicians and Surgeons, Podunk.
>
> *Ellingville, Michconsin ....190....*

(Continued on next page)

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(Continued from preceding page)

WANTED—PARTNER—RETIRED PHYSICIAN preferred, who wishes to help humanity and will take charge of a bath house and sanitarium and has $10,000 to invest in a hot mineral-water proposition and town site; the water is quite efficient; the profits from the investment should reimburse the investor within the next year. Write or call at once upon J. D. Hackett, Hot Wells, El Paso County, Texas. G

MISCELLANEOUS—WANTED

WANTED—CHICAGO — A GOOD OPPORTUNITY is open for a hustling young physician who is well up on laboratory work, blood, sputum, urine, etc.; $75 to $100 a month for a few hours' work each day; one desiring to establish down-town office hours preferred. Add. 4417 J, % AMA.

WANTED—A YOUNG MAN THAT CAN do first-class surgery to occupy fine suite of office rooms with a middle-aged man doing internal medicine; must be a first-class laboratory man and have the highest qualifications of ability and character; no partnership; city of 60,000; middle west. Add. 4387 J, % AMA.

WANTED—DOCTOR TO LOCATE IN NEW irrigated valley; Manila, Utah; 40 miles south of Green River, Wyo.; about 600 people, but prices high and opportunity exceptional. Add. A. S. Brown, Green River, Wyo. J

WANTED—SPECIALIST — EYE, EAR, nose, throat (Harvard, '86); permanently located in tropics and desiring brief change of climate will take charge of special practice in Massachusetts during September, October and November; registered in Massachusetts. Add. 4237 J. % AMA.

WANTED—IN COUNTY SEAT TOWN OF 2,500; in central Kansas; good reliable young doctor to engage in general practice and fit glasses; only three firms in town; too old and must soon retire. Add. The Welsh Hospital, Hutchinson, Kan. J

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FOR SALE — CHAMBERS — INSKEEP ophthalmometer, electrically illuminated; new set "Ash" septal instruments, consisting of one cutting forceps, straight and angular moulding forceps; new DeZeng rotatory crossed cylinder. Communicate 134 South 20th St., Philadelphia, Pa. K

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BOOKS WANTED AND FOR SALE

WANTED—WE WILL PAY 25 CENTS per copy for the following volumes of the Guide to Current Medical Literature (published by the Amer. Med. Assn.) in good condition: Vols. 37, 38, 42 and 54 are wanted. Jour. Am. Med. Assn., 535 Dearborn Ave., Chicago. M

WANTED—THE FOLLOWING NUMBERS of The Journal A. M. A. are needed to complete volumes: Vol. 3, No. 4; Vol. 18, Nos. 1, 2; Vol. 19, Nos. 2, 19; Vol. 21, No. 8; Vol. 22, Nos. 4, 10, 14; Vol. 30, No. 12; Vol. 52, Nos. 22, 25, 26; Vol. 58, Nos. 17, 25, 26. We will buy any of the above numbers, paying 10 cents per copy. Ten or more copies sent by express, charges collect at returned periodical rates. American Medical Association, 535 Dearborn Ave., Chicago. M

(Continued on next page)

TONICS AND SEDATIVES

(Continued from preceding page)

TOO GOOD TO LOSE

Dr. Nearby—"I thought you intended to sell your practice and move to Edgeville."

Dr. Jones—"I did until I read the alluring story the advertising man on THE JOURNAL staff wrote about it, then I decided to keep it myself."—(Stolen from *Judge.*)

—o—

A HANDFUL FROM B. L. T.

We pick up the following items from B. L. T.'s column in the Chicago *Tribune:*

WILL STAND WITHOUT HITCHING

Wanted—By civil service officer's widow, post as housekeeper; can sew (pianist) and thoroughly domesticated.—*Vancouver World.*

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MAYBE YOU'VE SEEN HER

For Sale: A three-horned lady's side saddle. Eight dollars.—*Glencoe Record.*

FULLY EQUIPPED

Peter A Peterson, who has a claim out in the Jarboe neighborhood, returned last week from Omaha, where he took unto himself a wife. He purchased ten head of milch cows and brought them back with him, and will go into stock raising right.—*Mallette County* (S. Dak.) *News.*

CARD OF THANKS

Mr. and Mrs. W. N. Cone wish to sincerely thank all the kind friends who worked so hard to save our property from destruction by fire last Thursday at our house, and hope to be able to return the favor to each and every one in the near future.—*Hartford* (Mich.) *Day Spring.*

The Public Service

Medical Department, U. S. Army

Changes during the week ended March 15:

Smith, L. L., captain, left Walter Reed Hosp. March 8 on leave absence for 30 days.

Quade, Omar H., lieut., ordered from Ft. Snelling to Ft. Leavenworth for tempo. duty.

Archer, W. H., M. R. C., returned to St. Philip, La., March 3, from leave of absence.

Ingold, J. G., Lt. Arrived at Naco, Ariz. Mch. 1, from Camp Douglas, Ariz.

Michie, H. C., left Ft. Missoula, Mont., Feb. 25, 18th Inf. arrived Texas City, Tex., March 3.

Lake, G. B. Lt. Arrived at Ft. Sheridan, Mch. 7 from Texas City. Sails for P. I. Mch. 15.

Mueller, A. Capt., arrived at Texas City, Tex. Mch. 3, with 1st Spd. 6 Cav. from Des Moines, Iowa.

Coulter, J. S. Lt. Reported for duty as surg. of Transport *Thomas* Mch. 4, 1913.

Loving, R. C., Capt., relieved from duty as surg. of *Thomas* Mch. 3.

Dickenson, C. F. M.R.C. Left Whipple Bks. Ariz. Mch. 3 enroute to San Fran and P. I.

Wing, F. F., Lt. Dent. Surg. Left Ft. D. A. Russell, Mch. 8 enroute to San Fran. and P. I.

Weston, H. R. M.R.C. enroute to San Fran. and P. I. Mch. 5.

Kellam, F. C. A., Lt., arrived Ft. Clark, Tex., Mch. 5 from leave absence.

Fisher, H. C., Lt. Col., arrived at Army and Navy Gen. Hosp. Hot Springs, Ark. Mch. 8.

Mudd, L. C., Lt., left Ft. Leavenworth, Kans., Mch. 9, enroute to San Fran. and Ft. Shafter, H. T.

Duval, D. F., Major, and Fronk, C. E., Lt. Left Ft. Benj. Harrison, Ind., Mch. 8, accompanying 23 Inf. to Texas City, Texas.

Michie, H. C. Lt. On duty Texas City, Texas, Mch. 6, with 4th Field Art.

Foley, T. M., M.R.C. Left Wash., D. C., Mch. 7, for San Fran. and P. I.

Trinder, J. H. Lt. Retd. to Ft. Omaha, Nebr., Mch. 7, from tempo. duty in field.

Kellar, W. L. Capt. Retd. to West Point, Mch. 11, from leave absence.

Magee, J. C., Capt., arrived Ft. Leavenworth, Mch. 8, for duty.

Tasker, A. N., Capt., retd. to Ft. Hancock, N. J., Mch. 8, from leave absence.

Jones, E. C., Lt. Left Ft. Des Moines, Ia., Mch. 9, accompanying 6th Cav. to Texas City, Tex.

Hartnett, E. H., Major, left Ft. Robinson, Neb., Mch. 9th for Denver, to inspect National Guard, Colorado.

(Continued on next page)

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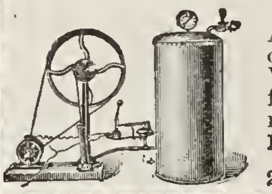

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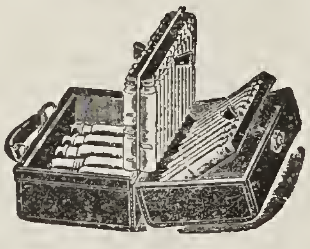

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FOR SALE—MALCHOW'S SEXUAL LIFE, $2; Nystrom's Natural Laws of Sexual Life, $1.25; Tuley's Pediatrics, $2; Crossen Gynecology, 2d edition, $5; 1st edition, $3; Ohmann-Dumesnil Skin Diseases, $1.50; Parke's Human Sexuality, $2.75; transportation free. Liebschutz's Book Emporium, 226 W. Jefferson St., Louisville, Ky. M

FOR SALE—SURGICAL AND MEDICAL library of Dr. H., deceased; nearly all recent publications; Murphy, Moynihan, Keen, Bull, Scudder, Adami, Quain, etc.; 25 per cent to 50 per cent. less than cost; send for list. Mrs. H., 719 2d Ave. W., Seattle, Wash.

WANTED — WE WILL PAY 50 CENTS each for December, 1908, issues of the *Archives of Internal Medicine* returned in good condition. Add. Am. Med. Assn., 535 Dearborn Ave., Chicago.

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FOR SALE — EASTERN COLORADO— $10,000 general and surgical practice, modern 3-room office and 8-bed hospital equipment and automobile; price, $3,000; one-half cash, balance easy; if you can come at once answer, giving references; good place for surgeon. Add. 4306 N, % AMA.

FOR SALE—NORTHERN IDAHO—$5,000 cash practice; established 6 years; one-fifth interest in only hospital within 35 miles; 45 beds, nurses' training school; hospital has netted $18,000 in past three and one-half years; large contract work; best located and equipped office in growing city of 8,500; paved streets; four banks; heavy pay roll; four railroads; one steamboat line; finest summer resort in northwest; excellent roads; use auto entire year; will sell for cost of invoice of equipment and interest in hospital; about $5,000; auto and residence optional; $3,000 cash; balance on time; thorough introduction; going abroad. Add. Dr. Shephard, Couer d'Alene, Idaho. N

FOR SALE—INDIANA—$3,000 PRACTICE to purchaser of my 11-room house and office combined; large barn and all outbuildings; inland village and country practice in German-American community; good gravel and clay roads; collections good; nearest competition 8 miles; price, $2,500; $1,300 cash will handle. Add. 4182 N. % AMA.

FOR SALE—INDIANA — $2,000 PRACTICE, drugs, office furniture, horse and buggy, etc., $575 cash; railroad town of 400; prosperous farming community; can make living from start; excellent opportunity to increase practice; good man can at least double it; selling to take foreign appointment. Add. 4409 N, % AMA.

FOR SALE—INDIANA — LARGE VILLAGE and country practice a few miles from Indianapolis on interurban; very easy competition; good roads; good pay; for less than value of property, $1,250; building not large but comfortable and convenient; a good man can make the price of property clear in six months. Add. 4180 N. % AMA.

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(Continued on next page)

THE PUBLIC SERVICE

(Continued from preceding page)

Phalen, J. H., Capt., left Ft. Sheridan, Ill., Feb. 26, and arrived Texas City, Tex., Mch. 1, assistant to chief surgeon 2nd division.

Upshur, A. P., Lt., left Ft. Leavenworth, Kan., Feb. 22 and arrived Galveston, Tex., Feb. 25, with Field Hospital No. 3.

French, S. W., Lt. Left Ft. D. A. Russell, Wyo., Feb. 25, and arrived Texas City, Tex., February 28, with 11th Infantry.

Ruffner, E. L. Major, arrived Texas City, Tex., Mch. 1, from Ft. Missoula. On duty 11 Inf.

Williams, A. W., Capt., relieved from duty with 7th Inf. and assigned to duty with Field Hosp. No. 3, Texas City, Tex., Mch. 5.

Blodgett, H. H., Lt., relieved from duty with 19th Inf., and assigned to duty as Asst. to Surgeon Camp 7th Infantry, Mch. 7, 1913.

Kennedy, J. S., Res. Corps, arrived at Ft. Riley, Kansas, Mch. 10, on 21 days' leave absence, enroute from San Fran. to Ft. Barrancas, Fla.

Snapp, J. H., A.D.S., ordered to San Juan, P. R., for 4 mos. from Feb. 1, 1913, and to Henry Bks. for 1 month, thereafter. Then return to station Camp E. S. Otis, Panama.

Changes for the week ended March 22:

Capt. C. L. Cole, ordered to Ft. Sam Houston, Tex., Dept. Laboratory; arrived Mch. 14th.

Koerper, C. E., Major, reported for duty as Surg. 29th Infantry, Mch. 11.

E. Frederick Thode, M.R.C., ordered to active duty Apr. 1, 1913, and will proceed to Ft. Hamilton, N. Y.

Capt. W. L. Pyles, M.C., left Ft. Adams, Rhode Island, and arrived at Ft. Grable, Mch 14, for tempo. duty.

Capt. F. Schmitter, Med. Corps, relieved from duty at Ft. Grable, Mch. 15, and left post on leave of absence for one month and 15 days.

Major W. J. L. Lyster, returned to Fort Oglethorpe Mch. 13, from leave of absence.

Frank Billings, 1st Lt., M.R.C., associate professor, Medical School, U. S. Army, left Chicago, Mch. 7, for Wash., D. C., to lecture at the Army Medical School.

Capt. George D. Heath, Medical Corps, left San Francisco, Mch. 13, on leave of absence.

First Lt. J. A. Worthington, relieved from duty in the Southern Department.

First Lt. H. H. Van Kirk, will report to the Commdg. Genl., Western Dept. for duty.

Capt. R. C. Loving, Med. Corps, order to Fort Bayard, N. M., for duty.

Major Henry Page, granted leave of absence for 3 mos. and 11 days, with permission to go beyond the seas.

First Lt. E. P. R. Ryan, Dent. Surg., ordered to Ft. Slocum, N. Y., for duty.

Major B. J. Eiger, relieved from duty at Fort William Henry Harrison, Montana, and ordered to Fort George Wright, Washington, relieving Major E. A. Dean, who upon being thus relieved will proceed to the Presidio of Monterey, California, for duty, relieving Major William F. Lewis, who will proceed to the Presidio of San Francisco for duty.

Lt. John G. Ingold returned to Camp Douglas, Ariz., from tempo. duty at Maco, Ariz.

Lt. G. L. Mason, Dent. Surg., left Ft. Snelling, Minn., Mch. 19, for Texas City, Texas.

Major E. W. Rich, Medical Corps, Mch., 18, 1913, reported for duty at Galveston, Tex., as chief surgeon base, and port of embarkation.

First Lt. H. G. Voorhies, Dent. Surg., left Ft. Leavenworth, Kans., March 20, for Texas City, Tex.

—o—

Medical Corps, U. S. Navy

Changes for the week ended March 22:

Medical Director P. A. Lovering, detached from Naval Hospital, Mare Island, Cal., and ordered to Washington, D. C., and to await orders.

Asst. Surgeon R. G. Davis, detached from Naval Medical School, Washington, D. C., and ordered to Naval Proving Ground, Indian Head, Md.

P. A. Surg. E. P. Huff, detached from marine detachment on *Prairie*, to *Florida*.

Act. Asst. Dental Surgeon J. W. Crandall, detached from receiving ship, New York, and ordered to naval training station, Newport, R. I.

Act. Asst. Dental Surgeon J. L. Brown, detached from naval training station, Newport, R. I., and ordered to naval station, Guam.

Asst. Surgeon J. A. Tempkins, N.M.R.C., ordered to Navy Yard, New York.

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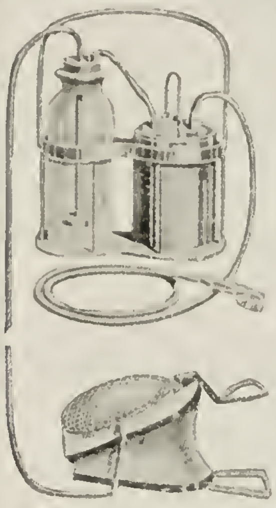

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(Continued from preceding page)

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FOR SALE—IOWA—MODERN COMBINED office and residence, equipped for hospital, including unopposed practice of $5,000 annually, in up-to-date, rapidly growing town of about 400 inhabitants; good school and churches; surrounded by very best farming country of state; solid German community; good roads; make money from start; bears closest investigation; will sell on easy terms; write. Add. 4332 N, % AMA.

FOR SALE—IOWA—A $3,000 PRACTICE in a good town of 2,500; good territory, good roads and collections; competition just right; office outfit, library, instruments and property for $1,000; half cash; going to specialize. Add. 4324 N. % AMA.

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FOR SALE—NORTH CENTRAL KANSAS —$2,700 practice to purchaser of 8-room office and house combined; two lots, barn and garage, drugs, for $2,200; town of 300; fine farming country; good roads; railroad division; local surgeonship transferable; 3 churches; good schools; moving to city; automobile optional. Add. Box 13, Manchester, Kan. N

FOR SALE—SOUTHEASTERN KANSAS — Practice of $3,500; county seat 2,500; to purchaser of modern residence and stock of medicines; actual value $6,000; liberal terms; examiner 25 old-line companies; will remain partner to introduce; act quickly. Add. 4413 N, % AMA.

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FOR SALE—SOUTHEASTERN KANSAS—Practice $200 monthly; population 10,000; fine schools, churches and people; natural gas; modern 7-room residence on paved street; household furniture nearly new, barn, driving equipment, office drugs and equipment except books and instruments; price, $3,500; terms on part; will bear investigation; reasons for selling. Add. 4412 N, % AMA.

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FOR SALE—MISSOURI — UNOPPOSED practice, $3,500 to $4,000 yearly, will be given to purchaser of my new 8-room house, large barn and 6 lots; price, $2,000; terms to suit the purchaser; no competition closer than 10 miles; rich farming country; collections 95 per cent.; reason for selling, have been elected county collector. Add. Marion Dillon, M.D., Fairfield, Mo. N

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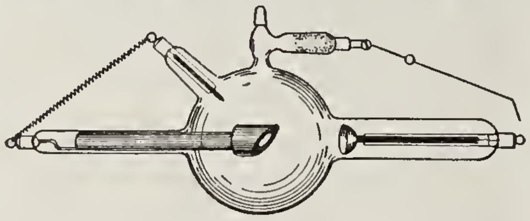

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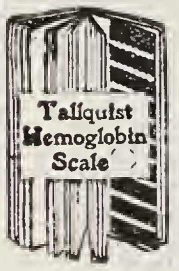

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FOR SALE—OHIO A STRICTLY MODern house and office on one of the best physician's corners in Dayton, Ohio; house, 6 rooms and bath, and 3 rooms in office, built together. Dr. George P. Dale, Fourth and Broadway, Dayton, Ohio. N

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FOR SALE—EASTERN SOUTH DAKOTA—$3,000 practice; town of 800; largest in county; large territory in rich farming district; four-year high school; surgery would increase practice; one other physician; well-equipped office; static and *x*-ray; steam heat, electric lights, water; for less than invoice; $375; part cash; reason, postgraduate work. Add. 4295 N, % AMA.

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FOR SALE—SOUTHERN WASHINGTON—Town about 2,000 in thickly populated fruit belt; mild winters; can run car all winter; good railway center; water transportation; splendid public and high schools, good churches; best class of people; competition easy; $6,000 to $9,000 practice to purchaser of my modern 12-room Spanish mission bungalow; garage same design; near center of town on corner lots that will eventually be business lots; also automobile, x-ray coil, electric diagnostic outfit, oscillating current, centrifuge, wall plate, compressed air nose and throat outfit, vibrator, scales, sphygmomanometer, hot-air outfit, operating-table, instrument cases, oxygen generator, American case filing system, typewriter, desks and office furniture; must be seen to be appreciated; price, $7,500; $4,500 cash; balance terms; reason for selling, wife's health; good opening for young man to do surgery. Add. 4400 N, % AMA.

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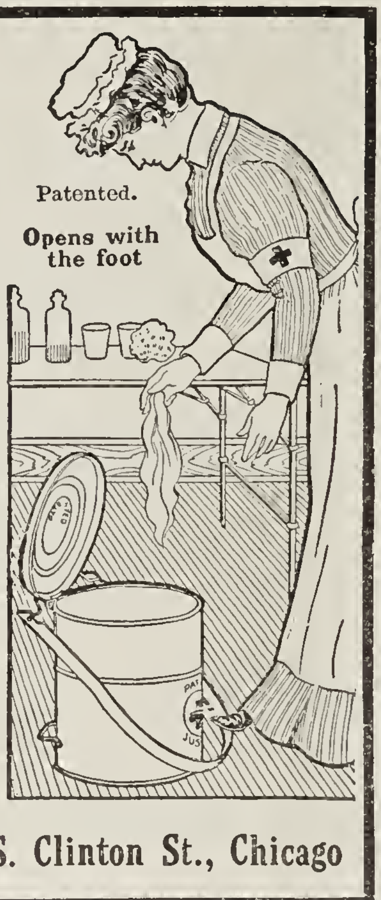

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FOR SALE—WISCONSIN — $3,800 PRACtice with modern residence and office (11 rooms), electric light, city water; on business lot in good town; 900 population; on railroad; good roads; one competitor; other towns 6, 14 and 20 miles; price, $2,000; immediate possession and introduction; good opportunity. Add. 4296 N, % AMA.

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FOR SALE — SANATORIUM FOR OUTpatients only; hospital construction; separate departments for men and women; built and elaborately equipped for all forms of physical therapy, including hydrotherapy, thermotherapy, electrotherapy, vibrotherapy, phototherapy, etc; exceptional opportunity to secure institutional practice in Chicago; owner retiring; for particulars enclose commercial reference. Add. 4220 O, % AMA.

FOR SALE — A SANITARIUM IN THE east; well located in a renowned health resort; equipped with every modern remedial appliance, including all forms of electricity, operating and sterilizing rooms, all kinds of baths, including Turkish, Russian and mineral baths; would be sold for half the original cost. Add. 4179 O, % AMA.

FOR SALE — TEXAS SANATORIUM— Population 12,000; fastest growing city in state and most rapidly developing section U. S.; sanatorium and office fully equipped; capacity to 20; reason, wife's health; competition very light; best year-round climate U. S.; easy terms; thorough introduction; only institution vast section and possibilities for referred work unlimited; unexcelled roads, fees and collections; state available capital. Add. 4253 O, % AMA.

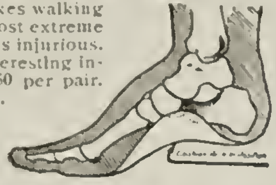
LOCATIONS FOR SANITARIA

FOR SALE—ILLINOIS—FOR SANITArium—Shirra homestead at Arlington Heights, Ill., a suburb 22 miles from Chicago; 13 large room, broad veranda, shade and fruit trees; large lawn, garden and 5 acres of land; ideal for private sanitarium; a bargain to close estate; easy terms. W. E. Shirra, Executor, 901 Otis Bldg, Chicago, Ill. P

GENTLEMEN — PLEASE DISCONTINUE advertisement No. ——. I sent check for four insertions; two is plenty. Very respectfully, ————————.

(*Continued on next page*)

FOR SUFFERING FEET Dr. Thomas' Health Cushion Arch will restore and prevent broken down arches, flat feet and weak ankles; remove callouses and pains in limbs and back often diagnosed as "rheumatic pains." No metal. Makes walking easy and comfortable even in most extreme cases. Rigid arches are ofttimes injurious. At reliable stores. Write for interesting instructive literature. Price $2.50 per pair. We also make arches to order. Fit and guarantee.



CUSHION ARCH CO.
R.614, 22 Quincy St., Chicago

"AMBUMATIC" WASHABLE ABDOMINAL

SUPPORTERS

Patented. Made buckled or laced.

DO THE WORK "JUST RIGHT"

ADJUSTABLE FOR "LIFT-UP" OR "BINDER SUPPORT"

To any part of the abdomen. Adapted to any person, any condition requiring efficient, comfortable support.

Call or send to-day for folder, order blansk and catalog.

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ORTHOPEDIC APPLIANCES

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Your correspondence solicited, given careful attention and full information. Phone Cent. 4623

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THE AMBULATORY PNEUMATIC SPLINT

To secure greatest comfort, shortest period of confinement, best results and health for your

FRACTURES

of leg, knee, thigh, and hip patients. All dealers and direct from us. Wire order. State fracture, which limb, sex. Send for booklet, prices, etc. Recommend it.

Amb. Pneu. Splint Mfg. Co., 30 (A.) E. Randolph Street, Chicago

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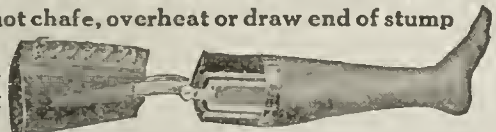
ERICKSON LEG

Does not chafe, overheat or draw end of stump

Send for new Catalog "C"



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SCIENTIFICALLY CONSTRUCTED

Orthopedic Appliances

FOR

- **Infantile Paralysis**
- **Scoliosis**
- **Pott's Disease**
- **Hip-joint Disease**
- **Weak Ankles**
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AND ALL OTHER DEFORMITIES

All our Braces made from plaster casts only!

Every form of appliances, trusses, elastic stockings, specially imported abdominal supporters and comfortable corrections for deformities manufactured by us.

Full particulars gladly furnished upon request.

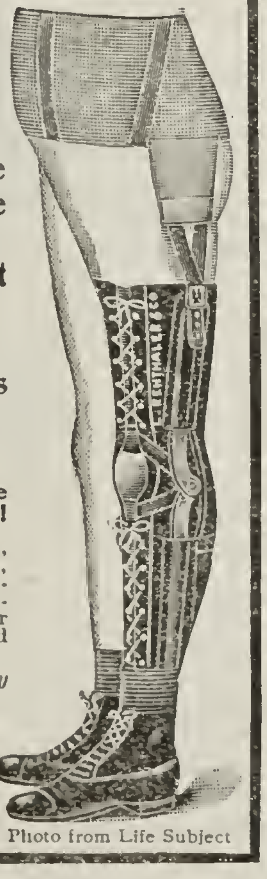

Photo from Life Subject

Rehthaler Orthopedic Appliance Co.
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Tel. Randolph 1873

FOR SALE—A FINE BUILDING BUILT of red pressed brick and stone, containing 60 rooms, lighted by electricity and heated by steam; stands upon 10 acres of land lawned and landscaped; located in a lively city on the main line of railroad between Kansas City, Mo., and St. Louis; this is an ideal place for a sanatorium; will pay big; I will sell the property at a bargain and will give time to pay for it. Add. J. J. O'Connor, 534 Bowen Ave., Chicago, Ill. P

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FOR RENT—CHICAGO—HOURS 9 TO 12 and 12 to 1 in Suite 1312 Reliance Bldg.; large windows, superb view, perfect northern light; laboratory, office and reception room well furnished and attractive. For details call Central 5048, Dr. E. C. Knight. Q

FOR RENT—MODERN 5-ROOM CORNER flat, with 2-room corner office in basement under said flat, in new building at northwest corner Monroe St. and 42 Ave., Chicago; suitable for doctor or dentist. Add. W. D. Jones, 4206 W. Monroe St., Chicago. Q

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FOR RENT—CHICAGO — PHYSICIANS' hours; morning and afternoon; new building; best location and finest suite in loop; outside office; everything furnished; two unlimited phones; $6 to $10 an hour, according to hours selected. Add. 4383 Q, % AMA.

EXCHANGE

EXCHANGE—I HAVE 40 ACRES OF good Iowa land to trade for physician's practice and property in live town, Nebraska or Colorado; can pay cash difference, if any; must bear investigation; give all particulars in first letter; want to take possession about May 1. Add. 4411 R, % AMA.

MISCELLANEOUS—FOR SALE

FOR SALE—PATENT OF NEW APPARATUS for successful treatment of scoliosis (curvature of spine); patented in several countries; the inventor is using same with good results; severe cases greatly improving after other methods have failed; purchaser will find this a lucrative investment. Add. Inventor, 39 Beachamp Road, Clapham Junction, London, England. S

MEDICAL ILLUSTRATORS

WE MAKE MEDICAL ILLUSTRATIONS for all purposes. W. H. Hoedt Company, 308 Chestnut St., Philadelphia, Pa. X

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MEDICAL AND DENTAL REVIEW—Rapid and thorough preparation for all examinations. Up to the minute. Crum Medical Review Course, 106 Garfield Ave., Kansas City, Mo. T

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WANTED — YOUNG WOMEN OF GOOD moral character and personal appearance from 20 to 30 years of age to enter the training school of a first-class hospital which is recognized under the laws of Illinois. The hospital is located opposite the beautiful Washington Park and affords a delightful place to live. Apply Supt. of Nurses, Washington Park Hospital, 447 East 60th St., Chicago, Ill. C

NUNRSES WANTED

WANTED—SUPERINTENDENTS, SUPERintendents of nurses, assistant superintendents, night superintendents, surgical nurses, visiting nurses and dietetians desiring institutional position. Hospital authorities from all parts of United States write us for well-qualified state registered nurses to fill executive positions in hospitals. Aznoe's Central Registry for Nurses, 501 East 34th Place, Chicago. HH

(Continued on next page)

Electrically Lighted Surgical Instruments

Following out the suggestions and designs of eminent practitioners, we are continually adding new instruments to our line, and improving others already recognized as standard. The seventh edition of our catalogue, shows all these latest forms.

The following are some of the instruments included in our complete line.

Naso-Pharyngoscopes
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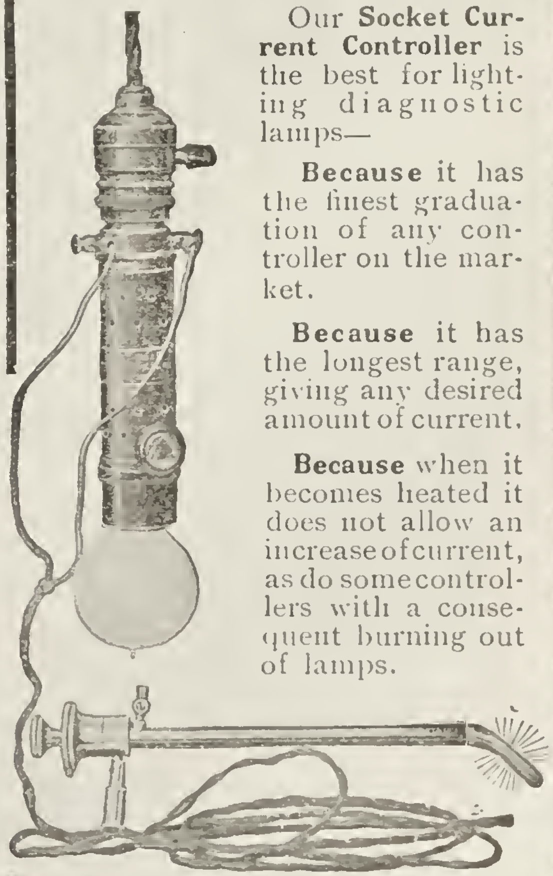
Cystoscopes
Uterine Endoscopes
Vaginal Specula
Socket Current Controllers
Socket Cautery Transformers, Etc.

For the lighting of these instruments we recommend our Socket Current Controller, shown in the illustration.



Our **Socket Current Controller** is the best for lighting diagnostic lamps—

Because it has the finest graduation of any controller on the market.

Because it has the longest range, giving any desired amount of current.

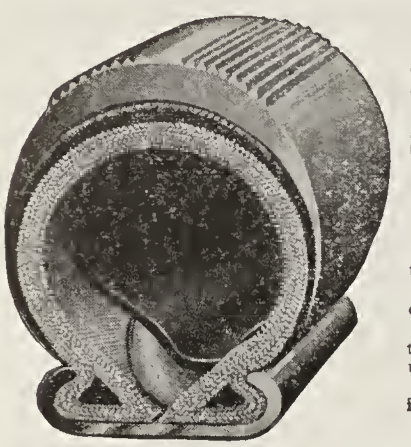
Because when it becomes heated it does not allow an increase of current, as do some controllers with a consequent burning out of lamps.

Socket Current Controller with Cystoscope

Catalogue mailed upon request

Origination Begets Imitation
Be Sure of Our Exact Name

Electro Surgical Instrument Co.
Rochester, N. Y.



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HEAVY CAR TYPE TIRES

SPECIALLY BUILT FOR HARD CONTINUOUS SERVICE

The cost of tire maintenance on a doctor's car is a matter for careful consideration.

The **America Heavy Car Type Tires** are specially designed and built to meet the severe requirements of such hard service.

The walls are of extra heavy fabric and the tread is specially compounded and cured to give extreme wearing quality.

Our direct selling method enables us to offer an extra service, strictly high grade tire fully covered by **the standard 3,500-mile guarantee at 15 to 25 per cent.** under other guaranteed tires.

All **America Heavy Car Type Tires** are sold with privilege of return if not found upon examination to be entirely satisfactory, and the decision lies with you.

Note the following prices of standard sizes. Other sizes in proportion:

Size	Case	Tube	Size	Case	Tube	Size	Case	Tube	Size	Case	Tube
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30 x 3	10.95	2.55	32 x 3½	16.85	3.80	33 x 4	24.85	4.75	36 x 4	27.15	5.10
32 x 3	11.85	2.65	34 x 3½	17.90	3.90	34 x 4	25.45	4.90	35 x 4½	33.75	6.30

Send us your order and we will save you trouble, delay and money. TERMS—Cash with order or C. O. D.

AMERICAN TIRE & RUBBER CO. 1229-31 South Michigan Ave. CHICAGO

Catalog of Tires, Tubes and Sundries upon request.

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TOPS NEW AND RECOVERED—CUSHIONS and backs new; carpet rugs for floors; excellent materials and workmanship. W. H. Newton & Son, 121 Elm St., Cortland, N. Y. CC

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WANTED — ADDITIONAL CAPITAL TO further develop a sound business enterprise that has passed the experimental state; product thoroughly ethical and scientific; Illinois corporation; fullest investigation invited. Add. 4283 KK, % AMA.

ON QUESTIONS OF HEALTH ONE should consult a doctor. On questions of the safe investment of one's surplus funds one should consult an investment banker of experience and standing. We will be pleased to be called into consultation by physicians on all matters pertaining to investments and to suggest safe securities netting 5½ to 6 per cent. Call or write for the *Investors' Magazine*, which we send free to investors, and for Circular No. Z-1000. S. W. STRAUS & CO., Inc., Mortgage and Bond Bankers. Established 1882. Straus Building, Chicago, and One Wall Street, New York. KK

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OLIVER VISIBLE TYPEWRITER FOR sale cheap; machine is in perfect condition and does splendid writing; could ship on trial. Charley D. Rickart, Route 5, Rosedale, Kan. LL

COLLECTIONS AND MED. BROKERS

DO YOU WANT TO BUY, SELL OR EXchange?—Write us if you do. Service furnished; 2c brings "Opportunity List" or selling plans. Opportunity Agency, Suite 3-114½ W. 2nd St., Little Rock Ark. EE

DRUG STORE (SNAPS) WITH AND WITHout practices; medical practices handled and furnished, likewise dental and veterinary practices; nurses furnished and located; drug positions; all states. F. V. Kniest, R.P., Omaha, Neb. Estab. 1904. EE

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PUBLISHERS AND PRINTERS

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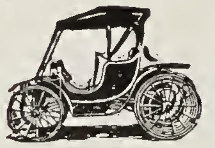
RED CROSS PUBLICATIONS — BOOKS prepared for and endorsed by the National Red Cross Society. For description of the complete and also abridged editions refer to our adv. on page 12, this issue. Full details of the editions mailed free on request. When writing mention J. A. M. A. P. Blakistons Son & Co., 1912 Walnut St., Philadelphia. GG

An Automobile ℞ For Muddy Roads

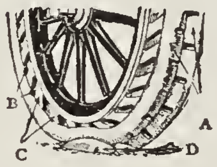


Is our Motor-buggy. It is the only successful mud wagon made; and it is a regular goat for hill climbing. Light weight, large wheels, solid rubber tires, the right kind of an engine for strong pulling at low speeds, and above all, the ROLLER DRIVE, make the most practical motor-driven vehicle on the market. A good motor-buggy has long been needed: it can now be had for $487.50: a 4-passenger car for $537.50.

If one is willing to keep his speed down to about twenty miles per hour, these cars will take him over the country more comfortably, more surely, and far more cheaply than anything else made. **And they go through the mud.** Send for catalogue.

C. J. DURYEA MOTOR CO., **Saginaw, Mich.**

MOTZ Cushion Tires



A—Shows *double*, notched treads.

B—Shows undercut sides.

C—Shows slantwise bridges.

D—Shows absorbing means when passing over an obstruction.

For Pleasure Cars and Light Delivery Cars

Send for Pamphlet 151

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is refined by us from Pennsylvania Crude Oil. It contains **No Carbon, has High Fire Test, Low Cold Test and Great Viscosity.**

Sold by all dealers or will be shipped direct from our refinery, Bradford, Pa., in 5 or 10 gal. cans, barrels or half barrels. Your money back if not satisfactory in every respect.

Prices and samples upon request.

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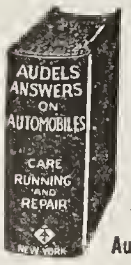

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AUDELS ANSWERS on AUTOMOBILES

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PHYSICIANS' LABELS — SIZE 2" X 3"—Your name, address and blank lines for directions, non-curling gummed paper, 1,000 prepaid for $1, money order, drafts or stamps (no checks). McDonald & Co., 1863 Ogden Ave., Chicago. GG

HOW DOES THE QUACK DOCTOR CONduct his business? What are the ingredients of the widely advertised "patent medicines"? These questions are answered by scores of exposés, illustrations and tabulated explanations in the new edition of Nostrums and Quackery. Step by step it describes the methods of the quack. Samples of form letters are given, testimonials are traced down and shown to be worthless or fraudulent, the "patent medicines" themselves have been analyzed; all this information and much more on allied miscellaneous subjects is systematically arranged and indexed in the new edition. Over 300 illustrations. Cloth, 708 pp. Price, $1.50 postpaid. Amer. Med. Assn., 535 Dearborn Ave., Chicago. GG

ARE YOU GOING TO MOVE? CAN YOU register in that state? This is a question which every physician who desires to locate in another state must necessarily answer. Many of the states have established reciprocal relationship, but there are still a great many which do not recognize a practitioner's certificate from another state. All questions on this subject are answered in the book, "Laws Regulating the Practice of Medicine in the United States and Elsewhere," which will be mailed to any physician on receipt of 30 cents in stamps. In its pages the requirements for registration by the various state boards are fully described, and laws regarding reciprocity outlined clearly so that the applicant can at once know how to proceed in order to secure his new license. Book mailed same day your order reaches us. American Medical Association, 535 Dearborn Ave., Chicago. GG

CAN YOU WRITE PRESCRIPTIONS? Nothing better denotes an educated and up-to-date practitioner than his ability to write simple and correct prescriptions. Nature is not a good physician nor a good surgeon. Physicians everywhere acknowledge that natural processes are fighting to perpetuate pathologic conditions just as hard as natural processes are endeavoring to eradicate the invasion. Right here is where proper medication tilts the balance in the positive direction. To assist and increase the interest in therapeutic work a Third Edition of the "Handbook of Therapy" has been published. In the present edition every statement is focussed toward practical clinical application of drugs. There are over 315 specimen prescriptions which physicians can refer to as model combinations and modify if necessary to meet special indications. Book mailed to any address on receipt of $1.50. American Medical Association, 535 Dearborn Ave., Chicago. GG

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WANTED—DO YOU WANT TO TRAVEL in the South this winter? We can offer you a remunerative and pleasant occupation; the work consists in soliciting orders for leading medical publications, also collecting delinquent accounts, etc.; liberal commissions are paid and an additional weekly cash salary as bonus is offered, based on the amount of business sent in; our solicitors are furnished advance information so that their work may be mapped out in detail in advance; we keep in close touch with your work and assist you in every way to obtain the maximum results; all necessary supplies furnished free; exclusive territory in the South now open; only men of good ability and satisfactory references need apply. For full particulars add. 4004 II. % AMA.

GENTLEMEN — PERMIT US TO SAY that we have sold the business advertised under No. ——. We knew we had the proposition—we knew our advertisement was well written and the display was good. That is all there was to it; THE JOURNAL did the rest. We sold to the first inquirer and could have sold to half a dozen others had we the proposition on hand the same as this one. Thanking you for your attention and wishing you every success in this line, we are, very truly yours, ————————.

(Continued on next page)

MISCELLANEOUS COMMER. ADVTS.

IF YOU HAVE NEVER HAD THE GOOD fortune to visit Yellowstone Park do not fail to make arrangements to go this year. The special excursion immediately following the Minneapolis meeting offers an opportunity that should not be overlooked. Write Mr. A. C. Odenbaugh, G. A. P. D., 144 So. Clark St., Chicago, for itinerary of trip and descriptive booklet regarding Yellowstone Park. KK

FOR SURGICAL OPERATIONS IN THE throat, around the jaws, cheeks, etc., our new ether apparatus is especially valuable. It affords an unrestricted field for operation and adds to the convenience and safety of anesthesia.• Special circular free on request. Full particulars are given in our adv. on page 27 this issue. McDermott Surg. Inst. Co., 734 Poydras St., New Orleans, La. KK

SECOND-HAND SURGICAL APPLIANCES and office furniture. Have you such to sell? Why not turn them into cash? Surgical instruments, books, chairs, vibrators, etc., are always of use to some doctor. Over 56,000 physicians read THE JOURNAL each week. Let them know what you have for sale. Insert a small adv. in these columns. You will be agreeably surprised at the profitable offers you will receive. KK

FOR FLUOROSCOPY AND RADIOGRAPHY our new "interrupterless" *x*-ray transformer successfully meets every requirement. A description of this equipment is given in our adv., page 60, this issue. Interesting circular matter and catalogues sent free on request. Please mention J. A. M. A. when writing. Victor Electric Co., Jackson Blvd. and Robey St., Chicago. KK

A. M. A. INSIGNIA—EVERY MEMBER should wear an A. M. A. button, pin clasp or watch charm. These emblems are adopted by the Association as the official A. M. A. insignia, and it is not only a privilege but an advantage for every member to wear one. Prices: Button or pin clasp, solid gold, $1; watch charm, solid gold, $10; rolled gold, $2. See adv. page 30 this issue. American Medical Assn., 535 Dearborn Ave., Chicago.

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that *Steel* and *Leather* is more durable than rubber, therefore save money by equipping your car with

Triple Tread Tires

Chrome leather treads fitted with steel studs constitute a tire that is

NON-SKID AND PUNCTURE PROOF

Write for our proposition for New Triple Tread Tires or for retreading your old tires.

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IF YOU WANT A PINT BOTTLE OF Welch Grape Juice, send us your address and we will have your druggist deliver it free. We will also send you literature describing the indications for the use of our product. Write us to-day. Welch Grape Juice Co, Westfield, N. Y. Our announcement appears on page 21, this issue. KK

PHYSICIANS DESIRING TO BUY A MIcroscope will be interested in our offer described on adv. page 56, this issue. Fill in the coupon given in the adv. and mail it. By doing so you will not be under obligation to buy unless our proposition pleases you. A. S. Aloe Co., 515 Olive St., St. Louis, Mo. KK

FEVER THERMOMETERS—FOUR ABSOlutely correct thermometers mailed to any address in U. S. on receipt of $1. We are manufacturers and sell direct to consumer. Safe delivery guaranteed. When ordering mention THE JOURNAL. Adolph Levy Co., 990 Broadway, Brooklyn, N. Y. KK

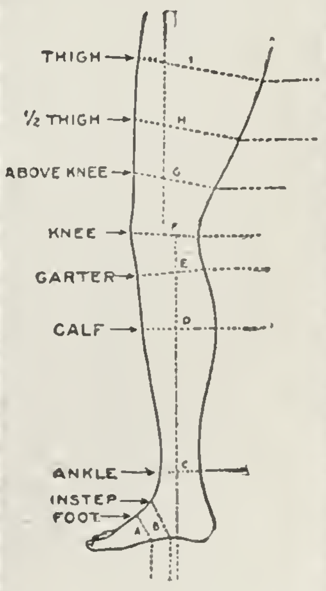
OFFICE AND HOSPITAL FURNITURE—Our new catalogue describes the most recent improvements for rapid and successful medical and surgical work. Copies mailed free on request if you mention J. A. M. A. when writing. One of our modern specialties is described on adv. page 59, this issue. Max Wocher & Son Co., 19 W. 6th St., Cincinnati. KK

MODERN EQUIPMENT FOR HOSPITALS—On page 10, this issue, is described our "Arm Immerser," the ideal outfit for use in preparing for operations, autopsies and all clinical examinations. Write for copy of our complete catalogue. Mailed free to physicians mentioning J. A. M. A. James B. Clow & Sons, Harrison St. Bridge, Chicago. KK

WRITE YOUR PRESCRIPTIONS, BILLS, in fact, all your correspondence on a typewriter. Our Blickensderfer No. 7 costs $17.50 and will do all the work you require. Send for full information of our various models. When writing mention J. A. M. A. Blickensdeerfer Mfg. Co., 121 N. Dearborn St., Chicago. Note adv. on page 25, this issue. KK

The "Master" Elastic Stocking

IT PULLS ON LIKE A BOOT



Directions

Place circumferences opposite corresponding points on the cut. Give length from floor to F.

PHYSICIANS' NET PRICE LIST

	Heavy Silk	Fine Silk	Thread
Garter Stocking, A to E	$3.56	$3.00	$1.88
Garter Legging, C to E	2.62	2.25	1.65
Knee Stocking, A to G	5.62	4.87	3.37
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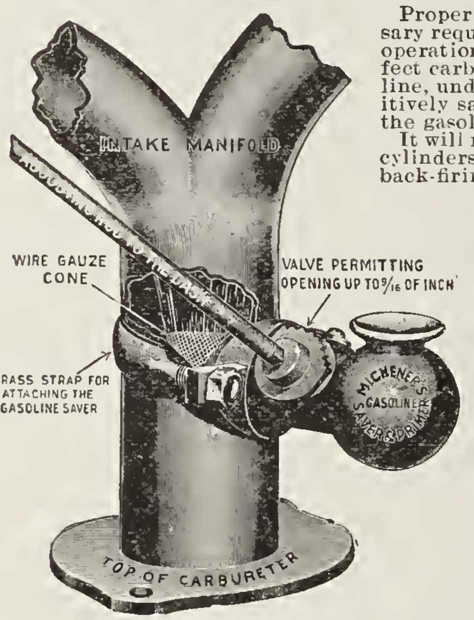
On receipt of price we deliver the goods by mail

Pomeroy Company
34 East 23d Street
NEW YORK

Write for Catalogue

Michener's Gasoline Saver and Primer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WIRE GAUZE CONE
VALVE PERMITTING OPENING UP TO 9/16 OF INCH
BRASS STRAP FOR ATTACHING THE GASOLINE SAVER
MICHENER'S GASOLINE SAVER & PRIMER
TOP OF CARBURETER

Pat. U. S. and Canada

Proper carburetion is the most necessary requirement of satisfactory motor operation. This device will insure perfect carburetion with any grade of gasoline, under all conditions. It will positively save you at least 25 per cent of the gasoline you now use.

It will remedy carbon deposits in your cylinders, sooty spark plugs, pounding, back-firing, overheating.

This Gasoline Saver is a simple device controlled by an adjusting rod on the dash or steering post. Regardless of low speed or weather conditions, it admits the "just right" amount of auxiliary air consistent with a mixture of highest efficiency By breaking up and mixing the gasoline globules with sprays of air, it proves a fuel economizer as well as a power producer. It pays for itself many times over in the gasoline it saves you and in the added service it gives your motor.

With this device you can prime your motor when it offers any difficulties in starting, by simply pouring some gasoline in the bowl of the Gasoline Saver, and giving the valve a small opening before cranking. This method of priming is infallible. It is the surest engine starter known.

Use your motor as a brake when coasting down hill. Close the throttle and open the air valve. It feeds the motor pure cold air, saving gasoline, cooling the cylinders and saving the brakes.

These are but a few of the many advantages the Gasoline Saver offers. Let us tell you about its other features, just as important.

$5.00 Dash Control; $6.00 Steering Post Control

Either Brass or Nickeled

EXPRESS PREPAID

State side of motor carburetor and steering post are on when ordering

E. S. MICHENER, Wallace Bldg., NEW CASTLE, PA.

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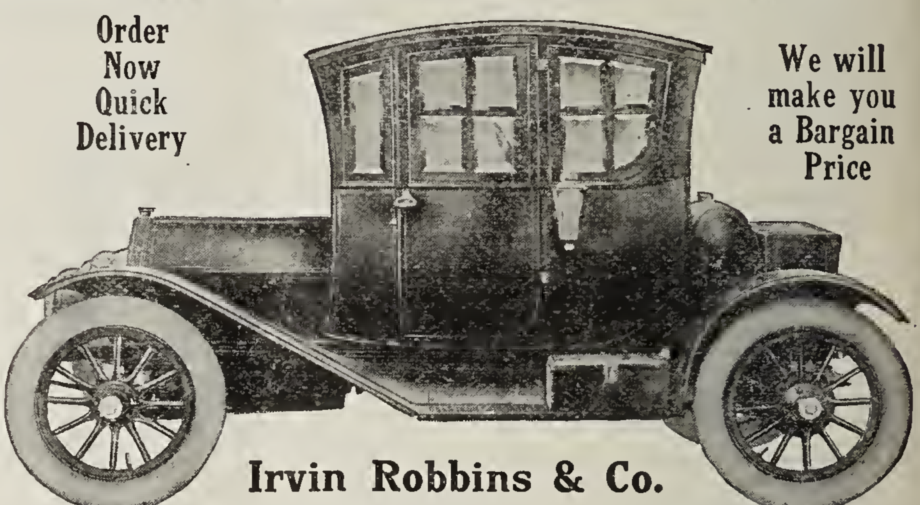
Order Now Quick Delivery



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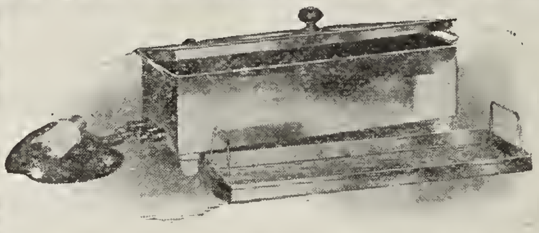

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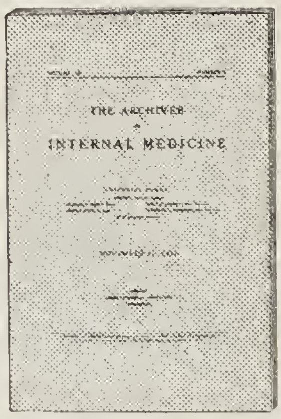

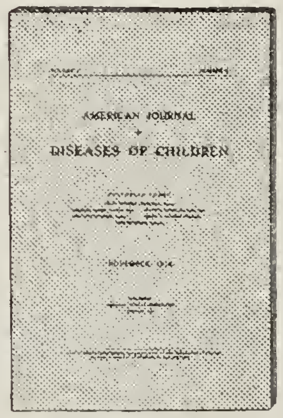

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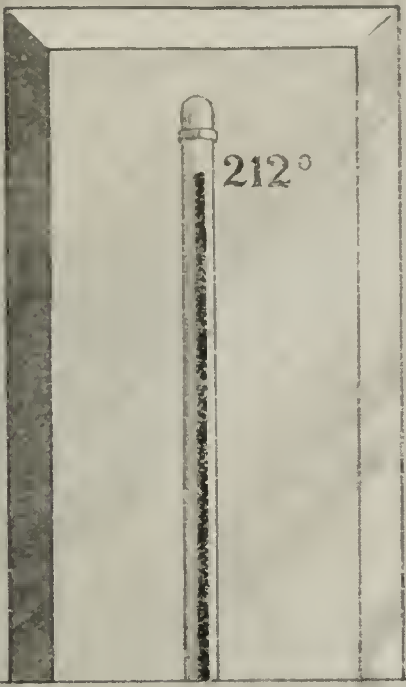

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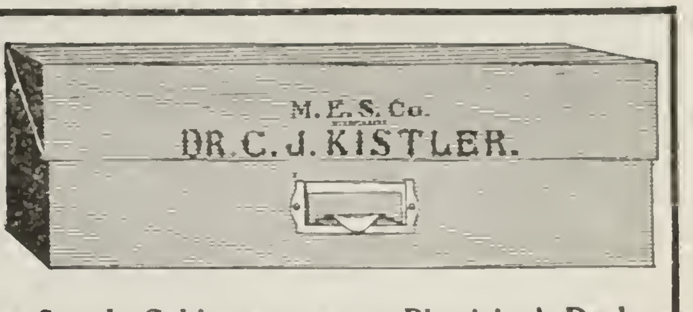
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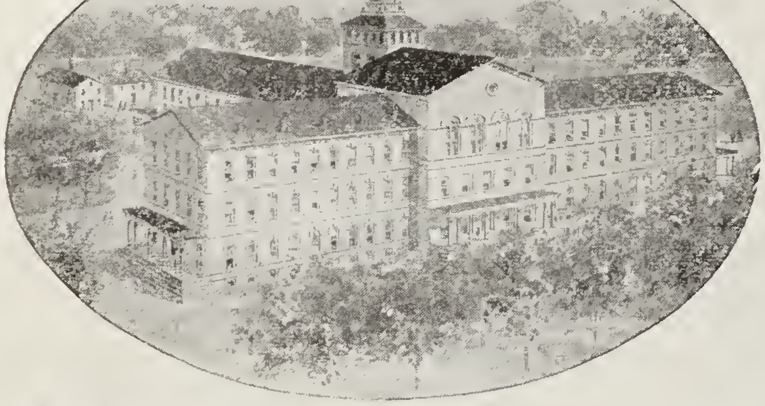

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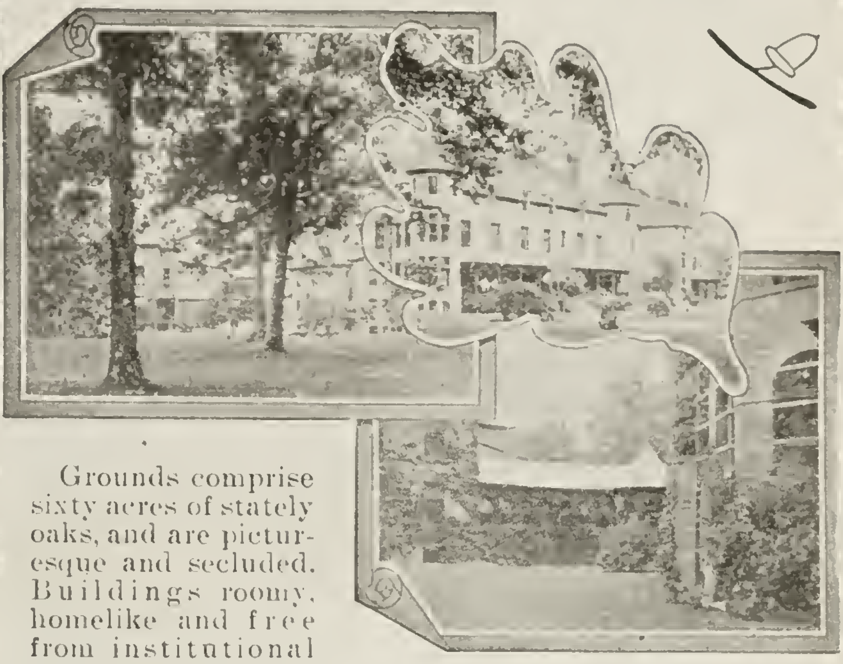

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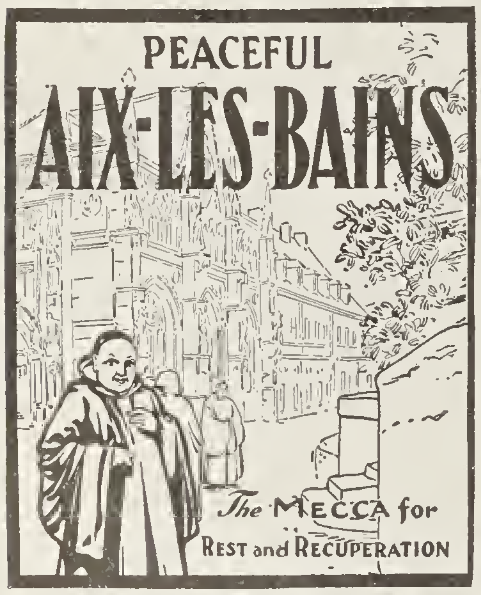

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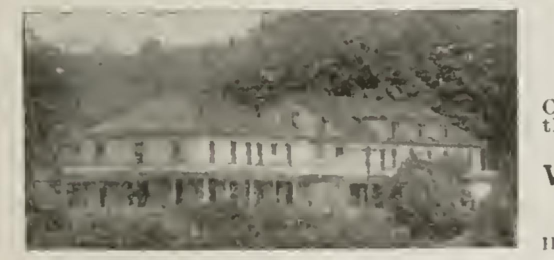

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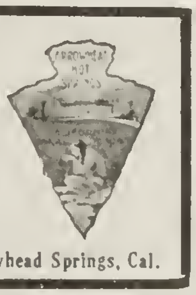

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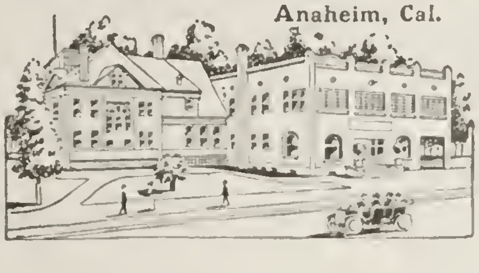

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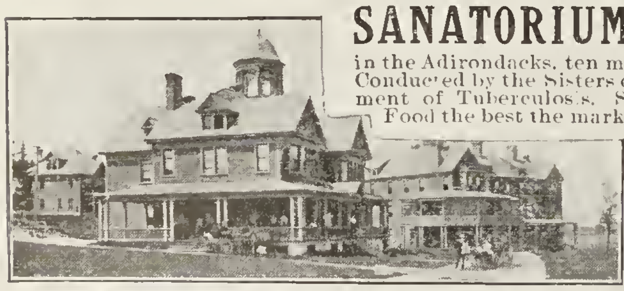

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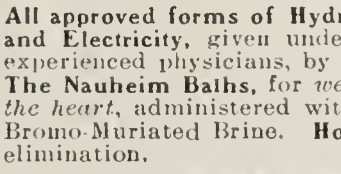

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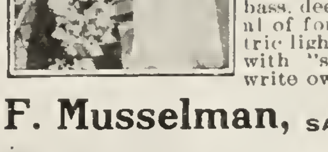

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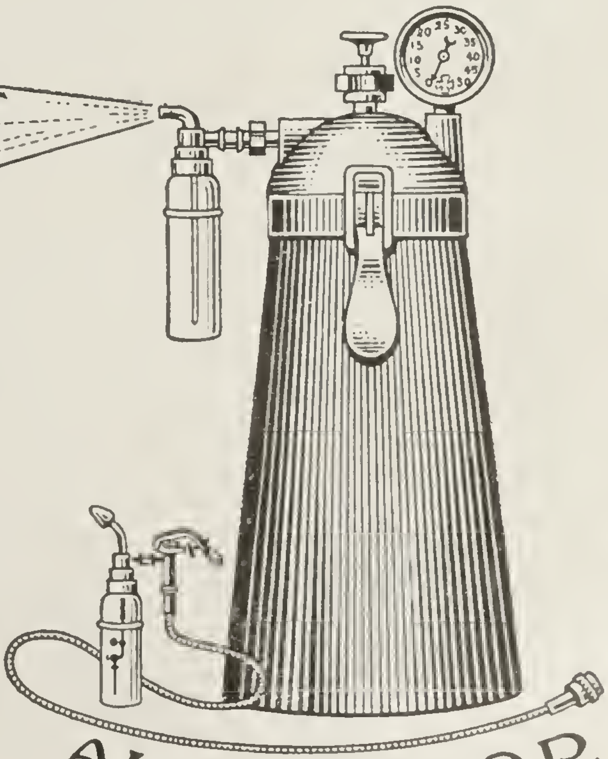

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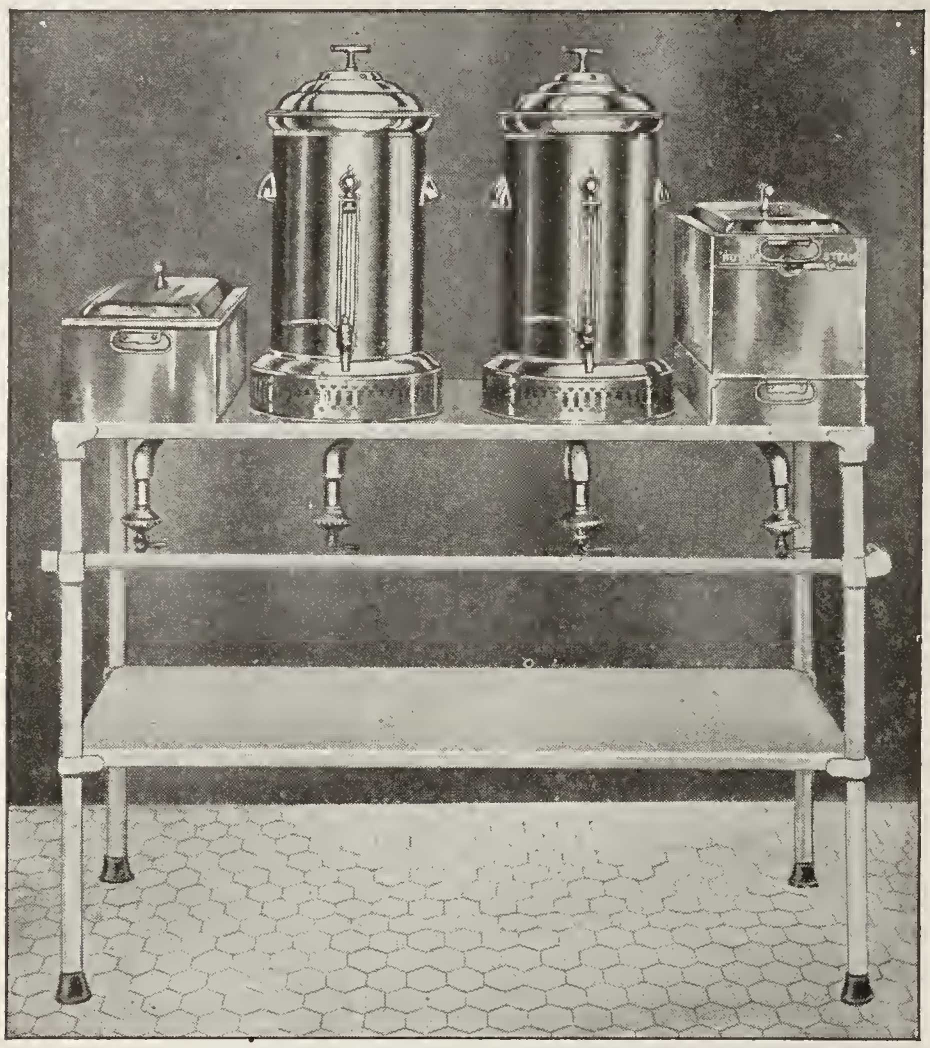

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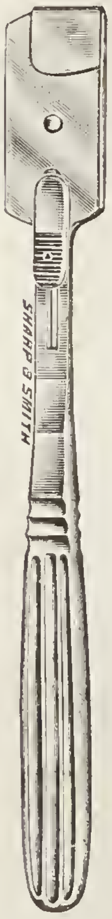

Fig. 2

Extract from The Journal of the American Medical Association
Volume LIX, Number 24.

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A second type of handle has the carrying arm provided with a broad flange which protects one cutting edge so that a single cutting-edged instrument, like the ordinary scalpel, is obtained. This scalpel handle has only one arm, which is turned down over the blade on top. The thumb ratchet when pushed up secures the blade below. Figure 2.

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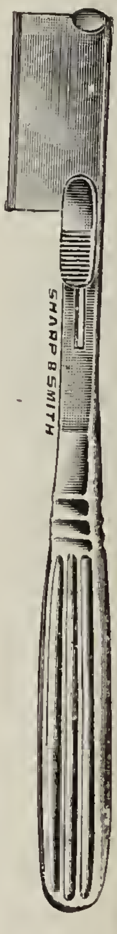

Fig. 3

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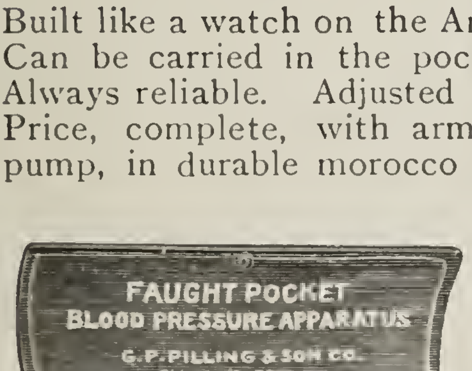

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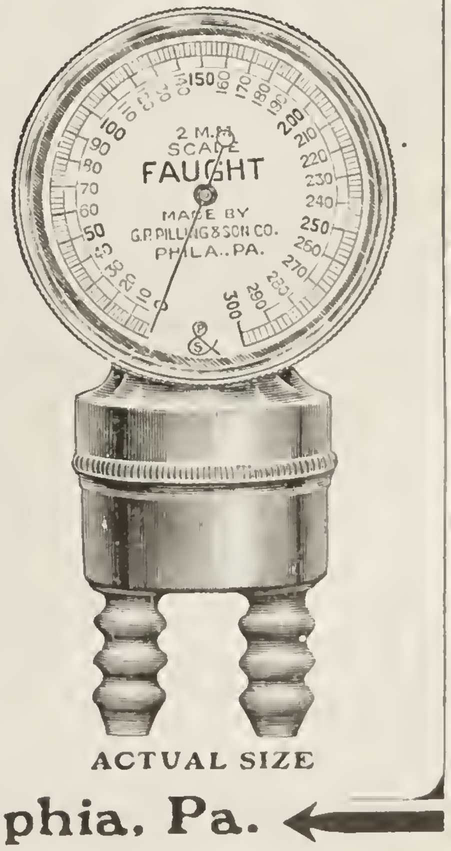

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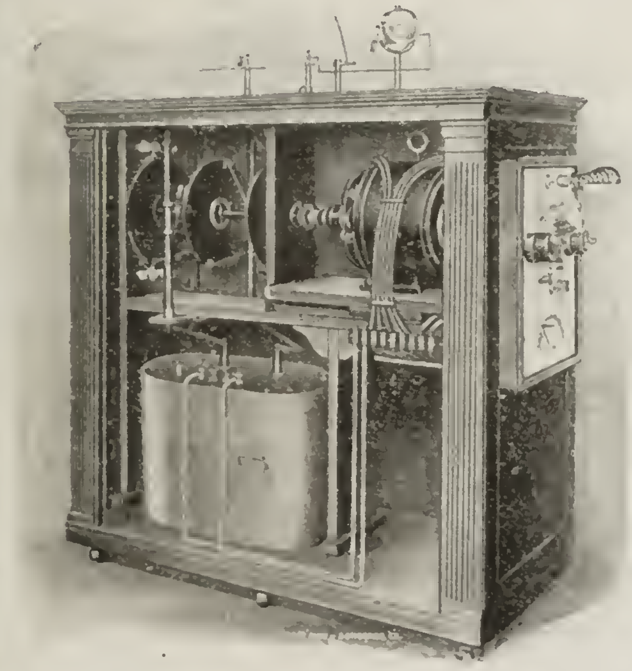

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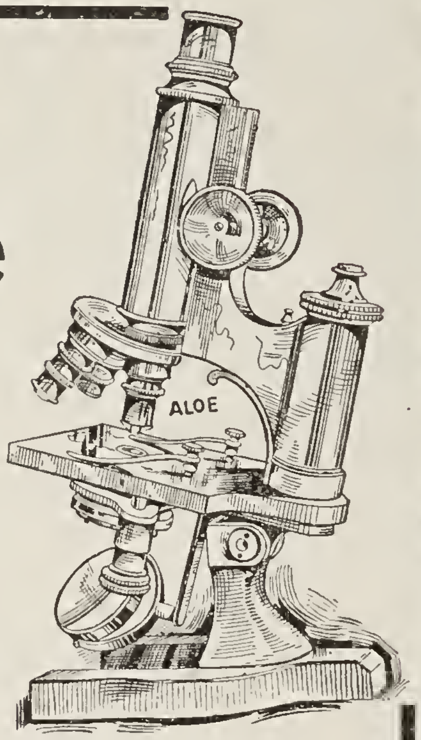

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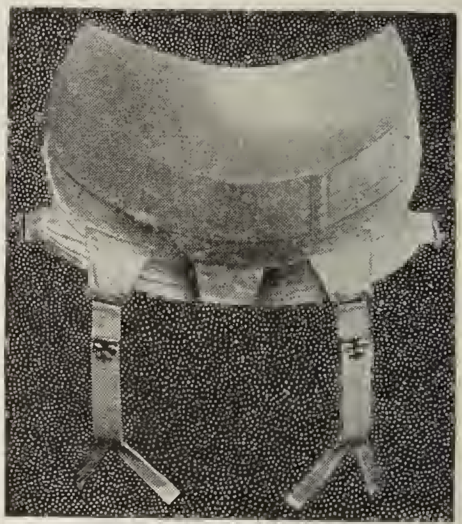

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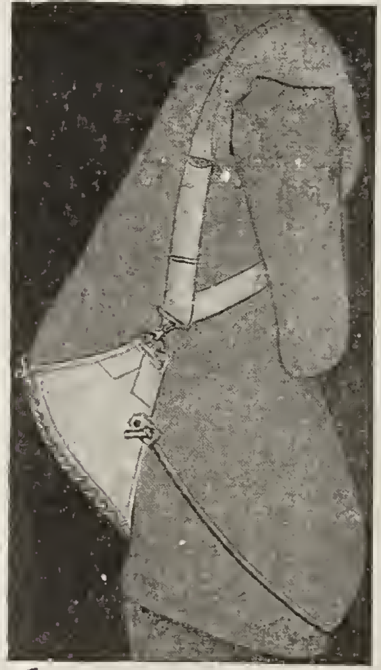

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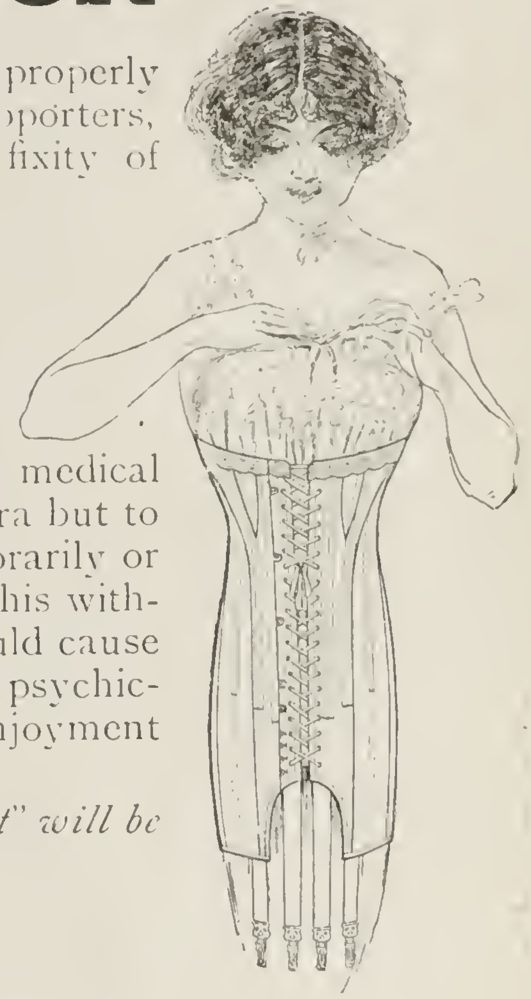

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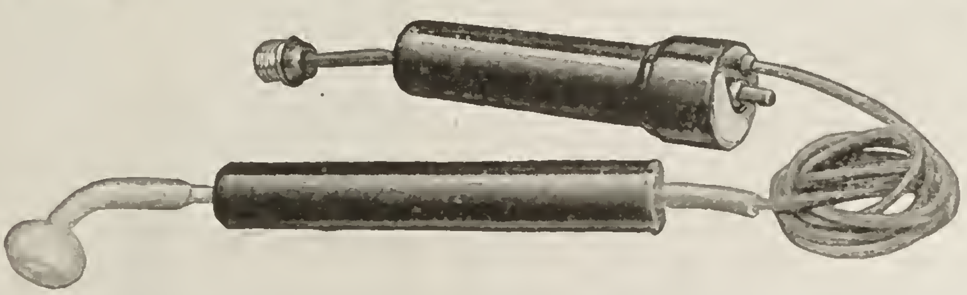

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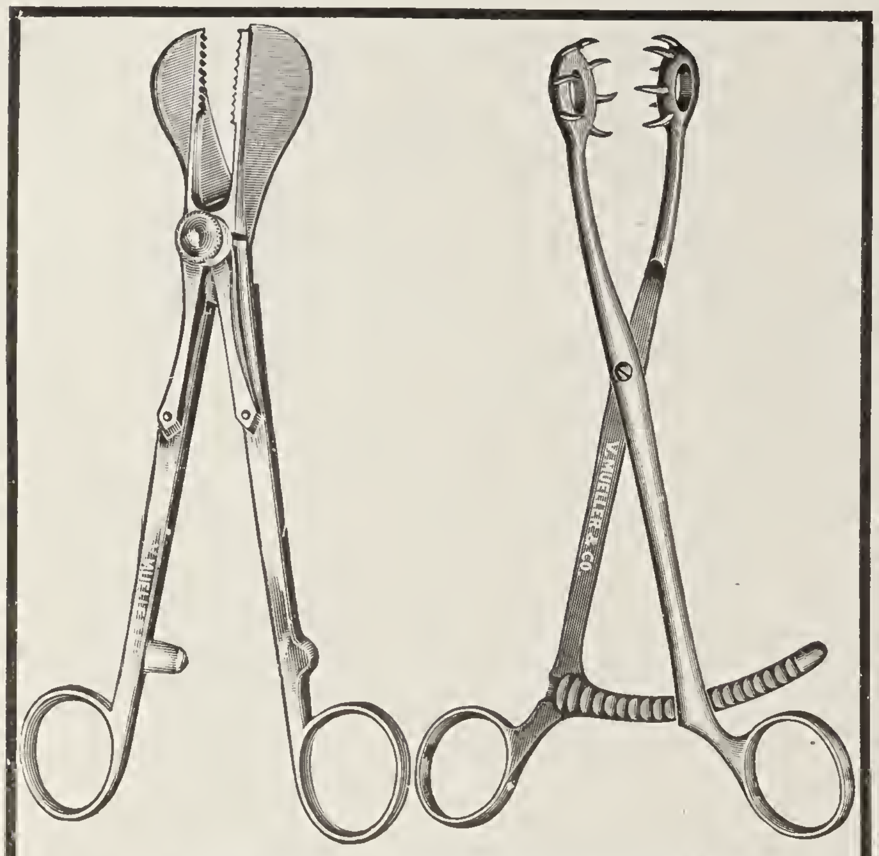

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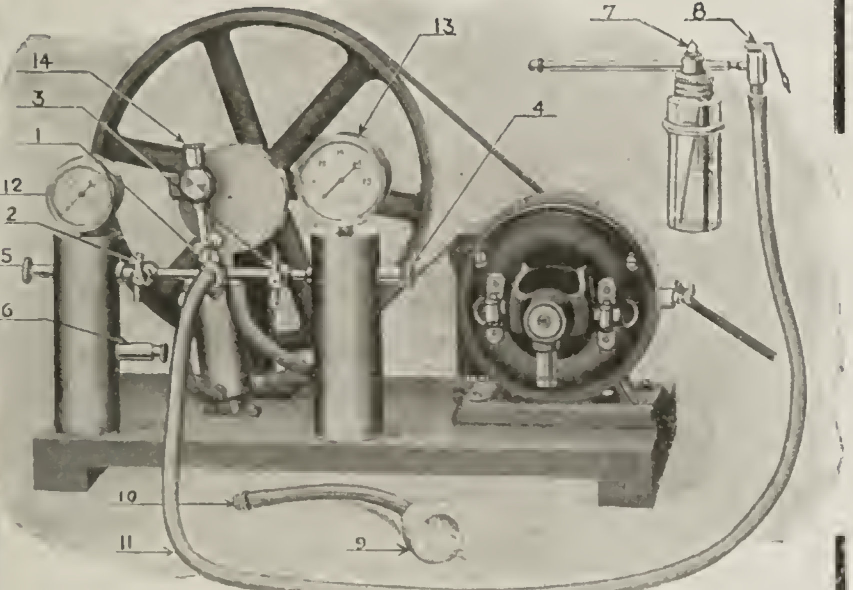

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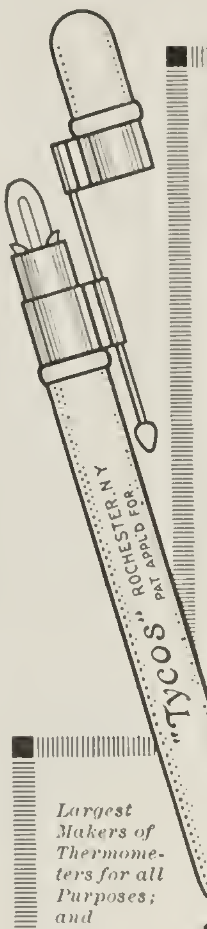
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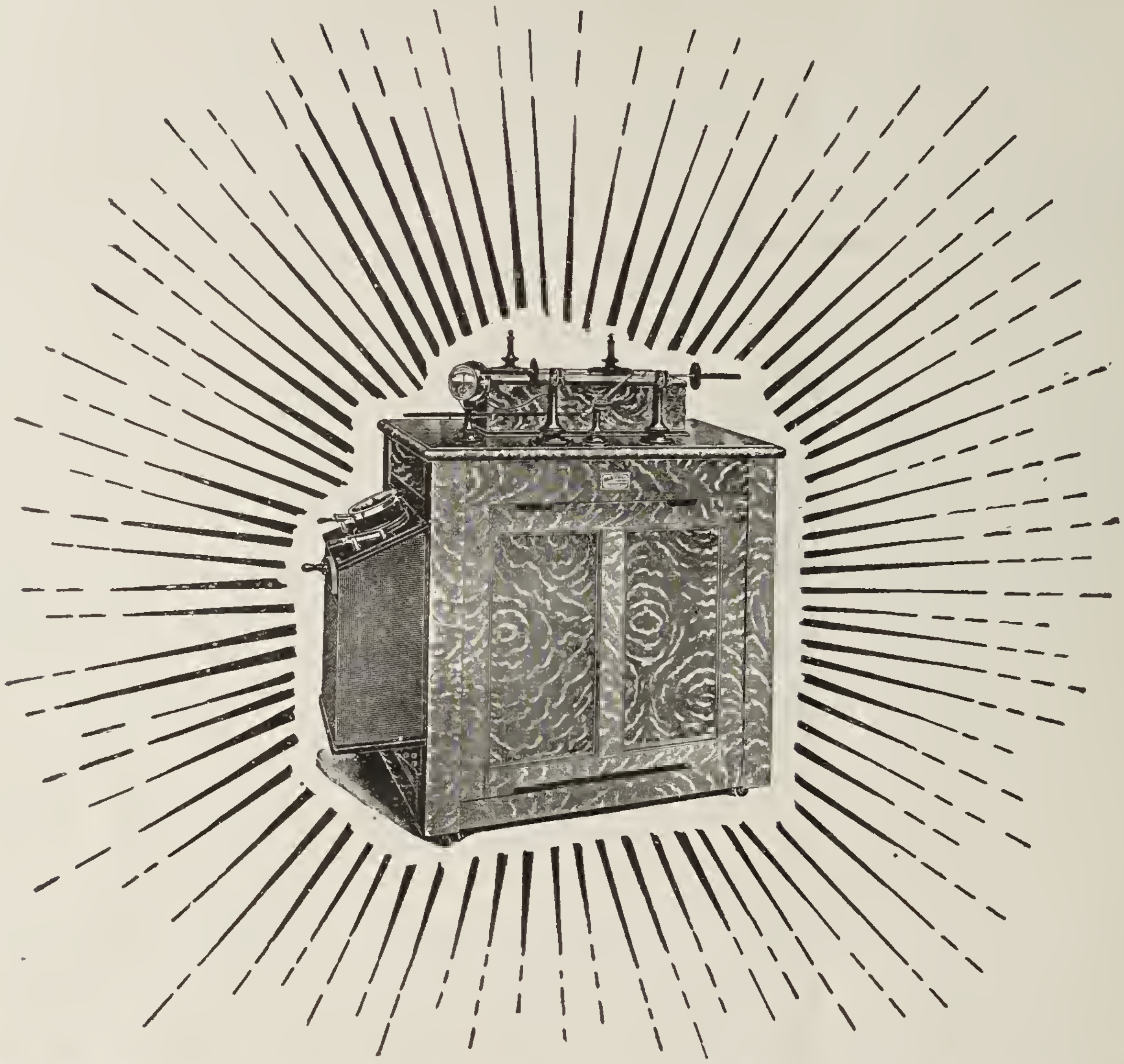

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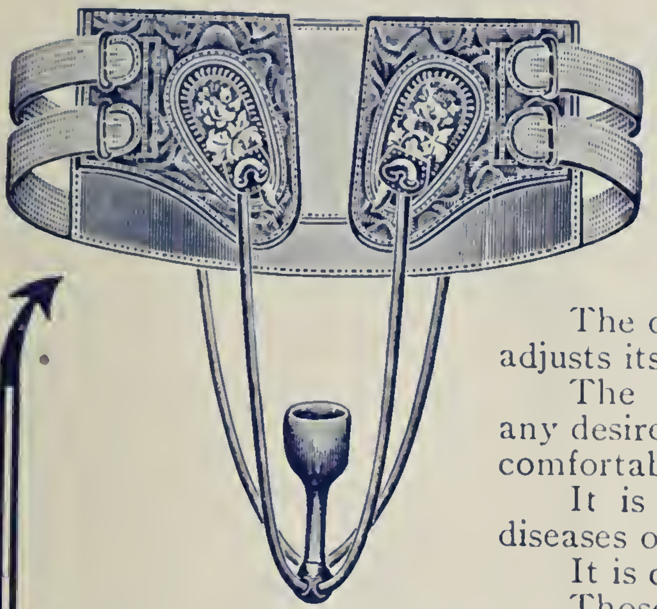

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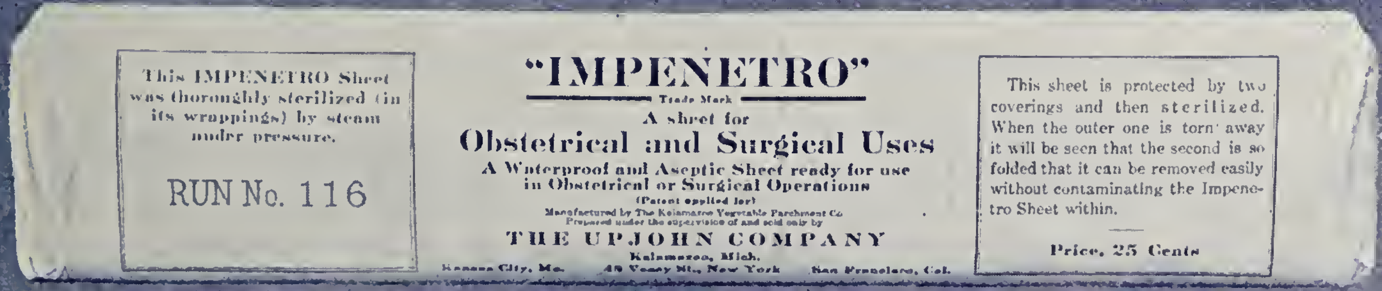

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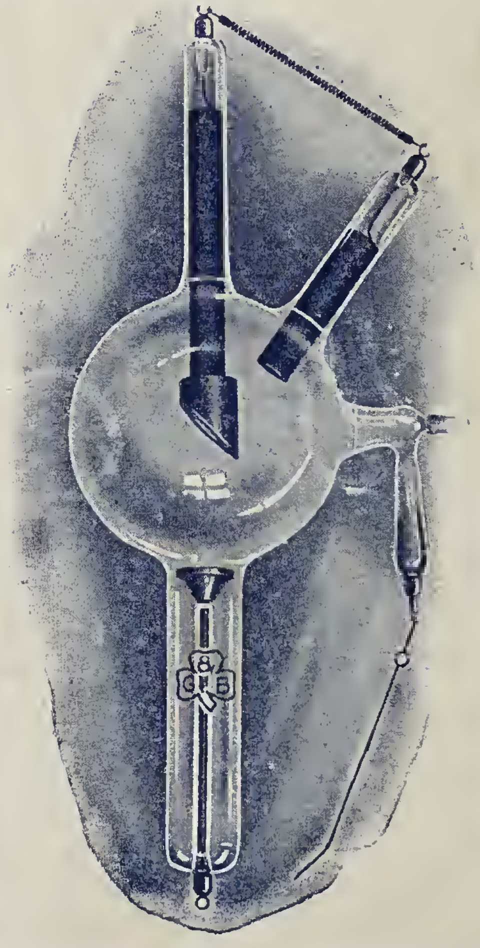

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